

Household food waste collections guide



This publication updates the 2009 guide and pulls together the findings from more recent studies and pilots conducted by WRAP and others. Through the various sections, this guide is designed to support local authorities by detailing good practice and evidence which can help inform the design and delivery of high capture, cost-effective food waste collections

Section 8: Food waste collection from flats

This section draws on the findings of a survey by WRAP on the approach to food waste collection from flats adopted by 13 local authorities, including six London boroughs, to provide guidance on how to manage or introduce a food waste collection service for flats. The findings on the barriers and solutions to improving performance largely come from research on food pilots which are covered in Section 11.

A block of flats is defined as a building within which there is more than one self-contained household.

Contents

8.1	Why collect food waste from flats	3
8.2	Food waste collection scheme type	3
8.3	Containers used for flats.....	4
8.3.1	Internal containers.....	4
8.3.2	External containers	4
8.3.3	Housing units for bring sites.....	5
8.4	Liner provision.....	6
8.5	Barriers to food waste recycling in flats	7
8.5.1	Key findings from focus groups on food waste collection from flats.....	7
8.6	Consultation.....	9
8.7	Role of the caretaker and housing managing organisation	10
8.8	Contamination.....	10
8.8.1	Approaches to managing contamination	12
8.9	Operations	13
8.9.1	Dedicated collection round or collection with other materials?	14
8.9.2	Crew size.....	15
8.9.3	Operational timing	15
8.9.4	Smells and cleanliness.....	16
8.9.5	Estimating number of properties that can be served using a new model ..	16
8.10	Performance	17
8.10.1	Weight collected	17
8.10.2	Participation rates	18
8.10.3	Additional costs of food waste collection from flats	19
8.11	Managing a roll-out.....	20

8.1 Why collect food waste from flats

There are a number of good reasons why local authorities should consider collecting food waste from flats.

- Food waste is one of the highest arisings in the residual waste stream from flats. A collection scheme provides an opportunity for this to be recycled. As residents become more aware of the amount of food wasted they may change their behaviour to reduce food waste.
- It improves social inclusion by providing residents in flats with the same service as residents living in kerbside properties.
- It can help to meet resident demand for improved services.
- It provides a high frequency option for the removal of food waste from flats which, in turn, improves hygiene and cleanliness. This is particularly the case where refuse is collected in large open containers. For example, residents in one London borough noticed a reduction in birds attacking refuse once a food waste scheme was introduced at their block of flats.
- Since food waste is dense, a significant weight of waste can be collected in a small footprint (particularly for bring schemes). This is good where space is limited, as there is unlikely to be a need for multiple containers.
- The scheme can engage the community, e.g. with support from resident champions, caretakers and housing organisations through to assistance with distribution of liners and communications.

8.2 Food waste collection scheme type

Three types of food waste collection scheme provided for residents in flats were found during the WRAP survey.

- **Bring bank collection schemes for food waste.** Residents put their food waste into small kitchen caddies (5–10 litres) and periodically transfer their food waste to a larger communal collection container. Depending on the local authority the caddies may be lined with a biodegradable liner or newspaper.
- **Door-to-door collection scheme.** Residents use a small kitchen caddy in the home (as above) and present their food waste in a larger (e.g. 23 litre) caddy outside their front door (in the corridor of the block of flats) on a regular collection day.
- **Collection from a communal area using caddies.** Residents use a small kitchen caddy in the home (as above) and transfer the food waste to larger caddies which are presented in a communal area such as the bin store for collection.

The most common scheme being provided for the collection of food waste from flats is a bring scheme, with several local authorities having withdrawn doorstep collections from flats – reportedly due to expense, performance being lower than expected and health and safety concerns.

The majority of local authorities taking part in the survey provided a bring bank scheme, with only one authority providing a doorstep collection. Two authorities were running collection schemes where caddies are set out in communal areas. This type of scheme could be considered by local authorities that do not have vehicles with bin lift capabilities. However, it is only suitable for blocks of flats with a low number of households (e.g. no more than around 10 or 15 households) due to the space required for caddies and servicing time likely to be associated with loading numerous caddies to a vehicle.

A number of local authorities include other compostable materials such as garden waste, cut flowers, paper towels, paper and cardboard with collections of food waste.

8.3 Containers used for flats

To meet the requirements of the Animal By-Products Regulations (ABPR), containers used for food waste need to be leak proof and securely covered.

Containers should be easy to clean to prevent issues with smells and odours to ensure residents are not put off using them. It is important to clean or replace containers to encourage residents to participate in the scheme and to prevent odours from the containers from becoming a nuisance.

8.3.1 *Internal containers*

Local authorities providing a food waste collection service to flats need to provide householders with internal caddies, typically either a five or seven litre caddy. Details of internal kitchen caddies suitable for use in flats is provided in Section 4.1

8.3.2 *External containers*

By far the most common external food waste containers provided for flats are communal wheeled bins. A key concern from residents in the WRAP funded food waste trials at flats was a reluctance to touch external containers into which other residents had deposited their food waste. The design of the bin and aperture is therefore important in ensuring residents can easily and hygienically deposit their food waste, thus helping to achieve a good level of participation.

It is vital to consider the size of external containers to ensure they can be moved safely when full, since food waste is dense and the containers can be heavy. This is particularly important where vehicle access is difficult, requiring the bins to be moved considerable distances to the collection vehicle, or the containers need to be manoeuvred up or down an incline.

It is recommended that the size of an external container does not exceed 240 litres in order to manage health and safety issues. Where this is not possible, the collection

schedule should allow for the containers to be emptied before they are more than two-thirds full. A larger container does not necessarily seem to lead to greater capture of material and it is unlikely that the larger size bins will be necessary for the quantities of food waste arising from most blocks of flats.

8.3.3 Housing units for bring sites

Bin housing units for the external container are used by a number of local authorities operating bring collections. The wheeled bin sits inside a lockable metal or rigid plastic cover which has an aperture at the top for depositing food waste (Figure 8.1). The size of the aperture is designed to prevent rainwater getting in and larger fly-tipped items being put in. The design of the handles at the aperture ensures that residents have minimal contact with the container and so are not discouraged from using the bin. Bin housing units tend to be fixed into the ground to prevent the bin being moved from its intended location. Within the housing unit, the lid of the wheeled bin is left open so that residents can open the aperture and drop food waste into the bin.

Figure 8.1 240 litre bin in a Matussi housing unit (photo courtesy of City and County of Swansea)



Bin housing units tend to be expensive to provide, but have a number of benefits for food waste collections including:

- securing the wheeled bin;
- improving the aesthetics of the bin area;
- reducing potential odours and contamination; and
- reduced risk of vandalism and fly-tipping into the wheeled bin.

An alternative to combat vandalism is to chain the wheeled bin to a wall or other surface. However, the collection of the bins from bin housing units is much quicker. In one example from the WRAP survey, it took on average eight seconds to collect a bin from a housing unit, whereas bins chained to a wall or other surface took on average 15 seconds to unlock and 11 seconds to return. This compares with less than a second for a bin that is unlocked or unhoused. Although the security increases the collection time per bin, this is likely to be outweighed by the reduced contamination when using bin housing units when considering all elements of a food waste collection scheme.

8.4 Liner provision

The main approaches to liner provision to residents in flats are to:

- provide caddy liners free of charge to residents;
- give residents the option of buying liners from the local authority or a private supplier (e.g. supermarkets); or
- advise residents on alternate methods of lining caddies (e.g. newspaper).

As for other types of properties (see Section 4.2), the choice of liner provision is likely to depend on:

- cost – purchasing and delivering liners to residents can be expensive;
- contamination – provision of liners may reduce contamination caused by plastic carrier bags; and
- participation and capture rates – provision of liners can make it easier for residents to use the scheme and therefore lead to higher capture.

The options for delivery of liners in flats are more limited than supply to ground level properties due to the access issues. A range of methods can be used to distributing liners to residents of flats:

- annual deliveries of liners to households;
- residents collecting liners from local collection points such as libraries, community centres or the housing estate office.

Local authorities considering requiring residents to collect liners should ensure that they don't have to travel a great distance to collect liners and can collect them outside normal working hours.

Seven of the local authorities surveyed provided liners free of charge to residents in blocks of flats. Three did not provide liners and instead encouraged householders to line their caddy with newspaper or purchase liners. Two provided liners during the scheme launch but did not provide them on an ongoing basis.

Although three of the local authorities provided liners free of charge to residents in flats, they encouraged residents in other types of properties who used their kerbside

scheme to buy liners from retail outlets. One of these three commented that good call centre procedures and staff training were essential to manage liner deliveries effectively.

Of the local authorities that did not provide liners, one collected food waste from 23 litre caddies within the bin store. This gave residents the option to store a 23 litre caddy in their flat, making it possible to easily transfer food waste from the small kitchen caddy without a liner.

Further information about food waste caddy liners is provided in Section 4.

8.5 Barriers to food waste recycling in flats

In 2014 WRAP hosted a series of focus groups in Woking Borough Council to explore the barriers to householder participation in food waste recycling services provided to flats. Four focus groups were conducted, recruiting a mix of users to work through experiences of the food recycling facilities for their estates. Although sample sizes were smaller than in the surveys detailed in Section 2.2.1, the focus groups lasted around an hour – giving more time to obtain feedback and generate solutions than in the doorstep interviews.

8.5.1 Key findings from focus groups on food waste collection from flats

Typically, residents at the focus groups had ‘bring’ style collections for recycling, food waste and general refuse where the onus was on the residents to walk waste/ materials in their own containers such as a carrier bag to the communal containers on the estate.

The common themes for non-participation were around apathy and that other residents did not appear to be using the service and so no social norm. This was particularly the case where it was easy or easier to deposit all waste as one stream.

In the probing that was possible in the focus groups, there appeared a clear link between the scheme design and delivery reinforcing residents’ own reasons for not participating.

These issues are linked in the three phases of the collection cycle and can be simplified as:



Table 8.1 Issues at different phases of the collection cycle for flats

Phase	Comments from focus group participants
In home	<ul style="list-style-type: none"> • Small flat • Open plan • Caddy not baby/ animal proof • Ugly caddy • Caddy too big for 1-2 people • Info that says you have to fill the caddy means people take a while to fill it and it smells/ is messy/ mouldy by this point • Caddy too big for dishwasher • Using newspaper as a liner is a poor tip • Caddy never received in the first place
On way to main bin	<ul style="list-style-type: none"> • Smells out lift • Liner rips/ contents drip as info tells people to fill caddy full • Get hands dirty so can't do on way to work (higher floor exacerbates problem, but an issue for all)
At main bin area	<ul style="list-style-type: none"> • Big bin poorly designed as have to see everyone else's waste (where they haven't used liners or they've split) • Sick-making smell • Flies in summer • Ruined by one or two people putting pet waste or similar in

The key personal barriers raised by non-participants in flats related to perceived effort to transfer waste from their property to the large external containers on-site.

The residents in the surveyed properties did not observe that many others in their block make the trip and so they don't feel socially compelled to participate.

The feedback on personal barriers related more to the perceived hassle of residents of taking their waste down several floors to deposit it in communal containers. An interesting comparison with kerbside services is that the effort, or not being bothered, does not come up as a personal barrier for households living in low rise properties. A lack of storage space in the home was flagged in some of the focus groups as being a barrier, although this was seen more as something that exacerbated the transfer issue.

Issues raised by residents in flats and suggested solutions

WRAP and the local authority sought views to get consensus on improvements to the scheme from residents living in the flats. It was felt that the 'in home' issues of lack of space, design and smell could be solved by:

- smaller caddy;
- liners restricting seepage; and
- clearer instruction on fill levels/ frequency of emptying caddies.

The 'out of home' issues relating to liners and mess at bin areas could be solved by:

- stronger liners to prevent seepage on route to communal food waste bin;
- a free supply of liners;
- regular cleaning of food waste bins; and
- a mechanism to ensure that food is obscured when depositing in the bin.

The key issues for non-participation stemmed from the poor service design and the logistics of transferring food waste from the home to the communal bins, and not from a lack of information. In some cases, if information is not clear or not well presented it can actually hinder participation in food waste recycling, for example, if information on which food items could be included was unclear.

Feedback from the group clearly indicated that making the service easier to use, and supporting residents of flatted properties with the tools to store and transfer food waste through the building would help negate the barriers raised by the perceived effort involved.

Many participants had seen the council leaflet but had not really paid attention to it. It was described as being overly detailed with too much content. The view was that, as the detailed information was useful to some, it could potentially sit on a website for those who are particularly interested.

The local authority worked with WRAP to implement service improvements based on the residents' suggestions. The scheme improvements included free liner supply, a new small internal kitchen caddy, improvement of the external storage container and supporting communications to explain changes to the service. The findings for two areas with the service improvements showed a dramatic increase in the tonnage collected of 23% and 35% and are covered in Section 11.

8.6 Consultation

Consultation is important to ensure support for the food waste collection scheme from stakeholders such as residents, the managing organisation and caretakers. Local authorities taking part in the WRAP survey commented that:

- involving caretakers, residents' representatives and property managers to promote stewardship of the scheme is essential (e.g. provision of liners);
- training for call centre staff is essential;
- getting caretakers on board is important as they are often key members of the communities they serve; and
- ensuring that residents in each block of flats are consulted before food waste collection facilities are introduced.

8.7 Role of the caretaker and housing managing organisation

Housing managing organisations are generally responsible for managing the blocks of flats, including the maintenance of the building, cleansing of communal areas and communications with residents. They are key stakeholders and local authorities should ensure that they are supportive of the scheme and are provided with all the information they need.

It is also vital that caretakers understand the scheme and are encouraged to champion the scheme to residents. This can be achieved through a training programme for caretakers and involving them in the consultation process when new schemes or service changes are planned

Workshop for housing associations in Swansea

A workshop was offered to housing associations for their caretakers. It was felt that, as the caretakers would be asked questions by residents about the new facilities, they needed to know in detail the reasons for introducing the food waste bins, etc. This training was provided for Coastal Housing caretakers and proved a great way to gain caretaker support and build strong working relationships. This is essential as the caretakers are often on site on a daily basis; they can monitor the bins much more closely than the council is able to and can provide feedback. If they are enthusiastic about the service, it is also far more likely that they will help in tasks such as removing contaminated bags and informing residents about the need to recycle more.

Ways in which managing organisations and caretakers can support a food waste collection scheme include assistance with:

- delivery of communications;
- provision of liners (e.g. by delivering liners to residents or distributing liners through housing offices); and
- monitoring the communal containers (e.g. for contamination).

Communications support provided by caretakers and managing organisations can include:

- information on notice-boards;
- information on websites or given out at events;
- inclusion of information in newsletters; and
- delivering communication materials directly to residents.

8.8 Contamination

Contamination of food waste needs to be managed properly to:

- maximise the amount of food waste collected for recycling; and
- minimise the cost and inefficiency in crews or staff having to deal with problems.

Contamination significantly reduces operational efficiency. Walking to and from the collection vehicles forms a significant part of the operational timings. Therefore a contaminated container results in a wasted trip for the crew, with an additional collection required by another vehicle and crew to empty the contaminated container. It therefore is essential for local authorities to monitor and address contamination.

Contamination can lead to:

- rejection of containers deemed unacceptably contaminated at flats on collection, meaning the waste has to be collected for disposal; and
- rejection of loads at the treatment facility.

In the survey of local authorities, the main contamination observed in containers was plastic bags. In one authority, this resulted in the rejection of bins at almost 50% of the sites visited on one collection day. In this instance, it appeared that residents were participating in the scheme but not using compostable liners, possibly because of the cost or it being less easy to acquire them, or not understanding the impact of using plastic bags. Some anaerobic digestion treatment facilities use debagging equipment to pre-process food waste. In such cases it might be possible to use plastic bags provided this is clearly communicated to avoid confusion in areas where such equipment is not available and compostable liners have to be used (see Section 4 for further information on liners).

Only seven of the 13 local authorities surveyed were able to provide information about containers rejected due to contamination. However, overall the number of reported contamination incidents was low with only a few authorities reporting rejected loads. The numbers of containers reported as being rejected ranged from zero to 114 per year. The number rejected did not appear to be entirely related to the size of the scheme, since one of the largest schemes operating reported only 20 rejected containers.

Although some rejection of containers was identified through the survey, local authority officers need to ensure accurate information is provided to them on contamination. It is recommended that local authorities track contamination incidents for different blocks of flats and develop a process for managing repeat contamination incidents. This might include communications, changing container position, changing container aperture or even withdrawing the site in the case of serious repeat contamination to avoid continued wasted collection time.

The rejection rate of containers noted during filming during the survey, together with anecdotal comments from crews, suggested that in some instances contamination was higher than the information reported before the survey. This mismatch may be due to

the way information on contamination is gathered, shared with the service manager and/or collated. Not enough data were provided by the surveyed local authorities to assess whether:

- contamination levels differed between different types of schemes (e.g. bring or collection from communal areas using caddies); and
- a higher rejection rate of containers at the point of collection led to a lower rejection rate of loads at the treatment facility.

The local authority with the highest rejection rate for containers also reported two rejected loads. One local authority reported no rejected loads and also no rejected containers per year. This indicated that either the material entering its food waste stream was very 'clean' of contamination or that its treatment facility was able to tolerate the level of contamination being received.

8.8.1 *Approaches to managing contamination*

Contamination issues need to be addressed both at the operational level by the collection crews and through communication with residents.

Operational procedures are extremely important for managing contamination.

Local authorities need to ensure that collection crews are following procedures for contamination (including assessing it prior to emptying the container, leaving a tag to feedback to residents, and reporting it).

At an operations level, incidents of contamination are reported by crews and, in some local authorities, contaminated bins are left to be collected later by the refuse crews. Two local authorities reported that, where possible, their crews remove contamination from the food waste bins so that the remaining materials can be collected.

Managing contamination in Hackney

Where food waste is contaminated with recyclable materials, the crew place them in the recycling bin next to the food waste bin. Litter bins have been placed next to many food waste bins which the crew use for non-recyclable waste. In severe cases, the crew give feedback to local authority officers so they can reinforce with education. The main causes of contamination appear to be small items of litter and carrier bags used to contain food waste.

Five of the 13 local authorities used tags, bin hangers or stickers on contaminated bins to explain to residents the container has been contaminated with non-recyclable materials. This approach to feeding back to residents what materials are accepted through the food waste collection scheme can also inform residents when the contaminated bin will be emptied.

It is essential to clear the contamination to avoid further losses of materials (from residents continuing to place food waste into the contaminated container) and to encourage continued support from residents for the scheme.

Local authorities considering using a split-bodied vehicle to carry out alternate week collections of materials (e.g. food waste and residual waste in one week and food waste and recycling the next week) need to consider how contaminated food waste will be cleared during the recycling collection week (when it cannot be loaded directly into the vehicle).

8.9 Operations

Greater operational variation is possible with food waste collection from flats than from kerbside collection, as highlighted by the summary of operations in the surveyed local authorities in Table 8.2. One of the 13 local authorities collected food waste twice weekly, with all the others collecting weekly.

Most of the local authorities tipped only once during the day. Tipping once means that time is not spent travelling to the tipping site and returning to the round, indicating that rounds are operating efficiently. However, this assumes the capacity of the vehicle is utilised by the end of the collection round and that the crews are working their full contracted hours and not finishing early.

Table 8.2 Summary of food waste collection operations of survey respondents

Local authority	Sources collected from	Vehicle type	Crews
Camden	Flats and kerbside properties	Single bodied 26 tonne refuse collection vehicle (RCV)	Driver plus two loaders
Elmbridge	Flats only	Split bodied 26 tonne RCV	Driver and one loader
Hackney	Flats and schools	Single bodied 7.5 tonne Farid Micro	Driver only
Islington	Flats only	Single bodied 7.5 tonne Farid Micro	One driver and two loaders
Kingston	Flats only	Single bodied 7.5 tonne RCV	One driver and two loaders
Lambeth	Flats, schools and Brixton prison	Single bodied 24 tonne RCV	One driver and two loaders
Merton	Flats only	Single bodied 7.5 tonne Farid Micro	Driver and one loader

Local authority	Sources collected from	Vehicle type	Crews
Milton Keynes	Flats, schools, sheltered housing and kerbside properties	Single bodied 26 tonne RCV	Varies depending on round, driver plus one or two
Surrey Heath	Flats and schools	Single bodied 26 tonne RCV with food pod	One driver and two loaders
Southend	Flats and kerbside properties	Single bodied 15 tonne RCV	One driver and two loaders
Swansea	Usually flats only (occasionally some schools and businesses)	Spilt bodied 26 tonne RCV	One driver and two loaders
Waveney	Flats and kerbside properties	Single bodied 26 tonne RCV	Driver with one or two loaders depending on season
Woking	Flats only	Single bodied 7.5 tonne RCV	One driver and one loader

8.9.1 Dedicated collection round or collection with other materials?

There are three main choices for food waste collection from flats:

- a dedicated food waste collection round solely for flats;
- a dedicated food waste collection round for flats and other sources; and
- co-collection with other materials (e.g. dry recyclables).

Figure 8.2 shows examples of vehicles used for dedicated collection and co-collection.

Figure 8.2 Left: Hackney's 7.5 tonne Farid Micro collection vehicle. Right: Split bodied vehicle used for food waste collection in Elmbridge.



There are advantages and disadvantages to each approach and local authorities considering launching a new scheme need to consider their local circumstances. Factors affecting this choice include:

- round sizes;
- housing density and location; and
- vehicle capacity.

A dedicated food waste collection round for flats is only efficient where there is a high density of flats and sufficient sites to service. Where the density of flats is lower, some local authorities operate rounds where food waste is also collected from sources such as kerbside properties, schools, commercial properties and prisons. This may reduce vehicle movements, but careful consideration is needed as to whether crews and vehicle capacity can be utilised effectively. For example, if a driver plus two loaders are used to collect food waste from the kerbside, can they be efficiently deployed to collect food waste from flats? For example, are there enough bins on an estate or per block of flats to justify the use of two loaders or is the density of the kerbside collection on the round greater than the flats' collection?

8.9.2 *Crew size*

The crew sizes used on dedicated food waste collection rounds vary from driver only to driver plus two loaders.

The nature of servicing flats as single collection points can affect the deployment of staff in the collection and significantly affect service costs. The types of collection – whether dedicated or collecting from other property types, or co-collecting with other materials – can all have an impact on whether the service is delivered efficiently. Crew sizes should be appropriate to the density and proximity of food waste containers to each other. For a collection round collecting predominantly only from blocks of flats where the density of food waste containers is low, it may be most efficient for collections to be undertaken by a driver only.

Crew operations should also be monitored carefully to ensure they are carrying out collections using the prescribed procedure.

8.9.3 *Operational timing*

The operation of collecting food waste from flats is likely to take longer than a kerbside operation. Additional factors that affect the time taken compared with kerbside operation include:

- the access to the bin store (i.e. how close the vehicle can get to the store);
- the need to remove the bin from its housing or unlock security chains;
- the need to check the bin for contamination; and
- the need to return the bin to its dedicated housing unit or secure again with chains.

8.9.4 *Smells and cleanliness*

All the local authorities surveyed collected food waste at least once weekly, with busy or sensitive sites receiving more frequent collections. Single incidences of reported problems related to maggots, flies and odours were extremely low suggesting that these are not common problems with flats food waste collections – most likely due to the high frequency of collection.

To avoid issues with bin cleanliness, one of the surveyed local authorities provided large compostable liners for their 140 litre communal collection bins to keep them clean and reduce odours. Another arranged for the communal bins to be cleaned twice per year.

Frequent collections, prompt removal of contaminated material and arrangements for bin cleansing are vital in avoiding problems. Frequency of cleaning may vary depending on:

- time of year – in the summer more frequent cleaning may be required;
- whether liners are used to contain food waste – liners prevent food waste from sticking to the containers and reduce the need for cleaning;
- location of the containers; and
- procedures for cleaning the containers – can they be cleaned on site (possibly by a caretaker) or do they need to be collected and moved to another area for cleaning.

8.9.5 *Estimating number of properties that can be served using a new model*

Information gathered from the local authority survey on average timings was used to develop a model to estimate the number of properties that can be served on a collection day by different collection schemes. The number of storeys in a block of flats (e.g. whether it is low, medium or high rise) is not thought to affect the properties that can be served because the timings are dependent on the bin size and the number of bin stores.

Care is needed when using these estimates as a basis for planning food waste collections elsewhere because some of the model variables depend on local demographics.

Table 8.3 Estimated number of properties served*

Local authority	Vehicle type	Estimated number of properties serviced per day**	Estimated sites serviced per day**
Hackney	Driver only with Farid Micro	2,665	53
Islington	Driver plus one loader with Farid Micro	2,542	51
Elmbridge	Driver plus one with split bodied vehicle	2,605	52

*Information derived from the videoed and timed collections.

** Standardised local authority circumstances: crews work seven hour shifts; 50 properties are serviced per bin at each site; and the time taken to drive between sites is assumed to be five minutes.

8.10 Performance

Scheme performance from flats is difficult to measure for a number of reasons including:

- material from other sources (kerbside properties or businesses) being collected on the same vehicles; and
- the practicalities of monitoring bring scheme usage for participation and contamination sources.

Local authorities in the survey were asked to provide performance information related to the kilograms of recycling per week captured, participation rates and set out rates.

8.10.1 Weight collected

Estimated¹ or measured amounts collected for bring bank schemes for eight of the local authorities surveyed ranged from 0.26 to 0.98kg per household served per week. The average (mean) was 0.63kg/household served/week.

No yield data were available for door-to-door schemes or for collections from caddies in communal areas.

¹ Estimates were made in a number of ways including fill levels of containers which were then converted into weights, an assessment of the change in tonnage when flats were added to the kerbside food waste collection, or annual projections made from short periods of actual known weights.

If food waste from flats is collected at the same time as food waste from other sources, it can be difficult to distinguish how much material is being collected from the flats. Some options for overcoming this are outlined below.

- Use vehicle on-board weighing equipment to record the weights of communal (bring) containers as they are collected.
- Carry out a visual assessment of the fill levels of food waste containers. The weight can then be estimated based on the known fullness of a bin and established conversion factors.
- Use one vehicle to make a dedicated collection from specific sites or areas. The vehicle then goes to the weighbridge and the tonnage for that specific site or area is recorded.
- Use scales to weigh containers. Some sets of scales can be heavy, so two or more people may be needed to move them and a van to transport them.
- Carry out waste audits to provide a snapshot of the waste and recycling stream. Audits are a good way of understanding how much of each material is being recycled (capture rate), but can be costly depending on the extent and frequency of analysis (i.e. single season or four season survey).

8.10.2 *Participation rates*

It is not easy to obtain accurate data on participation rates for food waste collection from flats.

Visual monitoring of which households are participating in food recycling is difficult if they use communal bring sites or use caddies in a communal area. Having a researcher standing by the external container isn't practical and may put some residents off recycling (e.g. they may not understand what the researcher is doing there). For these schemes, attitudinal surveys can be conducted to provide a measure of claimed participation. However, people can claim they recycle more than they actually do, so real participation rates are likely to be lower than claimed. Standard participation monitoring methodologies can be applied to door-to-door collection schemes, but only if the monitoring team can gain access to the building.

Participation rates for bring schemes can either be based on the outcomes of resident surveys or estimated.

Some of the surveyed local authorities operating a bring scheme were able to provide data on participation rates based on responses to residents' surveys. Claimed participation rates were high, ranging between 74% and 97%. Earlier WRAP funded trials in 2007–2009 recorded participation rates for two door-to-door food waste schemes at blocks of flats of 21.3% and 28.3%. These rates are significantly lower than the claimed rates above for the bring schemes, suggesting a significant amount of over claim. When projecting scheme performance, local authorities should take a more cautious approach to estimating capture and participation than these claimed rates suggest.

Based on the amount of food waste actually being collected, one London borough estimated a bring scheme participation rate of 14%.

Actual participation in communal food waste schemes might therefore be expected to be low at <30%. Participation in bring style schemes would typically be lower than kerbside collections given the additional effort required of residents to recycle their food waste. Good design, careful siting and high density of collection points to improve access appear crucial to achieving good levels of participation in food waste collection schemes for flats.

Monitoring and evaluation is extremely important to understand the performance of the scheme and to identify where improvements can be made. It is recommended that local authorities monitor schemes against a range of performance indicators and ensure that reliable data are collected.

8.10.3 *Additional costs of food waste collection from flats*

The key equipment costs of food waste collection schemes include containers, vehicles and liners. For flats there are a number of additional costs such as communications, bin cleaning and vehicle routing as highlighted by the following examples from the surveyed local authorities.

- Additional costs include communications ranging from £1,000 for small-scale door-to-door engagement (£5 per household including communication materials) to £75,000 for a scheme launch (£0.88 per household).
- Bin cleaning costs cited by one local authority were £10 per bin twice per year.
- Two local authorities installed bin housing units – one at a cost of £100 per site and another at £5.50 for hardware costs and £11.25 for labour costs per bin secured.
- Routing of collection vehicles cost one local authority £900.

None of the local authorities surveyed had to install hardstanding for external containers.

Reducing costs by partnership working in Woking and Guildford

Woking works in partnership with Guildford to help share the cost of operating a food waste collection service for flats. They share the cost of hiring a collection vehicle and a collection crew, with Woking using the vehicle three days per week and Guildford using it one day per week. Woking feels this has been a positive experience and has reduced the costs of providing the service.

8.11 Managing a roll-out

Although the local authorities surveyed were not asked specifically about the roll-out of their food waste scheme, a number provided comments that other local authorities may find useful when considering a roll-out to flats.

- Introduce collections at flats one day at a time (e.g. filling a day's worth of collections before moving onto the next phase) made the process run smoothly and efficiently. Alternate weekly collections of residual had been in place for some years; it would have been ideal to have introduced food waste collections at the same time.
- Planning ahead and rolling out clusters of blocks helps with grouping collections geographically. Ensure you are on top of the logistical and staff requirements, whether you are doing a small trial or rolling out a bigger scheme. Log your lessons learnt.
- Do not underestimate the time involved in visiting each multiple-occupancy dwelling to determine the best position for the communal collection bin and the time it takes to provide bespoke leaflets for different blocks of flats.
- Make sure recycling and refuse collections are working smoothly before introducing food collections.
- Ensure there are a sufficient number of external bins for each block.
- Assess all blocks for existing refuse/ recycling capacity and space for additional containers. Introduce in stages, starting with the easiest first.
- Make sure you have enough resident interest from the outset. Food waste collections are expensive so make sure you have the residents ready and willing to take part. Systematic and regular communications are essential.

Appendix F provides a template for an 'Implementation Plan' for a flats food waste collection service.

While we have tried to make sure this report is accurate, we cannot accept responsibility or be held legally responsible for any loss or damage arising out of or in connection with this information being inaccurate, incomplete or misleading. This material is copyrighted. You can copy it free of charge as long as the material is accurate and not used in a misleading context. You must identify the source of the material and acknowledge our copyright. You must not use material to endorse or suggest we have endorsed a commercial product or service. For more details please see our terms and conditions on our website at www.wrap.org.uk

www.wrap.org.uk/hhfoodwastecollections

