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Three Rivers Flats Waste Composition Analysis

Hertfordshire Waste
Partnership

Summary Report January 2021



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Project details and acknowledgements

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Acknowledgements

M·E·L waste insights would like to thank Local Authority officers and staff who participated and helped in the setup and fieldwork stages of the project, and those who provided additional data and other information to inform the project. This report highlights key results, presents the results in tables and charts, and discusses the findings. The views and opinions expressed in this report are those of M·E·L Waste Insights and are not necessarily shared by officers from Hertfordshire County Council, Hertfordshire Waste Partnership and Three Rivers Council.

Accuracy Statement

Results from the standard M·E·L sampling protocol for compositional analysis can be taken as accurate for each primary material category to within error bands of +/-10% at the 95% confidence level (2 standard deviations), assuming a normal statistical distribution for:

Overall percentage compositional makeup by:

- collection authority bulk delivered waste and recycling.

At the data entry stage, 1 in 10 parts of data that is inputted are checked with the data sheets and if errors are found all the data is then rechecked.

Introduction

Background

Local Authority collected waste in Hertfordshire is collected by ten Waste Collection Authorities (WCAs) from the kerbside and by the Waste Disposal Authority from seventeen Household Waste Recycling Centres (HWRCs).

On behalf of the Hertfordshire Waste Partnership, a compositional analysis detailing the breakdown of all waste and recycling types (kerbside collected residual waste and kerbside dry recycling) was commissioned to cover nine participating districts and boroughs (Watford was not part of this project). Each of the participating authorities also had a compositional assessment of the waste and recycling collected from non-kerbside households using shared or communal bins (flats) as well as waste sourced from litter bins. By assessing all these waste streams from member local authorities, it will be possible to provide compositional estimates for the waste collected throughout Hertfordshire as a whole.

Reporting will be used to inform the development of a number of strategic work plans for Hertfordshire, with data additionally used as a basis to apportion costs related to the management of post-consumer packaging in both the residual waste (including litter) and dry recycling streams to support further dialogue and discussion with respect to possible funding from the Government's new extended producer responsibility regime. Residual waste from eight of the seventeen HWRCs operating throughout Hertfordshire have also been compositionally assessed.

This report is specifically for the residual waste and recycling generated by residents living in properties with either communal bin facilities or deemed as multi occupancy dwellings (flats) in the District of Three Rivers. Findings for the litter and kerbside household waste collected in this authority are considered in separate reports.

Three Rivers currently has a combined recycling and composting rate of 64.1% (2019/20) against a Hertfordshire Waste Partnership average of 52.3%. Decreasing the amount of waste sent to be incinerated or to landfill, will help to reduce the release of harmful greenhouse gases into the atmosphere.

As well as giving indications as to the levels of waste and recycling being generated, this report also provides observations on the levels of materials that are currently recyclable and those which could potentially be recyclable via future schemes.

This report presents results from an analysis of residual and recycling waste sampled from multi occupancy dwellings selected by Three Rivers Council during September and October 2020.

Objectives

Specific aims of the work were to:

- Understand the makeup of residual waste being generated by the selected flats.
- Evaluate the amount of specific materials collected in the residual bins that could potentially be collected separately for recycling.
- Assess the makeup of separate recycling being generated.
- Evaluate the levels and types of contamination present within the separated recycling.
- Determine the proportion of residual waste and mixed dry recycling that was formed from packaging.

Executive Summary

Key findings

Flats residual waste

- Food waste was seen to be the major component of residual waste forming 23.5% of the total. Of this food waste 50% is home compostable, 85% is deemed to be avoidable with 42% of all discarded food still packaged.
- Paper items made up 6% of the residual waste; 43% of this was alternatively recyclable. 6% of residual paper waste was classified as packaging.
- Card and cardboard items made up 7% of the residual waste; 89% of this was alternatively recyclable. 80% of residual card and cardboard waste was classified as packaging.
- Plastic items made up 16% of the residual waste; 40% of this was alternatively recyclable. 74% of residual plastic waste was classified as packaging.
- Metallic items made up 3% of the residual waste; 83% of this was classified as recyclable packaging.
- Glass items made up 10.5% of the residual waste; ALL% of this was classified as recyclable packaging.
- <1% of residual waste was found to be garden vegetation and soil.
- Overall, 33% of collected residual waste could have been placed into mixed recycling containers that are available.
- Overall, 24% of collected residual waste could have been placed into the food recycling bins available.
- Additionally, 0.7% of residual waste was due to recyclable garden waste.
- In total 57.3% of residual waste collected could have been placed into recycling containers.
- 32.5% of residual bin contents was classified as packaging waste. 7% of this packaging waste was of a type suitable for recycling; 25% of residual waste.

Flats mixed dry recycling

- Overall, 11% of recycling waste collected from flats was classified as contamination.
- 61% of contamination was due to non-recyclable paper and card with 18% being disposable nappies, 14% textiles and 5% non-recyclable plastics.
- From the collected recycling, 46% was classified as packaging.
- 98% of this packaging was of the correct type for the scheme, therefore recyclable packaging formed 45% of all recycling.

Residual Waste

Sampling

Where possible the same waste service is provided for flats as for houses. Where this is not possible a 1100ltr container is provided and emptied weekly. Dependent on the size of the development a number of containers may be required. For food waste and also mixed recycling, 240ltr wheeled bins are provided and shared. Where there are no recycling containers on site, paper, cardboard, glass bottles and jars, plastics and cans can be taken to the nearest Council Recycling Point or to one of the Household Waste Recycling Centres (HWRCs).

Three Rivers Council identified a number of multi occupancy dwellings (flats) to supply samples of both residual waste and mixed recycling. The identified properties used larger communal bins and therefore waste was collected and delivered by regular RCV crews.

Waste and recycling from flats using communal bins is generally collected weekly. Residents use green lidded bins for the separation of dry recycling into paper, cardboard, plastics, metals and glass bottles & jars. Acceptable items include: -

Paper - Newspapers, magazines, printer paper, junk mail, shredded paper, envelopes (including windows), wrapping paper and greeting cards.

Cardboard - Toilet roll centres, plain greeting cards, corrugated card, cardboard boxes, sleeves and tubes. Food and drink cartons - Tetra Paks

Plastics - Plastic bottles, Drinks, toiletry bottles, and cleaning/detergent bottles, pots/tubs/trays

Glass - Bottles/jars: Any colour.

Metals - Drink cans and food tins, Aluminium foil/foil trays, Chocolate/biscuit tins/trays/tubs, Aerosol cans.

Residents have a 240L communal food bins for the weekly collection of all food waste. Residents are advised to use small plastic bags or newspaper to wrap food. A chargeable collection of garden vegetation is

available to residents using a fortnightly collected 240L brown wheelie bin. This service is not generally available to residents in flat blocks.

Residents can also book a free collection of textiles from the kerbside. Acceptable items include - clothes, belts, handbags, curtains, towels, bed linen and paired shoes.

Results

Compositional analysis of residual waste

This section looks at the average composition of the residual waste presented by the selected Three Rivers flats. Hand sorting of the residual waste gave concentration by weight figures for the main categories of waste as well as the more detailed sub-categories. Looking at the concentration percentages gives an indication as to the proportions of each waste category. Detailed residual composition tables can be found in a separate data appendix. Figure 1 breaks down the main waste types present within the residual waste. All residual waste will contain a proportion that is classified as potentially recyclable. That is to say that it should have been placed into one of the recycling receptacles provided.

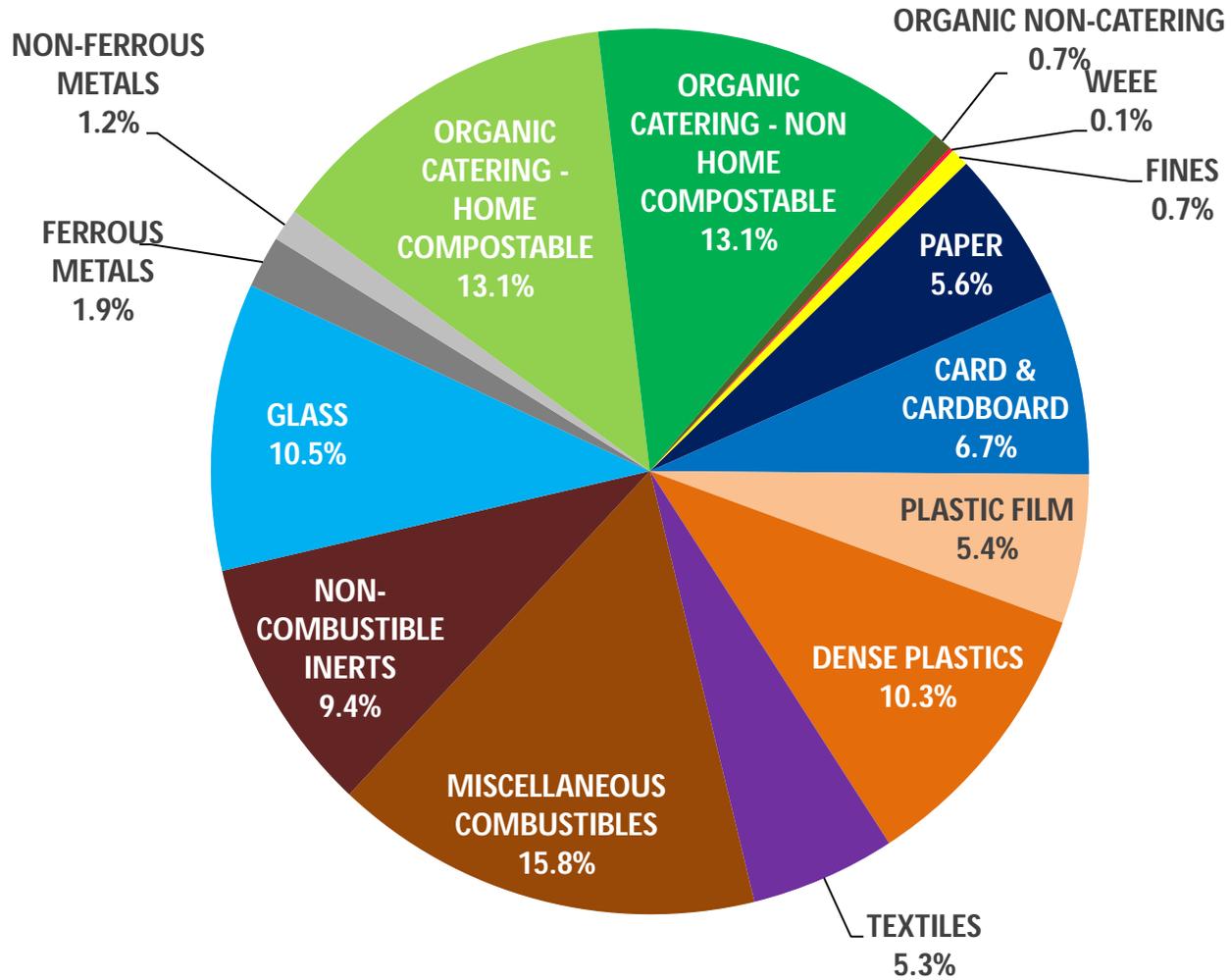
Table 1: Average residual waste composition for flats (%)

WASTE MATERIAL (%)	THREE RIVERS FLATS
PAPER	5.61%
CARD & CARDBOARD	6.72%
PLASTIC FILM	5.44%
DENSE PLASTICS	10.28%
TEXTILES	5.35%
MISCELLANEOUS COMBUSTIBLES*	15.80%
NON-COMBUSTIBLE INERTS**	9.40%
GLASS	10.50%
FERROUS METALS	1.92%
NON-FERROUS METALS	1.18%
ORGANIC CATERING - HOME COMPOSTABLE	13.14%
ORGANIC CATERING - NON-HOME COMPOSTABLE	13.12%
ORGANIC NON-CATERING	0.73%
HHW	0.05%
WEEE	0.09%
FINES	0.67%
TOTAL	100.00%

*Miscellaneous items deemed combustible. Includes nappies & sanitary, wood, carpet and other general bric-a-brac etc.

**Mixed materials deemed non-combustible. Includes rubble, DIY cement, ceramics, cat litter etc.

Figure 1: Average residual waste composition for flats (%)



Organic Waste

Organic waste (which includes garden waste, food waste and non-catering organics such as pet bedding) formed the greatest weight concentration of the primary waste categories. From the flats waste sampled, 27.0% was classified as organic. Food waste alone accounted for 23.5% of all residual waste. Currently Three Rivers residents can recycle food waste separately.

Table 1: Level of organics within the flats residual waste (%)

RESIDUAL ORGANICS	THREE RIVERS FLATS
ORGANIC CATERING - HOME COMPOSTABLE	13.1%
ORGANIC CATERING - NON-HOME COMPOSTABLE	13.1%
ORGANIC NON-CATERING	0.7%
% ORGANICS	27.0%
% FOOD WASTE	23.5%

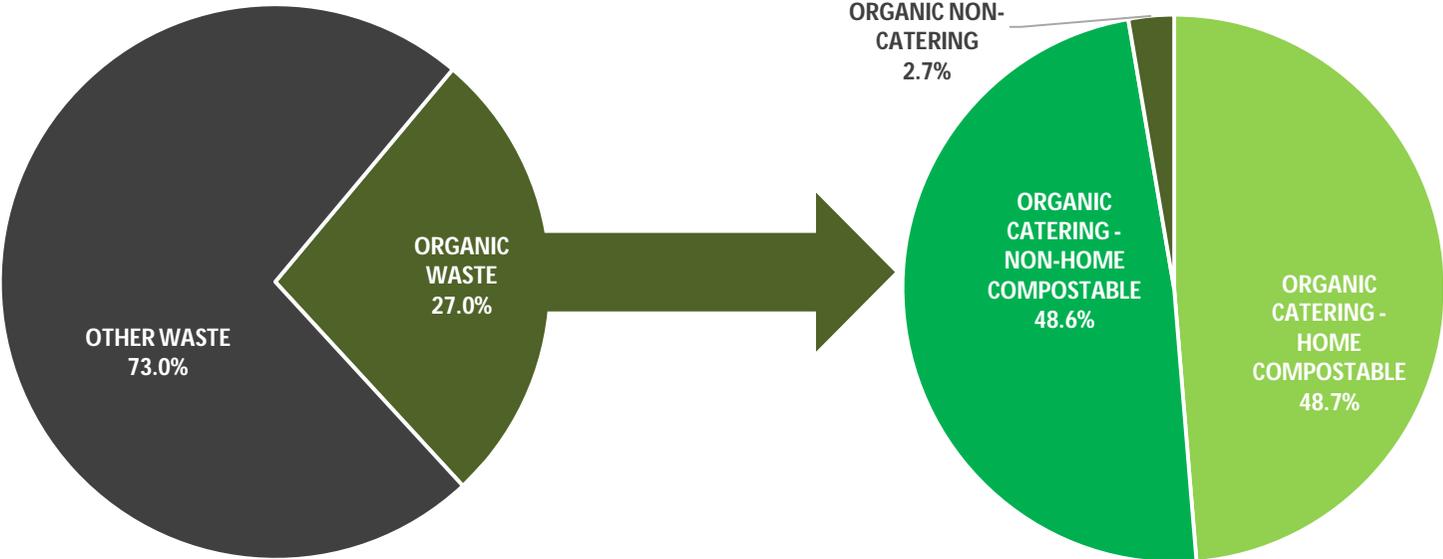
Food waste was separated into home compostable and non-home compostable fractions. Further separation identified whether the food was avoidable (uneaten, unused, or spoiled) or unavoidable (inedible by products such as shells, stones, skin etc). Finally, all avoidable food waste was assessed to determine whether it was disposed of packaged or loose.

Table 2: Breakdown of residual food waste

RESIDUAL FOOD WASTE	THREE RIVERS FLATS
TOTAL FOOD WASTE - %	23.5%
PROPORTION OF FOOD WASTE HOME COMPOSTABLE	50.0%
PROPORTION OF FOOD WASTE AVOIDABLE	84.0%
PROPORTION OF AVOIDABLE FOOD WASTE PACKAGED	50.3%
PROPORTION OF ALL FOOD WASTE PACKAGED	42.2%

Of the 23.5% of residual food waste, 50.0% was deemed to be home compostable. Home composting can be used as an alternative to the recycling of raw fruit and vegetable waste. However, this is likely to be less of an option for residents in flats. When looking at all the food waste present, around 84.0% was deemed avoidable. Around 50.3% of all the avoidable food waste is due to packaged food which is therefore responsible for 42.2% of all the food in the residual bins. Flats residents do not generally have access to garden waste collections. From the surveyed waste just 0.7% was deemed to be due to garden vegetation.

Figure 2: Proportion of organics within the flats residual waste (%)



Paper

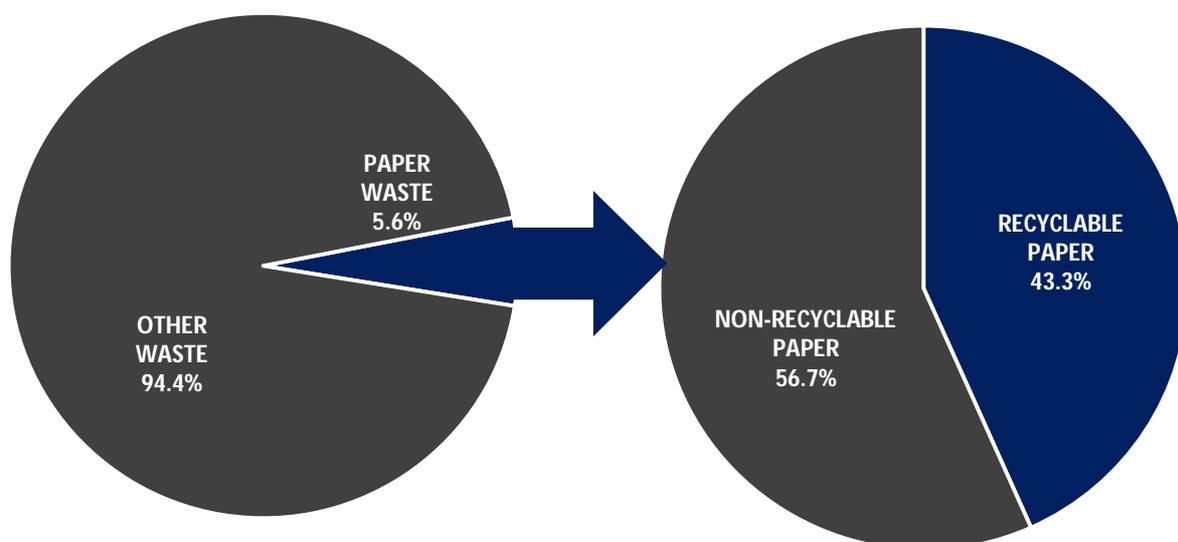
For the Three Rivers flats sampled, it was seen that around 5.6% of residual waste consisted of discarded paper. A proportion of this paper is available for recycling. Three Rivers flats residents have the facility to recycle paper such as newspapers, junk mail, envelopes, and directories. It was found that 43.3% of paper could have been placed into recycling containers as opposed to the residual bins. Recyclable paper therefore accounted for 2.4% of total residual waste.

Table 3: Proportion of paper within the flats residual waste (%)

RESIDUAL PAPER	THREE RIVERS FLATS
RECYCLABLE PAPER	2.4%
NON-RECYCLABLE PAPER	3.2%
% TOTAL PAPER	5.6%
% OF PAPER RECYCLABLE	43.3%
% OF PAPER DEEMED PACKAGING	6.1%

There is an interest in the overall packaging content of the residual waste. This is discussed in more detail in subsequent sections. Of the paper in the residual bin, just over 6% was classified as packaging which equates to just 0.3% of the total. Commonly this will be due to items such as grocery bags, sugar and flour bags, envelopes etc.

Figure 3: Proportion of paper within the flats residual waste (%)



Card & Cardboard

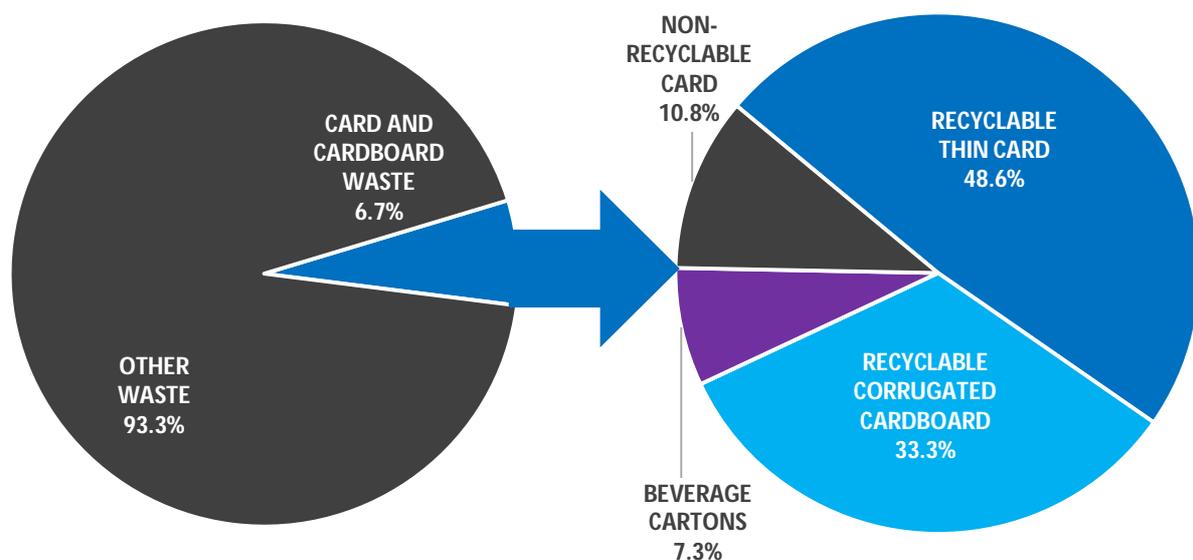
For the Three Rivers flats sampled, it was seen that around 6.7% of residual waste consisted of discarded card and cardboard. A proportion of this card and cardboard is available for recycling. Three Rivers flats residents have the facility to recycle card and cardboard separately. It was found that 89.2% of card and cardboard could have been placed into recycling containers as opposed to the residual bins. Recyclable card and cardboard therefore accounted for 6.0% of total residual waste.

Table 4: Proportion of card and cardboard within the flats residual waste (%)

RESIDUAL CARD	THREE RIVERS FLATS
RECYCLABLE THIN CARD	3.3%
RECYCLABLE CORRUGATED CARDBOARD	2.2%
BOOKS	0.0%
BEVERAGE CARTONS	0.5%
NON-RECYCLABLE CARD	0.7%
% TOTAL CARD & CARDBOARD	6.7%
% RECYCLABLE CARD & CARDBOARD	6.0%
% CARD RECYCLABLE	89.2%
% OF CARD DEEMED PACKAGING	79.8%

Of the card and cardboard in the residual bin, just under 80% was classified as packaging which equates to just 5.4% of the total. Commonly this will be due to items such as food packaging, boxes etc. When combining paper and card together it is estimated that 68.3% of that present in residual bins could have been recycled via recycling collections. This amounts to 8.4% of all the residual waste being collected.

Figure 4: Proportion of card and cardboard within the flats residual waste (%)



Plastics

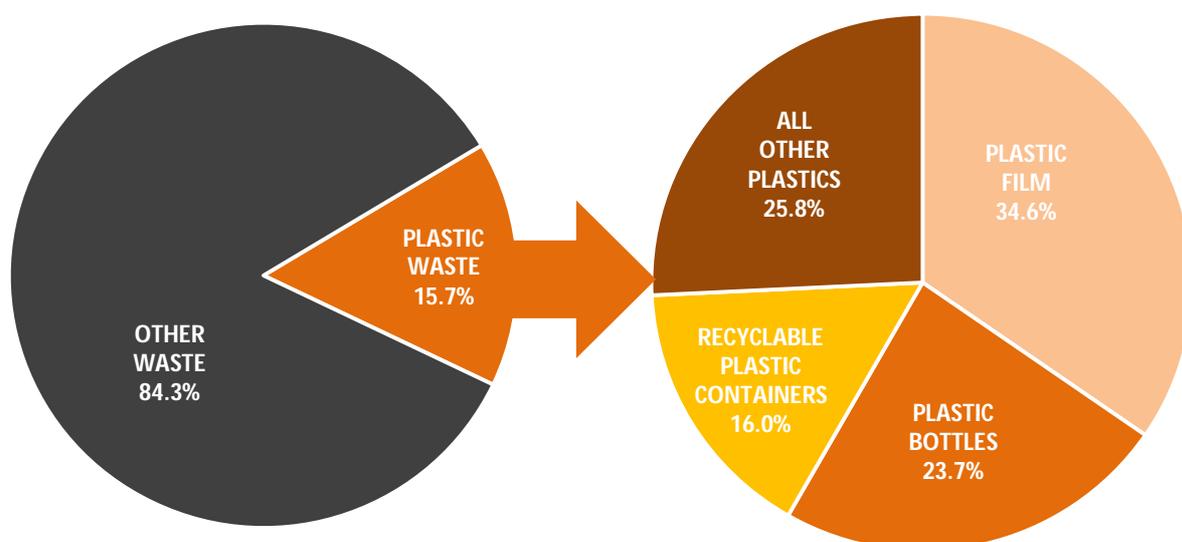
For the Three Rivers flats sampled, it was seen that around 15.7% of residual waste consisted of discarded plastic waste. Three Rivers residents currently recycle plastic bottles and selected containers as part of their dry recycling. On the whole plastic material, although not heavy, can produce large volumes of waste. It was found that 39.6% of plastics could have been placed into recycling containers as opposed to the residual bins. Recyclable plastics therefore accounted for 6.2% of total residual waste.

Table 5: Proportion of plastics within flats residual waste (%)

RESIDUAL PLASTICS	THREE RIVERS FLATS
PLASTIC FILM	5.4%
PLASTIC BOTTLES	3.7%
RECYCLABLE PLASTIC CONTAINERS	2.5%
ALL OTHER PLASTICS	4.0%
% TOTAL PLASTIC	15.7%
% RECYCLABLE PLASTIC	6.2%
% PLASTIC RECYCLABLE	39.6%
% OF PLASTIC DEEMED PACKAGING	73.9%

Of the plastics in the residual bin, three quarters were classified as packaging which equates to 11.6% of the total. Around 39% of the plastic packaging was due to bags and film with 32% plastic bottles, 22% food containers and 8% other packaging.

Figure 5: Proportion of plastics within flats residual waste (%)



Metals

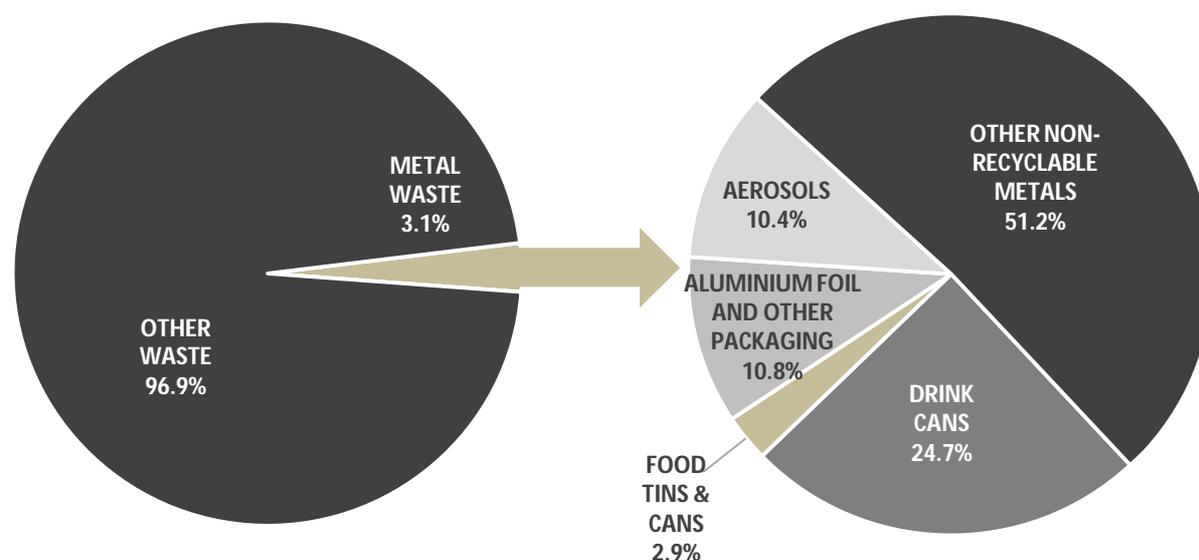
For the Three Rivers flats sampled, it was seen that 3.1% of residual waste consisted of discarded metallic waste. Three Rivers residents currently recycle food and drink cans as well as aerosols and clean foil via their dry recycling collection. It was found that 82.6% of metals could have been placed into recycling containers as opposed to the residual bins. Recyclable metal therefore accounted for 2.6% of total residual waste.

Just under two thirds of all residual metals were ferrous. All recyclable metals are classified as packaging. Around 48% of the recyclable metal packaging was food tins with 26% drink cans, 20% foil & other packaging and 6% aerosols.

Table 6: Proportion of metal within flats residual waste (%)

RESIDUAL METALS	THREE RIVERS FLATS
DRINK CANS	0.7%
FOOD TINS & CANS	1.2%
AEROSOLS	0.1%
ALUMINIUM FOIL AND OTHER PACKAGING	0.5%
OTHER NON-RECYCLABLE METALS	0.5%
RECYCLABLE METALS	2.6%
TOTAL METALS	3.1%
% FERROUS	61.9%
% OF METALS RECYCLABLE	82.6%
% OF METAL DEEMED PACKAGING	82.6%

Figure 6: Proportion of metal within flats residual waste (%)



Glass

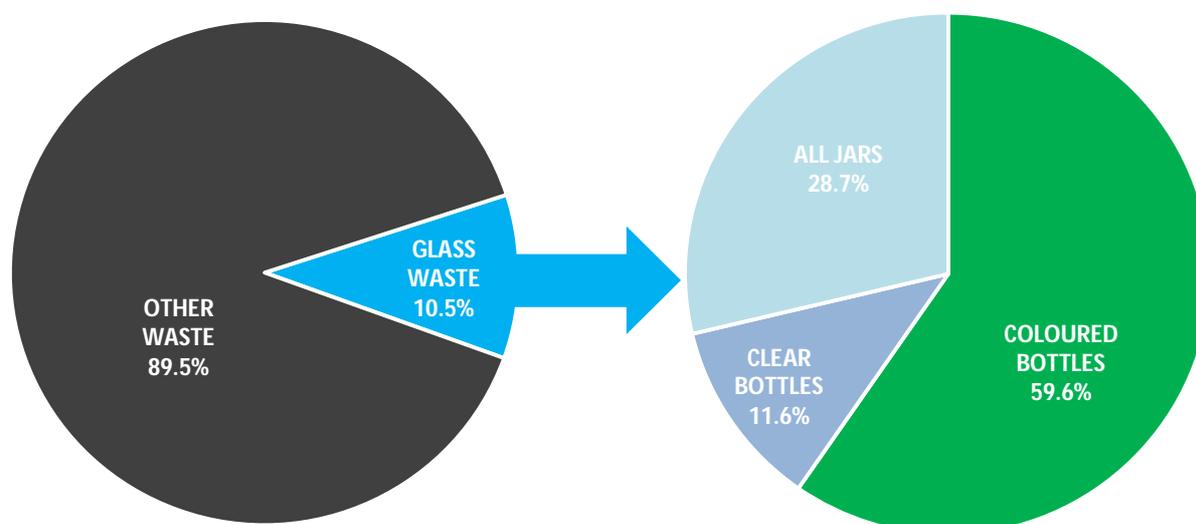
For the Three Rivers flats sampled, it was seen that 10.5% of residual waste consisted of discarded glass waste. Three Rivers residents currently recycle glass bottles and jars via their dry recycling collection. It was found that all glass could have been placed into recycling containers as opposed to the residual bins. Recyclable glass therefore accounted for 10.5% of total residual waste.

All recyclable glass is classified as packaging. Overall, 40% of recyclable glass was clear, 71% of which was due to jars as opposed to bottles. Jars often need more cleaning than bottles and are generally less effectively recycled.

Table 7: Proportion of glass within the flats residual waste (%)

RESIDUAL GLASS	THREE RIVERS FLATS
COLOURED BOTTLES	6.3%
CLEAR BOTTLES	1.2%
ALL JARS	3.0%
OTHER GLASS	0.0%
% TOTAL GLASS	10.5%
% RECYCLABLE GLASS	10.5%
% RECYCLABLE	100.0%
% OF RECYCLABLE GLASS - CLEAR	40.4%
% OF GLASS DEEMED PACKAGING	100.0%

Figure 7: Proportion of glass within the flats residual waste (%)



Other notable materials within the residual waste

Textiles - From the survey, around 5.4% of the residual waste from flats was seen to consist of textiles. Three Rivers residents can arrange for the collection of clean clothes, shoes and fabrics. This service may not be available to all residents in flats. Of the textiles present, all were potentially recyclable in the form of clothes and fabrics.

Disposable Nappies & AHP (Absorbent Hygiene Products) - Disposable nappy levels within the residual bins of households with babies can be extremely high. These households will be more prevalent in demographic samples typical for young families. This form of waste also encompasses adult incontinence products which will be more typically prevalent in demographic samples with a higher density of senior residents. In this survey, the concentrations of disposable nappies and AHP from the surveyed flats averaged 6.1%.

Inert rubble – This type of waste is generally one of the densest materials placed into residual bins. Although more suited for disposal at HWRC's, small amounts within the general residual waste are to be expected. Often it is seen that a small number of individual properties may place increased levels of construction / clearance type waste into their bins. On average 9.4% of residual waste consisted of mixed non-combustible waste.

Hazardous waste and WEEE – On average just 0.1% of residual waste consisted of hazardous waste and WEEE.

Potential recyclability of the residual waste

The overall recyclability of the residual waste relates to all items present that could have been accepted into the recycling schemes currently running in Three Rivers. Results from the survey showed that the overall recyclability of the residual waste from flats is 57.3%. Overall, around 33.1% of residual waste was compatible with mixed recycling collections with a further 23.5% acceptable in food recycling and 0.7% collectable in garden waste bins.

Table 8: Proportion of residual flats waste currently recyclable relative to current schemes (%)

% RECYCLABLES IN RESIDUAL WASTE	THREE RIVERS FLATS
MIXED DRY RECYCLABLES	33.1%
RECYCLABLE FOOD	23.5%
GARDEN RECYCLABLE	0.7%
TOTAL RECYCLABLE	57.3%

Table 9: Proportion of residual flats waste recyclable (%)

% RECYCLABLE MATERIALS WITHIN RESIDUAL WASTE	THREE RIVERS FLATS	SPLIT*
RECYCLABLE PAPER	2.4%	4.2%
RECYCLABLE CARD & CARDBOARD	6.0%	10.5%
RECYCLABLE PLASTICS	6.2%	10.9%
RECYCLABLE GLASS	10.5%	18.3%
RECYCLABLE METALS	2.6%	4.5%
RECYCLABLE TEXTILES	5.3%	9.3%
TOTAL DRY RECYCLABLES	33.1%	57.7%
RECYCLABLE FOOD WASTE	23.5%	41.1%
RECYCLABLE GARDEN WASTE	0.7%	1.3%
RECYCLABLE PET BEDDING	0.0%	0.0%
TOTAL ORGANIC RECYCLABLES	24.3%	42.3%
TOTAL RECYCLABLE CONTENT	57.3%	100.0%

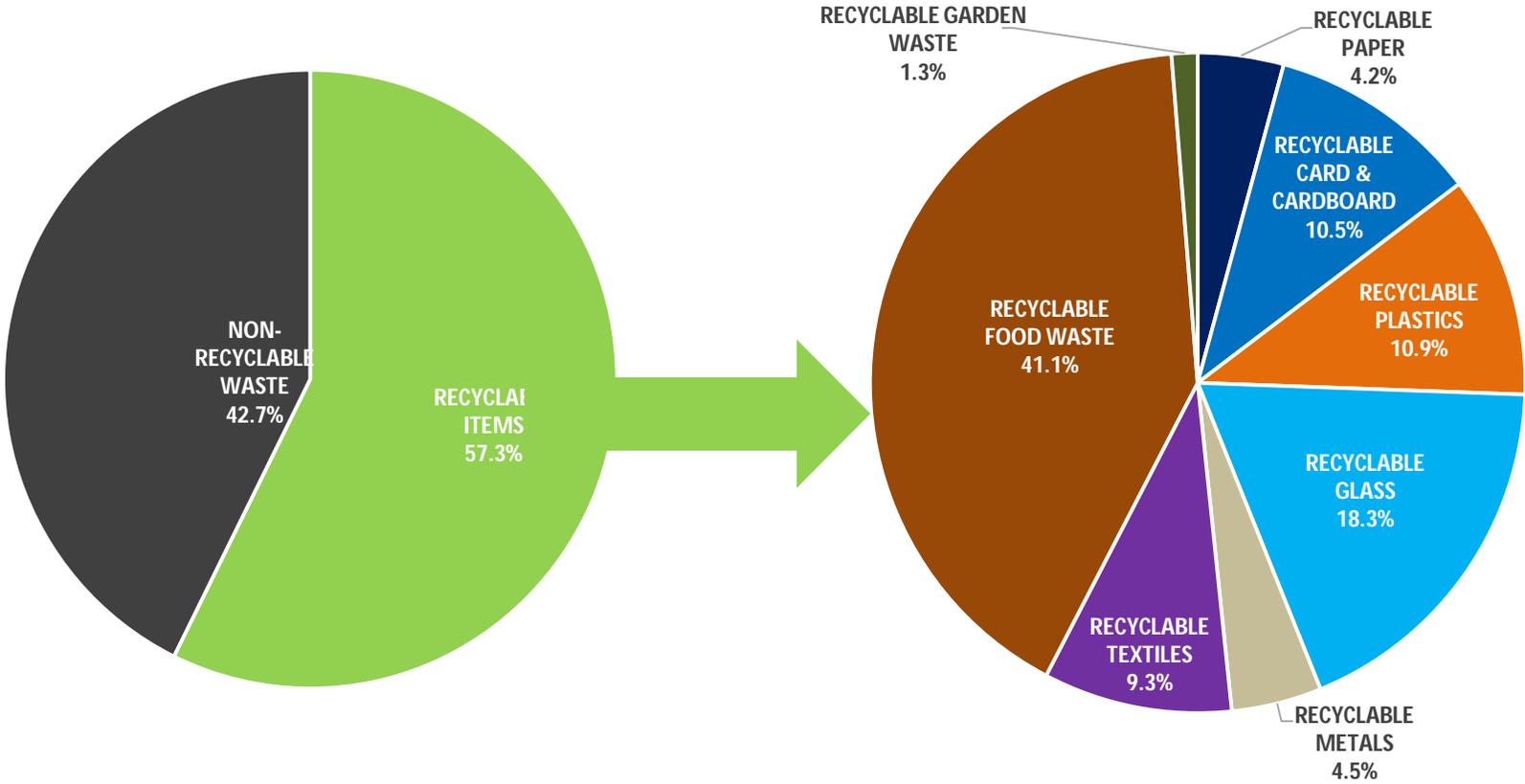
*Split is the proportional breakdown of the recyclable content. E.g., Recyclable paper forms 2.4% of the residual waste equating to 4.2% of the recyclable content

Figures show that food waste was responsible for 41.1% of the recyclable material present in residual bins where it formed 23.5% of the total.

Recyclable glass made up 18.3% of the recyclable content forming 10.5% of the residual waste.

Recyclable paper and card made up 14.7% of the recyclable content forming 8.4% of the residual waste.

Figure 8: Proportion of residual flats waste recyclable (%)



Packaging content of the residual waste

Hertfordshire Waste Partnership has an interest in the levels of packaging material in its various waste streams. A large proportion of the materials that are available for recycling consist of packaging items so ideally would not be present in the residual waste. It is estimated that 32.5% of the residual waste from flats is due to packaging.

Table 10: Proportion of packaging material in the residual waste (%)

PACKAGING CONTENT (%)	THREE RIVERS FLATS	SPLIT*
PAPER PACKAGING	0.3%	1.0%
CARD PACKAGING	5.4%	16.5%
PLASTIC FILM PACKAGING	4.6%	14.0%
DENSE PLASTIC PACKAGING	7.1%	21.7%
METAL PACKAGING	2.6%	7.9%
GLASS PACKAGING	10.5%	32.3%
OTHER PACKAGING	1.5%	4.5%
FOOD ASSOCIATED PACKAGING**	0.6%	1.9%
TOTAL PACKAGING	32.5%	100.0%

*Split is the proportional breakdown of the packaging content. E.g., Card packing forms 5.4% of the residual waste equating to 16.5% of the packaging content.

** Estimated for food waste disposed of in original packaging (5% of discarded weight)

Around 35.8% of all packaging was plastic accounting for 11.6% of total waste. An average of 32.5% of packaging was formed from glass with 17.6% paper and card packaging materials, 7.9% metal packaging, 4.5% other packaging and 1.9% food associated packaging.

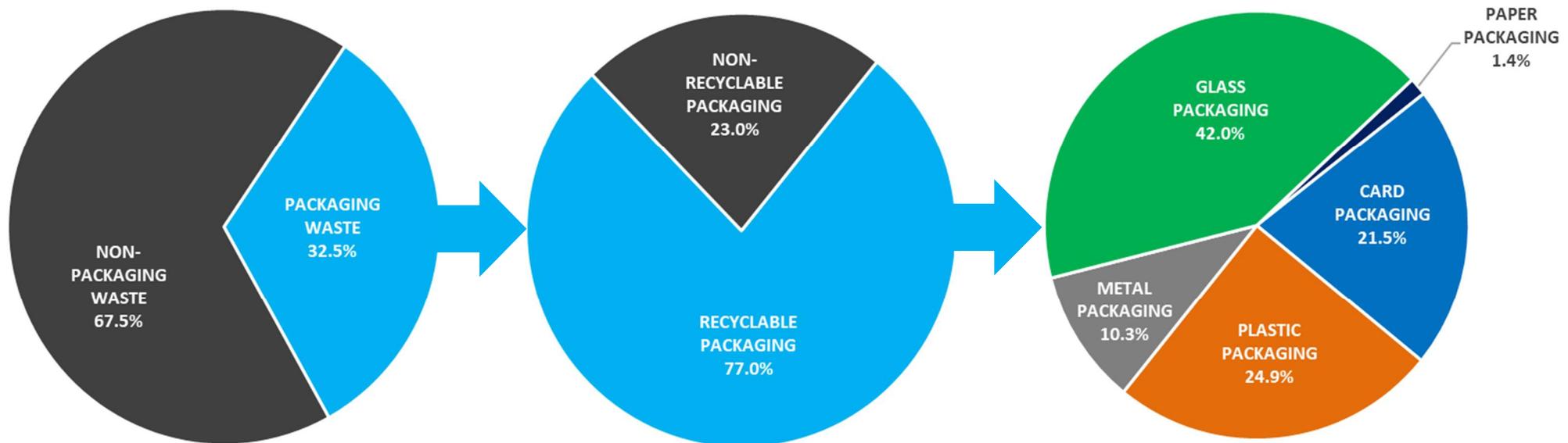
Residual packaging recyclability

Packaging formed 32.5% of residual bin contents, an average of 77.0% was of a type that could have been recycled. Therefore, an estimated 25.0% of residual waste is due to recyclable packaging items.

Table 11: Recyclable content of packaging in flats residual bins

PACKAGING CONTENT (%)	THREE RIVERS FLATS
TOTAL PACKAGING	32.5%
RECYCLABLE PACKAGING	25.0%
% OF PACKAGING RECYCLABLE	77.0%

Figure 9: Proportion of flats residual waste due to packaging and recyclable content (%)



Dry recycling waste

Compositional of mixed recycling

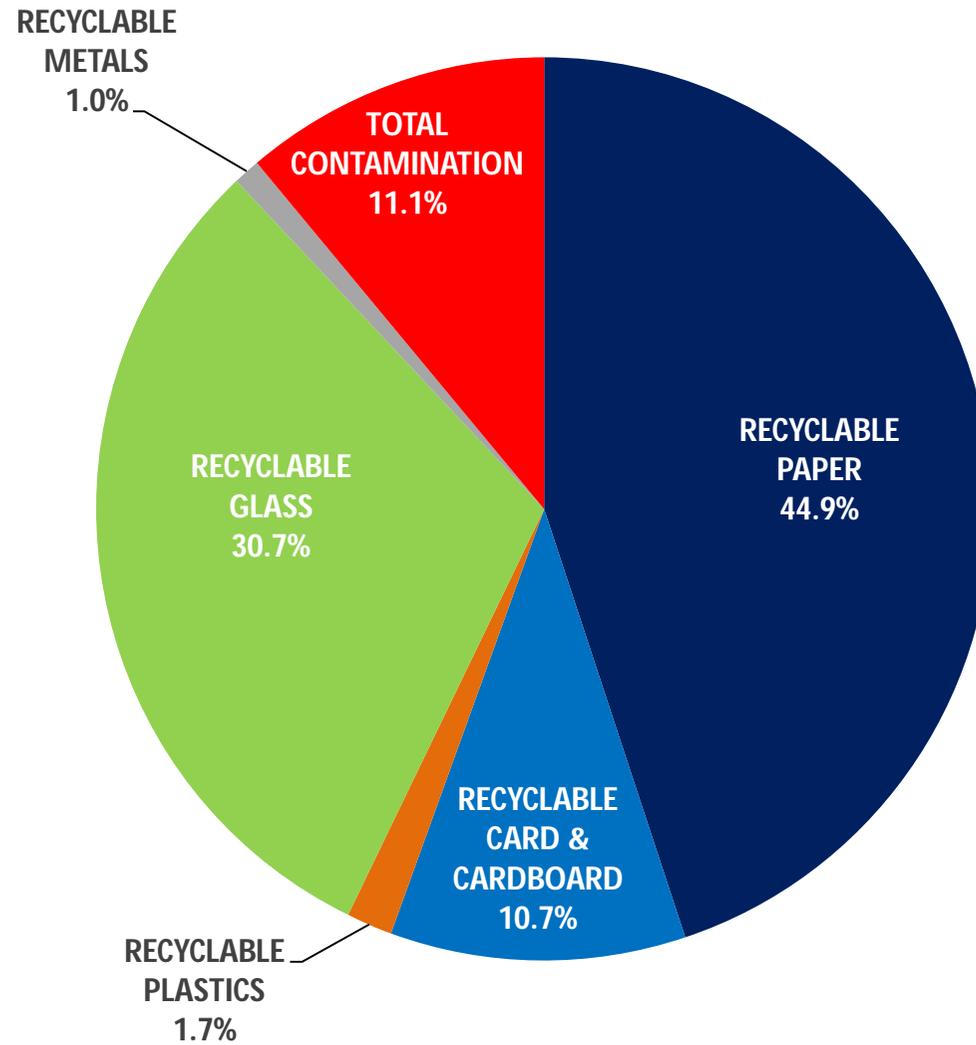
This section looks at average amounts and composition of the mixed recycling collected from the selected Three Rivers flats. Hand sorting of the recycling waste gave concentration by weight figures for the fifteen main categories of waste as well as the more detailed sub-categories. Table 12 and Figure 10 show recycling data in terms of percentage composition.

As residual waste will contain a proportion that is classified as recyclable; then recycling waste will contain a fraction that is deemed to contamination. That is to say that it is not compatible with the materials currently acceptable to the recycling container it is placed into.

Table 12: Composition of flats mixed dry recycling (% concentration)

MIXED DRY RECYCLING (%)	THREE RIVERS FLATS
RECYCLABLE PAPER	44.9%
RECYCLABLE CARD & CARDBOARD	10.7%
RECYCLABLE PLASTICS	1.7%
RECYCLABLE GLASS	30.7%
RECYCLABLE METALS	1.0%
TOTAL DRY RECYCLABLES	88.9%
TOTAL CONTAMINATION	11.1%

Figure 10: Composition of flats mixed dry recycling (%)



This section looks in more detail at the mix of materials placed out for recycling collections.

Recycled Paper

Paper based materials formed 54.6% of all the collected recycling. Of the paper present, 98.5% is of an acceptable type for the recycling containers. Therefore, recyclable paper forms 44.9% of the recycling with non-recyclable paper contributing just 0.7%. The paper present tended to be mainly newspapers and magazines.

Recycled Card & Cardboard

Card & cardboard based material forms 16.7% of all the collected recycling. Around 63.7% of the card and cardboard present was of a type acceptable for the recycling containers. Therefore, recyclable card and cardboard forms 10.7% of the collected recycling. Around 78% of the recyclable card and cardboard is due to corrugated cardboard with 22% thin packaging card.

Recycled Plastics

Plastic based material forms just 2.2% of all the collected recycling. Of the plastic present, 74.6% is of an acceptable type for the recycling containers. Therefore, recyclable plastics form 1.7% of the recycling with non-recyclable plastics contributing 0.6%. Around 90% of the recyclable plastic is due to bottles with 10% being plastic food containers. The remainder is acceptable non-food based containers.

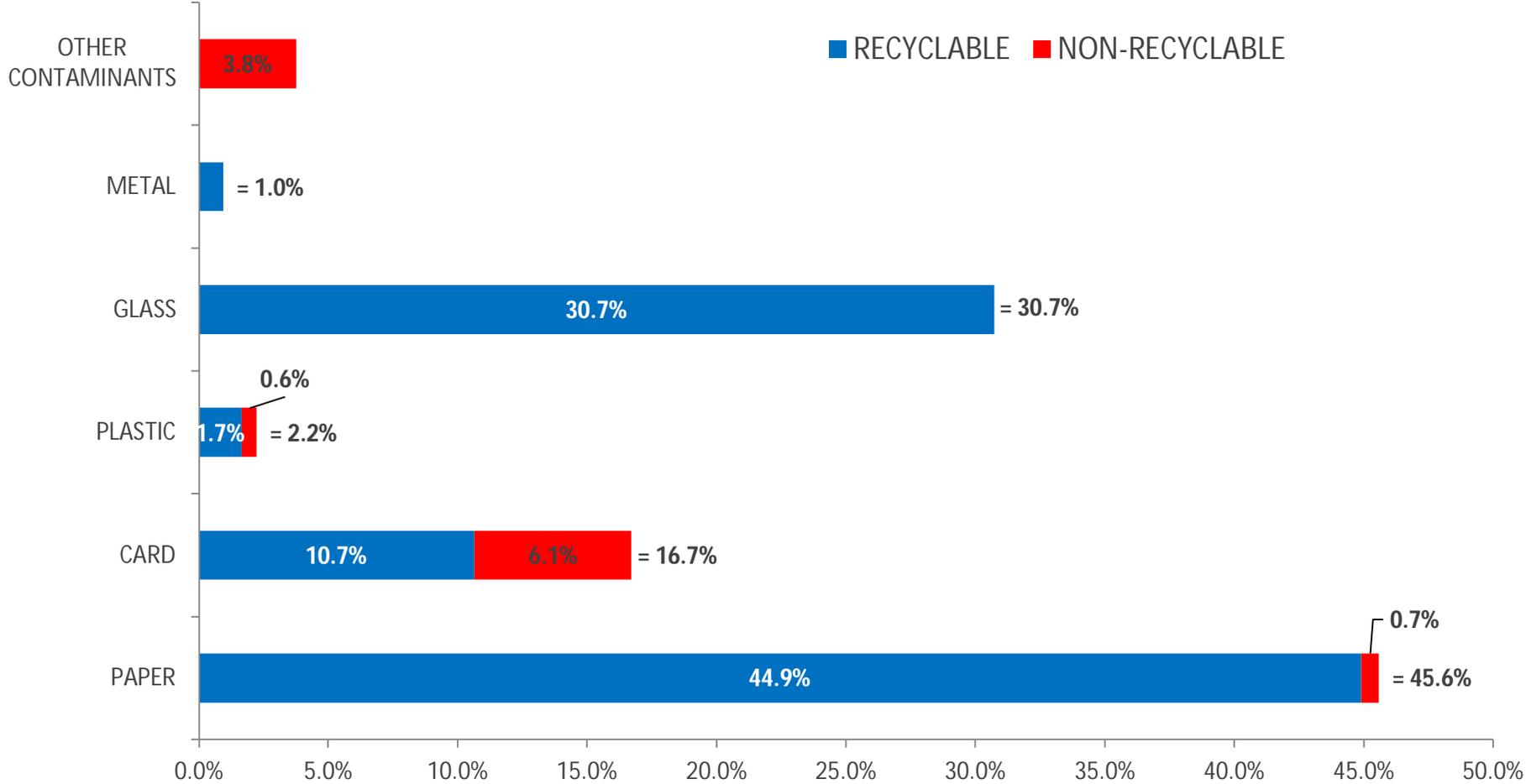
Recycled Metals

Metal based material forms 1.0% of all the collected recycling. Of the metal present, all is of an acceptable type for the recycling containers. Therefore, recyclable metals form 1.0% of the recycling with non-recyclable metals contributing 5.2%. Around 80% of the recyclable metal was due to drink cans with 10% food tins and 10% foils.

Recycled Glass

Glass based material forms 30.7% of all the collected recycling. All the glass present was of a type acceptable for the recycling containers. Around 86% of the recyclable glass was seen to be bottles with 46% of these being coloured and 54% clear.

Figure 11: Mix of materials within flats recycling with recyclable and non-recyclable elements (%)



Recycling Contamination

Table 13 shows that on average 11.1% of the items present in the mixed recycling is made up of contamination. This section looks to breakdown the amounts and concentrations of various contaminants being placed into the recycling by flats in Three Rivers.

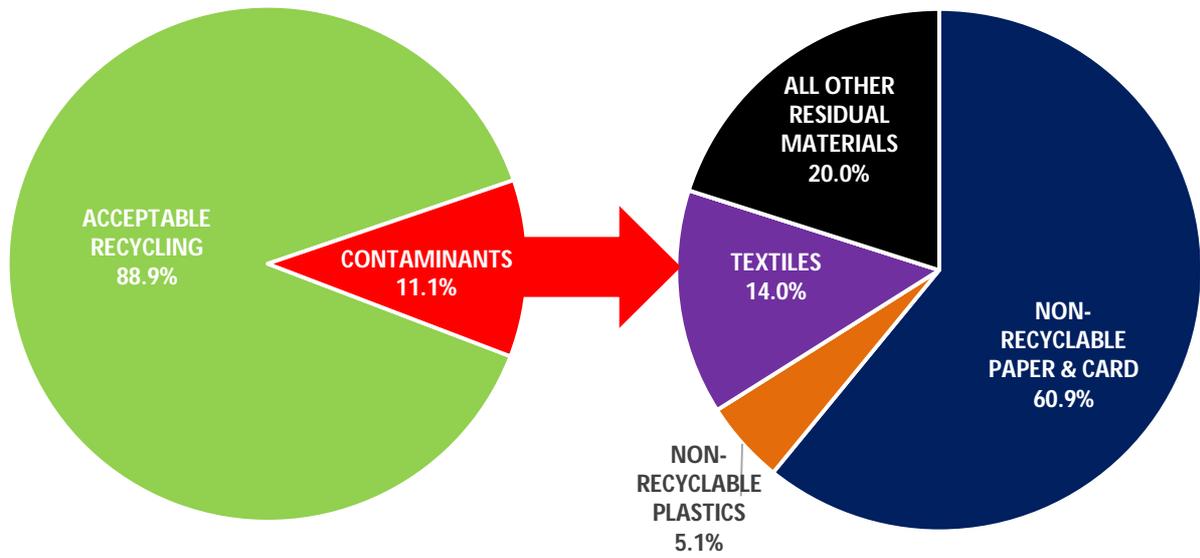
Some forms of contamination may be due to residents' lack of knowledge in relation to the recycling scheme. For example, a resident may believe anything metallic is acceptable with tins and cans. Other contamination will be formed from waste that is totally unrelated to the materials collected (i.e., disposable nappies, wood, or food waste). Table 13 and Figure 12 show the contamination materials recovered from the mixed recycling. Of the 11.1% of contamination present, 7.3% was due to non-recyclable forms of paper, card, plastic, metal and glass. The remaining 3.8% was due to other general waste including textiles.

Table 13: Breakdown of mixed recycling contaminants (%)

CONTAMINATION (%)	THREE RIVERS FLATS	SPLIT
NON-RECYCLABLE PAPER & CARD	6.7%	60.9%
NON-RECYCLABLE PLASTICS	0.6%	5.1%
NON-RECYCLABLE METALS	0.0%	0.0%
NON-RECYCLABLE GLASS	0.0%	0.0%
TEXTILES	1.5%	14.0%
LIQUIDS	0.0%	0.0%
FOOD WASTE	0.0%	0.0%
ALL OTHER RESIDUAL MATERIALS	2.2%	20.0%
TOTAL CONTAMINATION	11.1%	100.0%

- Overall, it was seen that the most prevalent single contaminant in the recycling bins was non-recyclable paper and card which formed 60.9% of the contamination; accounting for 6.7% of recycling. Most of this was card based.
- Textiles formed 14.0% of contamination and 1.5% of recycling. These textiles consisted of rags and other items not generally acceptable for separate recycling.
- Other general residual waste accounted for 20% of the contamination or 2.2% of the total recycling. Nearly all of this was disposable nappies which formed 2% of all recycling surveyed.

Figure 12: Breakdown of contaminants present within flats dry recycling bins (% of contamination).



Packaging content of the mixed dry recycling

Hertfordshire Waste Partnership has an interest in the levels of packaging material in its various waste streams. A large proportion of the materials that are available for recycling consists of packaging items.

Table 14: Proportion of packaging material in flats dry recycling (%)

PACKAGING CONTENT (%)	THREE RIVERS FLATS	SPLIT
PAPER PACKAGING	1.5%	3.3%
CARD PACKAGING	10.4%	22.7%
PLASTIC FILM PACKAGING	0.6%	1.2%
DENSE PLASTIC PACKAGING	1.7%	3.6%
METAL PACKAGING	1.0%	2.1%
GLASS PACKAGING	30.7%	67.0%
OTHER PACKAGING	0.0%	0.0%
FOOD ASSOCIATED PACKAGING*	0.0%	0.0%
TOTAL PACKAGING	45.9%	100.0%

* Estimated for food waste disposed of in original packaging (5% of discarded weight)

- Almost 46% of all mixed dry recycling was due to packaging.
- Around 67% of all packaging was glass accounting for 30.7% of total waste.
- An average of 26.0% of packaging was formed from card and cardboard; 11.9% of recycling.
- 4.9% of packaging was formed from plastics; 2.2% of recycling.
- 2.1% of packaging was formed from metals; 1.0% of recycling.

Recycling packaging recyclability

Packaging formed 45.9% of mixed recycling contents, an average of 98.8% was of a type that could have been recycled. Therefore, an estimated 45.3% of mixed recycling is due to recyclable packaging items.

Table 15: Recyclable content of packaging in flats mixed recycling

PACKAGING CONTENT (%)	THREE RIVERS FLATS
TOTAL PACKAGING	45.9%
RECYCLABLE PACKAGING	45.3%
% OF PACKAGING RECYCLABLE	98.8%

Figure 13: Proportion of flats mixed recycling waste due to packaging and recyclable content (%)

