Co-collection of household and commercial waste and recyclables

This document provides information on the co-collection of commercial and household waste and commercial and household recyclables on the same collection vehicles. Local authority case studies show how this practice can in certain cases be cost-efficient when compared to the use of dedicated vehicles for commercial waste collections.
WRAP helps individuals, businesses and local authorities to reduce waste and recycle more, making better use of resources and helping to tackle climate change.
Executive summary

The number of local authorities providing commercial waste and recycling services is increasing. According to a survey by WRAP\(^1\) in 2010 the percentage of local authorities offering a commercial waste service, for Small to Medium Sized Enterprises (SMEs), has increased from 56% to 65% in the last three years, and some 43% of local authorities now offer a commercial recycling service, compared to 23% in 2007. These increases are driven by a number of factors including increasing demand for services from local businesses, opportunities for local authorities to generate income through the provision of services and the wider policy and regulatory framework.

The Review of Waste Policy in England (June 2011) outlines the government's intentions and policy steer around business waste. This includes (as well as a greater focus on waste prevention) improving access to recycling services for businesses, particularly SMEs and addressing the role that both the private sector and local government has to play in supporting businesses\(^2\).

Local authorities are under increasing financial pressure and many will need to review services to deliver efficiency savings whilst maintaining quality frontline services and meeting Waste Framework Directive requirements. Potential income streams from the provision of commercial waste and recycling services to businesses, coupled with an opportunity to gain both cost and service efficiencies through integrating collections, may make the co-collection of household and commercial waste and/or household and commercial recyclables an attractive proposition for some local authorities.

This guide highlights the potential opportunities, considerations and approaches to co-collecting household and commercial waste and/or recyclables on the same vehicles. It is aimed at local authorities who already operate a commercial waste/recycling collection service as well as those who are considering starting such services. For authorities looking to commence commercial waste collection services, particularly recycling services, it may be useful to first read the Commercial Recycling Collections Guide.

The document is split into the following sections:

- Key benefits
- Considerations
- Approaches to co-collection, including local authority examples
- Monitoring and reporting household and commercial waste tonnages
- Case studies

The information contained in this guide draws on the experience of local authorities from across the UK who are co-collecting household and commercial waste and/or recyclables. Examples are given throughout the document and five case studies are included as an annex.

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\(^1\) Local authority commercial waste and recycling survey 2010, WRAP

It has been written for English authorities and while it is likely to be useful to authorities in the other nations, steps should be taken to ensure that local regulations and policies are adhered to.

The guide does not cover the adaptation of Household Waste & Recycling Centres (HWRCs) or other municipal ‘bring’ facilities to collect commercial wastes. The guide is also not intended to address the underlying principles of setting up successful recycling schemes for either households or business customers. The WRAP website contains information and case studies on all these areas.

http://www.wrap.org.uk/local_authorities/index.html
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Glossary

The key terms used throughout this guide are explained below in Table 1:

Table 1 Glossary of key terms

<table>
<thead>
<tr>
<th>Key term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-collection</td>
<td>For the purpose of this guide the term ‘co-collection’ refers to the collection of household and commercial waste or household and commercial recyclables on the same vehicles.</td>
</tr>
<tr>
<td>Commercial waste</td>
<td>Commercial waste comes from a property used for the purposes of trade or business, such as offices, shops, showrooms, pubs, clubs, restaurants, hotels, government and local authority offices, royal palaces, caravan and camping parks, self-catering accommodation used in the course of a business, general medical practitioners, markets, fairs, charity shops and places of worship(^4). Waste collection authorities have a duty, if asked, to arrange for the collection of commercial waste from businesses in their area. The majority of commercial waste collected by local authorities is likely to be from Small and Medium Sized Enterprises (SMEs).</td>
</tr>
<tr>
<td>Household waste</td>
<td>For the purpose of this guide household waste or recycling is that which is collected from residential properties rather than at Household Waste &amp; Recycling Centres (HWRCs).</td>
</tr>
<tr>
<td>Small &amp; Medium Sized Enterprise (SME)</td>
<td>According to the European Commission SMEs are:</td>
</tr>
<tr>
<td></td>
<td>Medium sized businesses with less than 250 staff, a turnover of less than €50 million, or a balance sheet total of less than €43 million;</td>
</tr>
<tr>
<td></td>
<td>Small businesses with less than 50 staff, a turnover of less than €10 million, or a balance sheet total of less than €10 million; and</td>
</tr>
<tr>
<td></td>
<td>Micro-businesses with less than 10 staff, a turnover of less than €2 million, or a balance sheet total of less than €2 million</td>
</tr>
<tr>
<td></td>
<td>SMEs together account for 99.9% of all enterprises in the UK.(^5)</td>
</tr>
</tbody>
</table>


\(^5\) Statistical Release, Department for Business Innovation & Skills (October 2010)
Acknowledgements

WRAP and Entec would like to thank the following local authorities for their contributions during the research of this study:

- Ribble Valley
- Blackburn with Darwen
- London Borough of Bexley
- East Northamptonshire
- Moyle
- Clackmannanshire
- Suffolk Coastal
- Cornwall
- Limavady
- North London Waste Authority
- London Borough of Lambeth
- Ceredigion
- Selby
- East Ayrshire
- Inverclyde
- Kings Lynn and West Norfolk
- Canterbury
- Reading
- Guildford
1.0 Key benefits

1.1 Introduction

Co-collecting commercial and household waste and recyclables may be a sensible approach for local authorities and their contractors to take and by doing so may bring benefits to local businesses.

1.2 Benefits of co-collection systems to local authorities

There are a number of potential benefits to local authorities of co-collecting commercial and household waste/recyclables on the same vehicles:

- **Potential to generate income** – This may be through the ability to service commercial customers at marginal additional cost with income generated from service charges and from material sales;

- **Efficiency savings** – A reduction in the number of vehicle passes required to service household and commercial customers can lead to a reduction in the total distance travelled, and associated vehicle running costs;

- **Increased productivity** – A reduction in time spent travelling, with, therefore, more time spent collecting;

- **Improved utilisation of vehicle and staff resources** – Offering harmonised services to households and businesses provides flexibility to in-fill capacity on vehicles or re-balance collection rounds across a greater pool of customers;

- **Economies of scale** - Where the range of materials offered for recycling to businesses is in line with those offered to households, the additional tonnage collected can lead to benefits in terms of economies of scale e.g. when procuring MRF capacity or negotiating contracts for the sale of materials;

- **Flexible household waste collection frequencies** - Households in urban centres may have limited storage space for waste and recyclables. Co-collection with commercial properties, where the number of lifts over a given period may be greater than for households, can allow authorities to cost-effectively collect household materials on a more frequent basis;

- **Contributes to carbon reduction from local authority operations** – Lower mileage linked to fewer property passes over a given timeframe results in less fuel consumption and thus a reduction in CO2 emissions. In addition, where co-collections lead to increased recycling, there are additional carbon benefits to be gained; and

- **Providing greater opportunities to recycle** – Enabling businesses and their staff to recycle at work as they do at home will reinforce the message that recycling is part of daily life.

1.3 Expanding recycling services to commercial customers

It may be the case that many existing residual waste customers would be willing and able to adopt recycling services that are aligned with household configurations (or some variant of them) if the cost, service and environmental benefits of this approach can be demonstrated. The potential benefits to councils of introducing co-collection recycling schemes may include:

- Reduced operational costs by maximising existing vehicle capacity
- Increased revenue generated
- Positive effect on ‘municipal’ recycling performance
- Improved customer satisfaction with council waste collection services in general

The London Borough of Bexley introduced a commercial recycling service based on co-collection with household recyclables as outlined below.

<table>
<thead>
<tr>
<th>London Borough of Bexley</th>
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</thead>
<tbody>
<tr>
<td><strong>Refuse:</strong></td>
</tr>
<tr>
<td>Fortnightly to householders</td>
</tr>
<tr>
<td>Weekly to flats and houses with storage constraints</td>
</tr>
<tr>
<td>Weekly or fortnightly to commercial; all is co-collected with waste from households or flats</td>
</tr>
<tr>
<td><strong>Recycling:</strong></td>
</tr>
<tr>
<td>All services weekly to householders</td>
</tr>
<tr>
<td>Weekly or fortnightly to commercial and all material is co-collected with that from householders or flats</td>
</tr>
<tr>
<td>Collected in three streams:</td>
</tr>
<tr>
<td>• Paper and cardboard</td>
</tr>
<tr>
<td>• Cans and plastic bottles</td>
</tr>
<tr>
<td>• Glass</td>
</tr>
<tr>
<td><strong>Service differences:</strong></td>
</tr>
<tr>
<td>Commercial customers have flexibility in choice of containment and collection frequency (weekly or fortnightly) and are offered bins rather than boxes for recycling</td>
</tr>
<tr>
<td>1100 litre bins for commercial customers for glass or paper and card are co-collected with flats</td>
</tr>
</tbody>
</table>

Bexley has always co-collected commercial and household residual waste. Recycling services, previously only offered to domestic properties, were introduced to commercial customers following a review of the available capacity on the existing household recycling rounds. Customers can choose which (or all) of the three recycling streams to receive and have a choice of container sizes. By co-colllecting commercial recycling the council has been able to introduce the service cost-effectively.

1.4 Benefits of co-collection systems to businesses

Co-collections may also benefit an authority’s commercial customers, for example:

- **Providing access to a commercial waste collection service** - businesses, particularly in rural areas where private sector collections tend not to be well-established, might not otherwise have access to an affordable collection service. In providing a service there may be benefits linked to ensuring businesses comply with Duty of Care requirements.

- **Offering a more flexible service** - in some cases, co-collections, particularly in densely populated areas, may mean that businesses can be offered a more frequent service.

The example below shows how Suffolk Coastal District Council is able to offer commercial customers, including those in rural areas, the opportunity to recycle a range of materials while also meeting the particular needs of urban-based businesses. A full case study can be found in Appendix 5.
Suffolk Coastal District Council

<table>
<thead>
<tr>
<th>Refuse:</th>
<th>Household waste is collected fortnightly.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In rural areas, commercial and household refuse is co-collected.</td>
</tr>
<tr>
<td></td>
<td>In urban areas commercial refuse is collected on dedicated rounds and at a frequency that suits the customer.</td>
</tr>
</tbody>
</table>

| Recycling: | Materials from households are collected fortnightly. The service is co-mingled: cans, tins, paper, card and plastic bottles, pots, tubs and trays and, separately, organic waste (food and garden). |
|           | In rural areas, household and commercial recyclables is co-collected. |
|           | In urban areas recycling is collected on a dedicated round and at a frequency that suits the customer. |
|           | Most commercial customers use the co-mingled recycling service, although separate collections of glass, paper and cardboard are offered. |

Co-collecting household and commercial waste and recyclables on the same alternate weekly rounds in rural areas enables more cost-effective service delivery, as vehicle passes and mileage are reduced. It is viable as the rural businesses are relatively small and therefore do not produce large quantities of materials.

Maintaining dedicated rounds in urban areas has allowed the council to continue to provide a flexible service that meets the needs of customers - where businesses may have less storage space and therefore need more frequent collections.

2.0 Key considerations

A key consideration for local authorities providing waste and/or recycling collection services to businesses is the need for those services to be economically viable. This may be particularly challenging in rural or sub-urban areas where commercial customers may be spread over a relatively wide geographical area and/or they may be small businesses producing relatively small quantities of material. There are a number of practical considerations that need to be explored before confirming if co-collection is a feasible option of servicing all, some, or no customers. These include:

- Frequency and timing of collections
- Containers
- Vehicles
- Health and safety
- Rounds and crew sizes
- Depots and sorting facilities
- Management resources
- Sales and marketing
- Administrative resources
- Contracts

2.1 Frequency and timing of collections

Can the scheduling of collections from household and commercial customers in a given locality be aligned, for example so that they can be carried out on the same day?
Are there any particular properties that might be more suited to servicing by a co-collection scheme? It is common for local authorities to co-collect waste and recyclables from communal properties e.g. flats (serviced by bulk bins) alongside waste and recyclables from commercial customers where collection frequencies are similar, e.g. weekly or multiple weekly lifts.

Can the needs of customers continue to be met if a change to collection frequency was to be offered?

Can a change to the day of collection (not frequency) be made without disrupting businesses? Often bins are stored outside and do not require scheduled presentation at the kerbside by the customer but if bins are stored behind locked areas then customers would need to be informed.

Do current contracts with customers who are serviced on dedicated commercial rounds affect the feasibility of the council making a change to co-collection?

Does the service configuration allow for additional collections from commercial customers on an ad-hoc basis?

It is important to consider what contractual commitments are in place with regard to rectifying missed collections and policies such as responding to requests for additional ad-hoc collections.

The example below describes an authority that has successfully changed collection days when co-collecting household and commercial waste and recyclables. The full case study can be found in Appendix 1.

<table>
<thead>
<tr>
<th>Blackburn with Darwen Borough Council</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recycling</strong></td>
</tr>
<tr>
<td><strong>Refuse</strong></td>
</tr>
</tbody>
</table>

Blackburn with Darwen Borough Council is a unitary authority in the North West of England. A council operated household refuse collection service is offered weekly. The recycling service is contracted out to Verdant (now Biffa) and is collected fortnightly. The council and Biffa also provide commercial waste and recycling collection services. Approximately 1,000 customers have subscribed to the refuse service, and 450 also receive a recycling collection. The collection frequency offered to commercial customers is the same as for households. All recyclables are co-collected and all refuse is co-collected.

In November 2010 the council and Biffa introduced new working hours. Previously crews worked on a task and finish basis from Monday to Friday. The change saw a move to a four day working week for refuse and recycling (Monday – Thursday) with garden waste collected on Friday. There was no change to the frequency of collections, however a proportion of residents and customers that had previously received collections on Fridays were moved to a different collection day. Refuse and recycling crews still work a 37 hour week but the day length has increased to an average of 9.25 hours.

The council did not receive any negative feedback from commercial customers regarding the day change. This may in part be because, more often than not, collection crews collect commercial bins/sacks from the point of storage and, therefore, the customer is not always aware when the materials are collected and hence is not inconvenienced.

2.1.1 Alternate weekly collections (AWC)

At the time of writing approximately half of the local authorities in England have moved from weekly to fortnightly collections of residual waste. If your authority already co-collects
household and commercial waste/recycling then you will need to consider if it will continue to be feasible to co-collect under a different frequency of collection for household waste. When looking at moving to AWC the following should be considered:

- If you have sufficient time and internal resource to work up commercial and household waste and commercial and household recycling co-collection options simultaneously. A common response has been for local authorities to separate out the commercial (and collections made from flats / communal properties) and to run these separately;
- Implementing AWC often highlights where commercial waste has been inadvertently co-collected with household waste, for example, businesses may complain that their collection frequency has been reduced. Implementing AWC normally requires an authority to revisit its commercial waste service provision, as it is likely to be affected by the re-scheduling of rounds and re-allocation of resources; and
- AWC does not preclude the co-collection of household and commercial waste and recyclables. However, in order to determine the feasibility of making changes to commercial collection frequencies, surveys of individual commercial customers are highly recommended. This would be in order to assess service needs and check individual contract agreements.

An example of an approach taken by a local authority to integrate elements of co-collections alongside AWC collections from households is provided below:

<table>
<thead>
<tr>
<th>Canterbury City Council</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Refuse:</strong></td>
</tr>
<tr>
<td>Household waste is collected on an alternate weekly basis.</td>
</tr>
<tr>
<td>In rural areas, commercial and household refuse is co-collected.</td>
</tr>
<tr>
<td>In urban areas commercial refuse is collected on dedicated rounds and at a frequency that suits the customer.</td>
</tr>
<tr>
<td><strong>Recycling:</strong></td>
</tr>
<tr>
<td>Materials from households are collected fortnightly.</td>
</tr>
<tr>
<td>In rural areas, household and commercial recycling is co-collected.</td>
</tr>
<tr>
<td>In urban areas recycling is collected on a dedicated round and at a frequency that suits the customer.</td>
</tr>
</tbody>
</table>

At the time of writing approximately 1,000 commercial customers had subscribed to the residual waste collection service, of which 330 also receive the recycling collection. The materials which can be collected are paper, card, cans and plastic bottles. These are collected co-mingled in transparent sacks.

A change in collection frequency may act as a catalyst for commercial waste customers to sign up to recycling collections, particularly if this service has not been available previously. By recycling, the previous collection/lift frequencies for refuse may no longer represent the most sustainable or sensible practice. It is beneficial to review customers’ requirements regularly.

### 2.1.2 Operating hours

Some commercial customers are likely to have specific collection requirements, for example the need for additional collections due to seasonal shifts in their business activities, such as at Christmas or other holiday periods. Councils will need to consider how to accommodate any specific requirements.

It is commonplace for some businesses to want collections within certain time windows and at times which may fall outside the normal household collection round timings. This may
prevent efficient co-collection arrangements. In addition and in order to work their assets more efficiently, many local authorities are considering the benefits that four-day working (and other shift patterns) can offer. Such changes, which commonly involve collections being made over more hours in the working day, and potentially at weekends, may cause some issues with co-collecting but could offer greater flexibility in collecting from commercial properties at their desired times.

Any intended move to co-collections, based on a four-day, or other extended day shift pattern, should be accompanied by a review of relevant legislation such as the EU Driving rules (regulation (EC) 561/2006). Where commercial waste is collected these regulations take precedent over domestic requirements and place more stringent limits on daily hours of work and periods of rest.

In seeking to maintain high standards of customer service, to households and businesses alike, some element of operational flexibility is required. It may be that, by freeing up resource through a move to co-collections and standardising the service to households and businesses as far as possible, the spare resource can be used to respond to the inevitable ad hoc requests for additional collections.

2.2 Collection containers

The containment of refuse and recyclables may have implications for the feasibility of co-collections. This will be relevant if there are any constraints over the way the material is lifted, tipped and sorted. This will vary across authorities depending on vehicles used and sorting arrangements. As businesses vary so much in terms of size, storage space, waste arisings, etc. it is common for a range of containment options to be offered. It should not be assumed that containment needs to be the same as for household waste/recyclables. Issues to consider include:

- If bin size is an issue (due to lifting equipment and manoeuvrability) then could several smaller bins be an option? In all cases, the bin manufacturer’s weight safety limits should be abided by.
- Are re-usable sacks an alternative to recycling boxes or bins for customers with limited space?
- Where co-mingled collections are proposed, can the MRF/sorting plant handle single use sacks if these are used?

2.3 Vehicles

When considering if collection vehicles are suited to handling both commercial and household waste/recyclables you may need to address the following:

- Where household recyclables are collected on kerbsider/stillage vehicles, can these accommodate commercial recyclables, and if so, how should the materials be presented for collection?
- Bulk density of collected materials - consider the volume of the materials that would be collected in relation to the fill rate of, and compaction rates applied to, each vehicle compartment, for example a lot of businesses produce large volumes of cardboard; ensure if you use a MRF that it can handle the additional materials being collected (quantity and type) and check if they have limits on compaction levels;
- To what extent can existing vehicle capacity absorb additional demand for commercial collections?
The case study extract below highlights how a local authority has considered vehicles and containment when integrating household and commercial collections. The full case study is in Appendix 4.

### Selby District Council

<table>
<thead>
<tr>
<th>Refuse:</th>
<th>Waste from town centre commercial properties and domestic flats is co-collected weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All other commercial customers and households are serviced fortnightly</td>
</tr>
<tr>
<td>Recycling:</td>
<td>All services fortnightly</td>
</tr>
<tr>
<td></td>
<td>Paper and card from commercial properties and flats is co-collected co-mingled</td>
</tr>
<tr>
<td></td>
<td>Glass and cans from commercial and household properties is co-collected source segregated</td>
</tr>
<tr>
<td>Service differences:</td>
<td>Plastic pots, tubs and trays are collected from householders but not commercial properties or flats.</td>
</tr>
</tbody>
</table>

Selby District Council has expanded its separate glass and can collection service to its commercial waste customers. This was made possible by utilising spare capacity on the household collection rounds and aligning the frequency and day of commercial collections with those for nearby households. The council carefully considered the type of container to offer to commercial customers as they need to be compatible with council’s kerbsider vehicles. Customers are provided with separate 140 – 360 litre wheeled bins or 55 litre boxes as larger bins could not be emptied on the vehicles.

### 2.4 Health and safety

A health and safety review including a full risk assessment should be carried out when making any change to a service in addition to any carried out on an on-going basis. Method statements/ safe systems of work etc. may need to be revised. Particular considerations relating to co-collection arrangements are if collections are made more frequently that before in pedestrian areas or on busy high streets and, if co-collecting with schools, scheduling of collections away from peak opening, lunch and closing times is advisable.

### 2.5 Rounds and crew sizes

Rounds and crew sizes may need to be adjusted for co-collections to make best use of spare capacity across a number of crews. Adding another collection operative to a crew may increase efficiency when servicing a variety of properties with different access arrangements and bin types. Local authorities should consider:

- If there is capacity to collect commercial waste on existing household rounds?
- Would existing collection rounds need to be re-organised to optimise efficiency?
- How many rounds/crew would be needed to deliver the co-collection service?
- What additional training would staff require?
Co-collection of household and commercial waste and recyclables

2.6 Depots and sorting facilities

Local authorities should discuss any plans to change collection arrangements with operators of any bulking depots, transfers stations or MRFs they use to ensure that these facilities can handle increased quantities of materials and to agree any other contract variations prior to any collection service change. In some areas this may also require discussions with the Waste Disposal Authority. Issues include:

- Do depots and sorting facilities have enough capacity, space, personnel and equipment to accommodate the tipping, handling, sorting and bulking of additional waste/materials? Or will they need transporting/delivering to an alternative facility?
- Are there contractual or licensing constraints associated with handling commercial waste at existing facilities?

2.7 Management resources

Setting up alternative collection schemes/rounds will require staff time to plan and manage. Identification of a suitable person within the authority/contractor team with the capacity, knowledge and skills to do this is key to the success of the project’s initial set up and its ongoing deliverability.

2.8 Sales and marketing

If the council already operates a commercial waste/recycling service there are likely to be staff with responsibility for promoting the service and recruiting new customers. Specific consideration when marketing a co-collection service may need to be given to:

- Container size;
- Collection frequency;
- The scope for flexibility (or otherwise) in collection days/zones;
- Any capacity constraints at reception facilities;
- Branding of containers and vehicles e.g. stickers to advertise the co-collection service;
- The balance of residual and recycling income and expenditure; and
- Promotional resources.

2.9 Administrative resources

Similar to above, administrative resources may be available if commercial waste is already collected by the authority, however changing collection arrangements and rounds, might require some changes and this needs to be carefully thought through, for example:

- Are there adequate resources to handle any additional administration/reporting requirements, such as:
- Additional auditing of material flows through the collection system and associated infrastructure in order to comply with reporting requirements; and
- Allocating costs between the household and commercial services (see section 4);
- Do call centres have capacity and knowledge to deal with additional enquiries?

It may be advisable to check your data handling systems to ensure that they support a co-collection approach. There may be value in integrating all customer data sets across household and commercial operations, for example, consider methods for:
- Maintaining the Local Land and Property Gazetteer,
- Developing bespoke reports within the Customer Relationship Management system
- Developing a common billing approach, e.g. by integrating bulky waste collections, commercial and other subscription-based services.

As the materials / waste are physically collected together it makes sense to have the supporting management systems integrated, although it is important to be able to report separately on household and commercial services.

2.10 Contracted out services

There are a number of specific factors for councils with out-sourced waste management services that should be looked at when considering the introduction of co-collection services. These include:

- **Varying existing contracts** – it might be possible to vary existing contracts and if there are operational efficiencies to be gained the contractor may be particularly willing to do this. However, this will need to be considered on a case by case basis and will depend on the scope of original contract;

- **Tendering for services** - when re-tendering collection service contracts and during the development of the tender documentation and detailed specification, consider including the option for carrying out co-collections, and also ways of sharing, with the successful tenderer, the benefits of this; and

- **Tonnage assessments/reporting** - the outsourcing of collection services may put the onus on the contractor to carry out periodic tonnage assessments, the methodology for this will need to be agreed as it will influence the reporting of tonnages collected from households and commercial customers. This is addressed in section 4.

3.0 Co-collection systems

3.1 Service models

The main service model options include:

- Fully aligned
- More frequent collection for commercial than for household
- Co-collect in rural areas
- Co-collect in inner city and/or flats

3.1.1 Fully aligned

This is where the frequency and day of collection for all commercial waste collections are the same as those for household waste. An example is Limavady Borough Council which collects commercial and household refuse on a weekly basis.

3.1.2 More frequent collection for commercial than for household

An example of this is where refuse is collected fortnightly from households and weekly from commercial customers. This can require a hybrid approach to be taken such as:

- Co-collection of commercial waste with household waste on the same vehicle in week one and then on dedicated vehicles in week two; or
- Co-collection of commercial waste with household waste by one household crew in week one, and another household crew in week two e.g. Selby District Council (see case study in Appendix 4).

Both these options require careful management to ensure that, due to the more complex round structures, the authority does not experience problems with missed bins. A common management solution is to use in-cab technology which can help identify round efficiencies and ensure that work is correctly scheduled in order that each day's tasks are completed in the allotted time.

### 3.1.3 Co-collect in rural areas

In rural areas a large proportion of a collection crew's day may be spent travelling rather than collecting. To minimise this time, which is largely unproductive, councils such as Suffolk Coastal, East Northamptonshire and East Ayrshire (case study below), have integrated the commercial and household collections from rural properties. This means that only one vehicle collects from each area and minimises the crossover of vehicles and the total distances travelled.

#### East Ayrshire Council

East Ayrshire Council has adopted the approach that, in the urban areas, commercial refuse and paper and cardboard is collected on dedicated rounds. In the rural areas the commercial refuse and recycling is co-collected on the household alternate weekly rounds.

The council assesses the requirements of each commercial customer, and offers a range of containment options, from 140 to 1,280 litre bins, and sacks for those with limited space, or minimal requirements. In addition to commercial refuse and paper and cardboard collections, the council also offers commercial customers a collection of glass and cans.

#### 3.1.4 Co-collect commercial and flats and/or inner city houses

This approach is common where local authorities collect household refuse on a fortnightly basis from the majority of low rise properties but offer a weekly household waste collection to properties with limited storage space for additional/larger collection containers (typically flats). In addition the containment provided for flats is often similar in size to that provided to commercial customers.

#### Reading Borough Council

Reading Borough Council implemented a change from weekly to fortnightly refuse collections from households but retained weekly collections from flats. The main reason for this was limited space in the bin stores for additional containment (for both refuse and recycling). As a large proportion of the flats are in the town centre they are within close proximity to the commercial customers meaning that the co-collection of commercial waste and household waste from flats is the most efficient option.

### 4.0 Monitoring/reporting tonnage and allocating costs

Any decision to integrate household and commercial collections needs to be underpinned by a robust method for determining, and subsequently monitoring, the tonnage of each waste stream.
4.1 Why monitor and report separate tonnages for household and commercial waste/recyclables

There are several key reasons for monitoring and reporting tonnages separately:

- **Statutory reporting** – Waste Data Flow quarterly and annual returns require councils to separately report household and ‘other municipal’ waste tonnages;
- **Service improvements** – information to inform how the commercial service is performing and any action to improve performance;
- **Apportioning costs** – the monitoring of co-collected waste tonnages will help in assessing the relative costs of the household and commercial waste services. As well as top level budgeting, this information will be needed to determine charges and ensure that the commercial operation is covering its costs;
- **Recharge** - for waste collection authorities operating under a two-tier structure, a further consideration is the mechanism for reimbursing the waste disposal authority for the cost of disposing of the commercial waste collected. This will need to be underpinned by accurate information on the quantities collected;
- **Recycling credit payments** - where recycling credit payments are made for household recyclables, it is important for waste collection and disposal authorities to have in place procedures to assure themselves that:
  - The relevant materials originate from the household waste stream;
  - The tonnage of materials on which credits is claimed is as stated; and
  - The materials on which credits are claimed is being recycled or reused.
- **General good practice** – maintaining accurate and transparent information on local authority services and their performance.

4.2 Tonnage monitoring methods

There are a variety of different methods for assessing the tonnages of household and commercial waste/materials where these are co-collected. Councils need to define a method that is simple to apply and robust.

Whatever the method chosen it is vital that it is consistent, auditable and able to stand up to scrutiny by officers, Members and external bodies alike. For example, some authorities have procedures agreed with the Waste Disposal Authority, with District Audit or by the appropriate council committee. Others, such as Bexley Council, have sought third party validation of their methodology (in this case the Audit Commission) in order to establish a robust and transparent approach.

4.2.1 Weighing commercial waste

Where vehicles are fitted with bin weighing equipment it is possible to determine the actual weight of waste collected per commercial customer. Customers are supplied with wheeled bins fitted with a Radio Frequency Identification (RFID) tag (or bin chip) - this holds information that links the container with the customer. Each time the bin is emptied the weight of waste and/or recyclables collected is recorded. The weight data can be transferred continuously e.g. through GPRS to a customer database held by the council or its contractor, or downloaded from the in-cab technology at the end of each day and uploaded to the customer database.
Key considerations if proposing to use on-vehicle weighing systems are outlined in the table below.

**Table 4.1 Bin weighing – key considerations**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Potential Issues</th>
<th>Cost / resource factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>■ Measure weight per customer per lift</td>
<td>■ Upfront capital costs of equipment and supporting software; on-going maintenance costs</td>
<td>■ Weighing equipment</td>
</tr>
<tr>
<td>■ Enables accurate split of household and non-household waste (within equipment tolerance) to be established</td>
<td>■ Practicalities of fitting RFID tags may depend on who owns the bins – the council or the customer</td>
<td>■ RFID tags</td>
</tr>
<tr>
<td>■ Provides robust data – increased transparency</td>
<td>■ Additional IT interface requirements</td>
<td>■ Installation of tags</td>
</tr>
<tr>
<td>■ Where only a proportion of the vehicle fleet is equipped with bin weighing equipment this information can be used to determine average weights for a range of commercial waste containers and used to provide more accurate tonnage estimates.</td>
<td>■ Can only work with sack/box collections where the use of ‘slave bins’ is practical, and if the RFID tag’s information can be split per customer.</td>
<td>■ Annual maintenance and calibration</td>
</tr>
</tbody>
</table>

4.2.2 **Average weight assumptions**
The majority of local authorities who co-collect household and commercial waste/recyclables tend to estimate the tonnage of commercial waste collected based on sample weighings. Key considerations are:

- The need to demonstrate statistical validity
- The greater the sample, the more reliable the estimates
- The more frequently measured, the more reliable the estimates
- Unreliable estimates will result in inaccurate costing and performance reporting
- Auditing requirements
- The need to consider the effects of seasonality on the sample e.g. it could be misleading to sample in late December and use that as an average for the year. It may be preferable to take samples at different times of the year to identify any variation and produce a more accurate average figure.
- The need to consider changes that may affect the type and quantity of waste collected, such as:
  - Recycling - if an additional target material is added to the service then this has the potential to impact on tonnages of residual waste as well as the
amount collected for recycling, for example, food waste; customers may drop out of the service during the year; customers may use alternative service providers for their recycling services.

- State of the economy – quantities of waste/recycling collected may be linked to the level of activity within the local economy (businesses growing, closing, trade dropping off, etc.)
- Seasonality
  - Changes to customer base e.g. larger businesses being replaced by smaller businesses or vice versa
  - Any sampling should reflect the customer base in terms of size and type of business
  - The need to ensure customer records are up-to-date including:
    - Customer sector
    - Container sizes / numbers
    - Number of lifts/frequency of lifts
    - Duty of Care/ transfer notes etc.
  - Any sampling does not differentiate between bin fill levels, side waste and overweight containers

Cost and resource considerations include:

- Officer time for organising and managing any sampling exercise
- Staff and crews time to sample/survey
- Direct survey costs including independent verification (if necessary)

The key methods for estimating commercial waste/recycling tonnages are outlined below.

- **Calculation based on an average weight per customer.** Undertake a single (or several) dedicated commercial collection rounds in order to determine obtain data to enable average weights to be determined. It is advisable to undertake the dedicated round(s) on at least three consecutive occasions in order to cover enough collection rounds and to obtain weight data for several loads. From this an average weight per customer per week (or other time period) can be calculated. While this approach is straightforward, quantities of waste and recyclables are likely to vary considerably by customers. Therefore additional data collection may need to be undertaken if there are any significant changes to the customer base subsequently.

- **Calculations based on an average weight per bin size.** This involves undertaking a bin weighing exercise for a sample of customers to derive an average weight per container type, and total weight by container type. Average weights can be obtained for different materials e.g. refuse, food waste, mixed recyclables, card, etc.

For example per round:

<table>
<thead>
<tr>
<th>Average weight</th>
<th>×</th>
<th>Number</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>of sack</td>
<td></td>
<td>of sack lifts =</td>
<td>total sack weight</td>
</tr>
<tr>
<td>of 160 litre</td>
<td></td>
<td>of 160 lifts =</td>
<td>total 160 weight</td>
</tr>
<tr>
<td>of 240 litre</td>
<td></td>
<td>of 240 lifts =</td>
<td>total 240 weight</td>
</tr>
<tr>
<td>of 360 litre</td>
<td></td>
<td>of 360 lifts =</td>
<td>total 360 weight</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>= Grand total</td>
</tr>
</tbody>
</table>

The potential benefit of this approach, compared to an analysis based on customer numbers, is that it enables an authority to adjust containment and frequency of lifts as they change and therefore the weighing exercise may not need to be carried out so frequently.
- **Calculations based on an average weight per volume and per sector.** It should also be considered that average weights (particularly for residual waste) may vary significantly depending on the sector. For example, hospitality businesses may have significantly heavier residual waste owing to food waste and potentially glass (if they are not separating it out). It is therefore advisable to also calculate average weights per sector for residual waste.

<table>
<thead>
<tr>
<th>For example:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average weight of 160 litre for office × Number of office 160 lifts</td>
</tr>
<tr>
<td>Average weight of 160 litre for retailer × Number of retailer 160 lifts</td>
</tr>
<tr>
<td>Average weight of 160 litre for hospitality × Number of hospitality 160 lifts</td>
</tr>
<tr>
<td>+</td>
</tr>
<tr>
<td>Average weight of 240 litre office × Number of office 240 lifts</td>
</tr>
<tr>
<td>Average weight of 240 litre for retailer × Number of retailer 240 lifts</td>
</tr>
<tr>
<td>Average weight of 240 litre for hospitality × Number of hospitality 240 lifts</td>
</tr>
</tbody>
</table>

- **Calculations based on volume.** This involves identifying an average bin fill level and average weight per litre of waste/recyclables, and multiplying it by the total volume lifted.

\[
\text{Average weight per litre of waste/material} \times \text{Average bin fill level (e.g. 75%)} \times \text{Total volume lifted (bin size x number of lifts)}
\]

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**Ribble Valley Borough Council**

Ribble Valley Borough Council is a semi-rural waste collection authority in Lancashire. The council operates in-house collections of weekly refuse, and fortnightly recycling and garden waste collections from households. The council’s vehicles are split bodied and used on a fortnightly cycle to collect refuse and recycling in week one, followed by refuse and garden waste in week two. The council also collects residual waste from approximately 414 commercial customers; this is co-collected on the household waste rounds. At the time of writing the authority did not collect recycling from commercial customers.

The council must provide payment to the Waste Disposal Authority for the disposal of the commercial waste it collects. Ribble Valley and the other Lancashire WCAs have agreed with the WDA a formula to calculate the proportion of commercial waste collected.

The formula used is based upon average weight of collection containers, multiplied by the number of lifts. The calculated total tonnage is used to inform the disposal charge payable to the county council as WDA. The average container weights were agreed following a waste analysis undertaken across the Lancashire Waste Partnership by independent consultants. As such a similar calculation methodology is used by several of the other borough and district councils in Lancashire.
### 4.2.3 Split bodied vehicle

In practice a split bodied vehicle could be used to keep the household and commercial waste/recyclable materials separate and enable the weights of each to be recorded. This would involve tipping one load first and returning to the weighbridge before tipping again. Key considerations if using a split bodied vehicle are:

- The need to avoid uneven loads by ensuring the balance of loading is fairly even over the collection round
- Determining the vehicle split is appropriate for the materials/wastes being collected so that it is used to its full capacity

### 4.3 Arrangements in two tier areas

Councils in two-tier areas are subject to Section 52(9) of the Environmental Protection Act 1990, which states that a WDA is entitled to receive from a WCA "such sums as are needed to reimburse the waste disposal authority the reasonable cost of making arrangements for the disposal of C&I waste collected in the area of the waste disposal authority."

In most cases, a WDA recharges its constituent authorities annually, based on either the existing council tax base or actual or derived tonnages. The basis of the payment system is agreed between the WDA and WCAs.

Payment arrangements between the WCA and WDA in respect of commercial waste collected as part of co-collections will be no different to those relating to dedicated commercial collections apart from the fact that the quantity collected may be estimated rather than actual. For councils in two-tier areas, any significant proposed change to the charging system will need to be decided sufficiently early to inform budget setting. The same will apply within unitary authorities.

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**North London Waste Authority**

North London Waste Authority (NLWA) is the WDA for its seven constituent boroughs - Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest. In 2008/09 NLWA adopted a scheme to assess the amount of commercial waste in each constituent borough's residual waste stream.

NLWA commissioned a survey of non-household waste weights across the authority area. A sample of 350 wheeled bins and 350 sacks was assessed. This provided an average volume to weight ratio. At the time of writing each cubic metre of non-household container capacity amounted to 0.082 tonnes of waste. The survey is to be repeated every two years.

Boroughs are able to undertake their own analysis provided that the methodology is agreed with NLWA. Each WCA provides a declaration of the volume of commercial waste collected annually, and where relevant, the specific volume to weight ratio for their area. These figures must be approved by a director and validated by NLWA.

### 4.4 Allocating costs across household and commercial services

It is important that all the resources utilised in the provision of commercial collections are identified and the costs apportioned appropriately between the commercial and household services. With co-collection services, these include the costs of crews, vehicles and
administrative functions, records of time spent on admin, and operational costs allocated pro-rata per collection or per tonne, will be required.

As with all commercial waste collections, customer charges are required to cover the costs of collection and disposal. Reviews of charging policies tend to be carried out annually, timed to fit with a council’s budget-setting process.

Regular reviews of costs are advised in order to account for seasonal changes in waste arisings or local changes in service costs and income, for example resulting from fluctuations in the commercial customer base, changes to landfill tax or landfill gate fees and increases in fuel costs or duty.

5.0 Summary

There may be several benefits both to local authorities and their business community through collecting household and commercial waste together.

Co-collecting can be a cost-effective way for a local authority to provide a collection service to businesses, particularly those in rural areas, who otherwise may not have access to affordable services. In urban areas, combining collections from flats and other domestic properties may bring operational benefits and present an opportunity for an authority to recover costs on an otherwise household-only collection round.

Key considerations are to ensure that the needs of all customers are met and that tonnages of commercial and household waste/recyclables are accurately apportioned for cost allocation, performance measurement and reporting purposes.

Other related guides can be found on the WRAP website:

- Collecting commercial dry recycling
- Collecting commercial and schools food waste
- Monitoring and evaluating
- Kerbside recycling: indicative costs and performance
- Communications guidance
Case study 1: Blackburn with Darwen Council

This case study describes how Blackburn with Darwen Borough Council, working with their collection contractor Verdant (part of the Biffa group), have made efficiency improvements (including saving two vehicles) by aligning the commercial and household collection services, while maintaining a flexible service to meet individual customer requirements.

Refuse:
All household and commercial refuse is co-collected on a weekly basis

Recycling:
All household and commercial recycling is co-collected
Householders have fortnightly collections
Commercial customers have fortnightly or weekly collections to suite their individual requirements - providing collections can be made from nearby properties at the same time
Householders are also offered fortnightly garden waste

Background
Blackburn with Darwen Borough Council is a unitary authority situated in Lancashire. The area is mostly urban and there are approximately 141,000 residents living in 59,600 dwellings.

Collection services
The household waste and recycling collection arrangements in Blackburn are as follows:
- Weekly refuse;
- Fortnightly recycling (co-mingled paper, card, glass, cans, cartons, plastic bottles, trays, yoghurt pots and bags); and
- Fortnightly garden waste.

The council also operates a commercial waste and recycling service and has approximately 1,000 customers. Of these:
- 450 receive a refuse and recycling collection; and
- 550 receive a refuse only collection.

All refuse and recycling collected from commercial customers is co-collected with household refuse and recycling.

Commercial refuse is collected weekly and recycling either weekly or fortnightly depending on customer requirements. Those customers generating significant volumes of material are offered larger or multiple bins but collections at a frequency of more than once a week are not offered. Collections are offered to commercial customers on the days when household collections are taking place nearby. The majority of commercial customers receiving both waste and recycling collections do so on the same week day.

Verdant, as part of the Biffa group, take the co-collected recyclable material to Biffa’s Trafford Park Materials Recovery Facility for processing.

Working arrangements
In November 2010 the council and Verdant introduced new working hours. Previously crews worked on a task and finish basis from Monday to Friday. The change saw a move to a four day working week for refuse and recycling (Mon – Thu) with garden waste collected on Friday. There was no change to the frequency of collections, however a proportion of residents and customers that had previously received collections on Fridays were moved to a different collection day. Refuse and recycling crews still work a 37 hour week but the day length has increased to 9.25 hours.

The council did not experience any negative feedback from commercial customers regarding the day change. This may have been because, more often than not, collection crews collect commercial bins/sacks from the point of storage and, therefore, the customer is not always aware as to when the materials are collected.
**Operating considerations & commercial waste charges**

The council previously operated dedicated commercial collection vehicles (refuse was moved to co-collection in 2009 and recycling in 2010). By changing the service and co-collecting household and commercial refuse and recycling the council has saved two vehicles, by utilising spare capacity on the household rounds.

Prior to the change a small number of commercial customers received refuse collections on several days each week. The majority of these customers have now been provided with larger bins and receive one refuse collection per week.

When collecting, crews regularly check the containers to determine how full they are. If a container regularly has spare capacity the council may offer a smaller bin to the customer (at a reduced cost).

The service charge paid by each customer is based upon the frequency of collection and the volume and number of containers provided. A 20% discount on the commercial refuse charges is offered as an incentive to recycle. Customers pay either by direct debit on a monthly basis or in full for the year (or part year). Contracts run from April to March for a full term or pro-rata for customers joining the scheme following April each year.

Commercial refuse and recycling collection costs and charges are reviewed on an annual basis in line with the council’s budget setting programme.

### Determining the proportions of commercial and household waste

The council undertook an exercise to calculate the average weight for each material and container size of commercial waste.

Each month the Commercial Waste Manager looks at the number of commercial container lifts and these are then multiplied by the average weights. These are:

<table>
<thead>
<tr>
<th>Container Size</th>
<th>Residual</th>
<th>Co-mingled recycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>120l</td>
<td>6.53 kg</td>
<td>2.8 kg</td>
</tr>
<tr>
<td>240l</td>
<td>13.06 kg</td>
<td>5.5 kg</td>
</tr>
<tr>
<td>360l</td>
<td>22.86 kg</td>
<td>9.0 kg</td>
</tr>
<tr>
<td>660l</td>
<td>42.44 kg</td>
<td>20 kg</td>
</tr>
<tr>
<td>1100l</td>
<td>85 kg</td>
<td>36 kg</td>
</tr>
<tr>
<td>Sacks</td>
<td>7.14 kg</td>
<td>2.2 kg</td>
</tr>
</tbody>
</table>

### Summary

By aligning the commercial refuse and recycling collections with the household service frequency and collection days, the council is able to offer commercial customers a cost-effective service. The move to this co-collection approach has delivered a reduction in vehicles (with associated costs and carbon benefits) due to a reduction in overall collecting and travelling time/mileage.
Case study 2: Ceredigion County Council

This case study describes how Ceredigion Council delivers an integrated waste and recycling service for household and commercial customers. In addition, the council uses an innovative bar code system to keep accurate records of the frequency that waste is presented.

<table>
<thead>
<tr>
<th>Refuse:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All household and commercial refuse is co-collected</td>
<td>Rural household and commercial refuse is collected fortnightly</td>
</tr>
<tr>
<td>Urban commercial customers can have weekly or more frequent</td>
<td></td>
</tr>
<tr>
<td>collections to suit their requirements</td>
<td></td>
</tr>
<tr>
<td>Recycle:</td>
<td></td>
</tr>
<tr>
<td>Household and commercial recycling is co-collected co-mingled</td>
<td>Urban commercial customers may have collections of dry</td>
</tr>
<tr>
<td>on a weekly basis</td>
<td>recycling at the frequency to suit their requirements this being</td>
</tr>
<tr>
<td>Household and commercial food and garden waste is co-</td>
<td>co-collected with household recyclables.</td>
</tr>
<tr>
<td>collected on a weekly basis</td>
<td></td>
</tr>
</tbody>
</table>

**Background**

Ceredigion Council is a unitary authority situated in rural mid-Wales. There are approximately 75,000 residents living in 32,700 dwellings.

**Collection services**

**Previous arrangements**

At the time of writing, the council was in the process of implementing a new collection service. The previous arrangements for household collections were:

- Weekly refuse
- Fortnightly co-mingled dry recycling; comprising mixed plastics and film, paper, cardboard, and cans.
- Fortnightly garden waste (charged)
- Weekly food waste (trial to c. 3,600 households).

The council also operated a commercial waste service for approximately 1,300 customers. Commercial waste and recycling was co-collected with household waste and recycling.

Ceredigion County Council: Barcode tickets pre-purchased by commercial customers.

Customers were offered the same range of materials and collection frequency as households, with the exception of garden waste which is only collected from households. However, collection frequency for commercial customers in towns could be flexible to suit requirements.
**New service**

With an aim to improve service efficiency and increase recycling performance, the Council commissioned an options appraisal.

In November 2010, following the outcomes of this study, the council implemented its new household collection service which comprised:

- Fortnightly refuse;
- Weekly co-mingled recycling
- Weekly food waste and weekly garden waste (charged) collected on split-bodied vehicles with recycling.

Commercial waste customers are also offered the above services and commercial and household waste is co-collected on the same vehicles. Of the 1,300 customers approximately a third have subscribed to the food waste collection service.

**Operating considerations**

Collections from commercial customers are provided on the same day as the nearby household collections. In the towns a number of commercial customers receive multiple collections per week e.g. hospitals receive daily collections Mon - Fri, this waste is still co-collected on the household rounds albeit the commercial waste is collected first and then the crew travel to another area to carry on collecting. The council did not consider that operating a dedicated business collection round in the towns was viable as there is not enough work for one vehicle/round.

**Customer charging**

A range of bins sizes is available for each commercial waste stream. Where commercial waste is collected in bins, the customer pre-purchases bar-coded tickets which they attach to the bin at the time of collection. These tickets are retained by collection crews and are cross-matched with a database of tickets purchased. This enables the council to maintain a record of the frequency of service provided to each customer.

Customers that produce smaller quantities of waste are able to pre-purchase commercial waste and recycling sacks, the numbers purchased and collected are recorded by the council.

The barcode system means that the council has an accurate record of the actual use of the pre-paid commercial waste collections. The council is able to audit the use of the tickets and/or sacks and therefore aware if they are being stockpiled by a customer (e.g. prior to an increase in price at the start of the new financial year).

This pre-purchase system also allows the customer to have a waste service which suits them as it means that they only pay for what they use.

**Determining the proportions of commercial and household waste**

Once a year the council reviews the number of tickets and sacks purchased by commercial customers and estimates the weight of commercial waste collected.

The estimation is based on an average weight for each bin size or sack e.g. for refuse the council uses an estimated weight of 15 kg for a sack and 300 kg for an 1,100l refuse bin.
Case study 3: Moyle District Council

This case study describes how Moyle District Council moved to an alternate weekly collection service for households while continuing to provide the level of service required by commercial customers.

<table>
<thead>
<tr>
<th>Refuse:</th>
<th>Fortnightly collections for households</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weekly collections for commercial customers. Refuse is co-</td>
</tr>
<tr>
<td></td>
<td>collected with household refuse on week 1, and on a dedicated</td>
</tr>
<tr>
<td></td>
<td>round on week 2 in rural areas</td>
</tr>
<tr>
<td></td>
<td>In urban areas there is a weekly dedicated commercial waste</td>
</tr>
<tr>
<td></td>
<td>collection service</td>
</tr>
<tr>
<td>Recycling:</td>
<td>Co-mingled recyclables from households and commercial</td>
</tr>
<tr>
<td></td>
<td>properties are co-collected fortnightly</td>
</tr>
</tbody>
</table>

**Background**

Moyle District Council lies in County Antrim, in the north-east corner of Northern Ireland. It covers a largely rural area of approximately 190 square miles, including 42 miles of coastline, and has a population of 15,000 residents living in 7,500 dwellings. This makes it one of the smallest councils in the UK.

**Collection services**

The service comprises:

- Fortnightly collections of residual waste from all 7,500 household properties
- Fortnightly co-mingled collections of mixed paper and card, plastic bottles, plastic packaging, cartons, cans, aerosols, glass, WEEE and textiles to all households
- Weekly collection of commercial waste from 190 customers
- Fortnightly collection of commercial recyclables (mixed paper and card, plastic bottles, plastic packaging, cartons, cans and aerosols).

Both household residual waste and recyclables are collected in 240 litre wheeled bins. Commercial premises are offered a range of bin sizes – 120, 240 or 1100 litre - depending on their needs.

The council operates five 26 tonne refuse collection vehicles, which are shared between the services.

In urban areas there is dedicated commercial waste collection once per week. For those who need it, an additional weekly collection can be made.

Historically Moyle Council has always co-collected commercial waste with household waste in the rural areas to maximise vehicle usage. However in a drive to increase the recycling of household waste they introduced alternate weekly refuse and recycling services in 2006. This led to the challenge of how to meet the demands of commercial customers requesting weekly collections.

Fortnightly collection of commercial waste was considered, however commercial customers were not comfortable with this arrangement as they required more frequent collections.

Moyle Council has addressed this by collecting commercial waste alongside household waste, on the residual collection week and then collecting commercial waste only on the alternating week using a dedicated vehicle. Between April and September the dedicated commercial vehicle, also collects from caravan parks to help with the increase in waste during the holiday season.

To increase overall recycling levels, and to meet commercial customer requests, the Council has introduced collection of recyclables from commercial customers. The service is the same as that for householders and all recyclables are co-collected fortnightly. Currently the council only has commercial customers in the urban areas.
In 2011 the council is looking to introduce the collection of glass as part of the dry recyclables service. The council hopes this will increase take-up of the recycling collection service particularly from businesses in the hospitality sector. There is a cost incentive for businesses to participate if by diverting more recyclables they are able to reduce the size of their residual waste bin.

**Determining the proportions of commercial and household waste**

The council operated several dedicated rounds in order to determine the tonnage of commercial waste collected. The data obtained is used to assess the split of commercial and household on co-collection rounds.

This was calculated as:
- 20% commercial
- 77% household
- 3% bulky waste
Case study 4: Selby District Council

This case study describes how Selby District Council, through its collection contractor Enterprise, has moved from dedicated waste and recycling rounds to co-colllecting from household and commercial premises, in urban and rural areas, resulting in a reduction of one vehicle and crew as well as reducing the carbon footprint of the service and offering a cost benefit to rural customers.

<table>
<thead>
<tr>
<th>Refuse:</th>
<th>Refuse from urban commercial premises and flats is co-collected weekly</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Refuse from rural commercial and household premises is co-collected fortnightly</td>
</tr>
<tr>
<td>Recycling:</td>
<td>Comingled paper and card is co-collected from commercial premises and flats and source segregated glass and cans are also co-collected on household rounds</td>
</tr>
<tr>
<td>Service differences:</td>
<td>Mixed dense plastics are also collected from householders but not commercial properties or flats.</td>
</tr>
</tbody>
</table>

Background
Selby District Council is situated in North Yorkshire. The area is mostly urban and there are approximately 82,000 residents living in 35,000 dwellings.

Domestic services
The council, through its collection contractor Enterprise, operates the following household waste collection services:

- Alternate weekly (fortnightly) refuse collected in a Refuse Collection Vehicle (RCV)
- Alternate weekly (fortnightly) paper and cardboard (comingled), with cans, glass and mixed dense plastics, presented in separate boxes and collected together on a multi-compartment kerbsider vehicle
- Alternate weekly (fortnightly) garden waste is collected in a RCV.

There are approximately 1,000 flats in Selby that have limited storage space for additional bins. When the council introduced fortnightly refuse collections in October 2010, it decided to, initially, retain weekly collections for the flats. These are co-collected on the town centre weekly commercial residual waste rounds.

Commercial waste and recycling services
The council also provides commercial waste and recycling collection services. Currently there are approximately 950 customers signed up to the residual waste service and 360 to the recycling service:

- Residual waste from commercial customers is collected in wheeled bins ranging in size from 140 – 1,100 litres and is co-collected on the same vehicle as residual waste from flats
- Comingled paper and cardboard is collected in 140 – 1,100 litre wheeled bins and is also co-collected with paper and cardboard collected from flats
- Glass and cans are collected in separate 140 – 360 litre wheeled bins or 55 litre boxes (any larger sized bins would be unsuitable for emptying into the kerbside
vehicle) and are co-collected on the household rounds.

At the time of writing the council had not extended the mixed plastics collection service to commercial customers due to capacity constraints on the kerbsider vehicles.

**Co-collection service expansion & commercial waste charges**

Historically the council operated a dedicated commercial residual waste collection service in rural areas and co-collected commercial residual waste in the town centre with residual waste from flats. The majority of commercial residual waste was collected on a weekly basis.

In 2010 a service review indicated that there was spare capacity on the rural fortnightly household waste collection rounds and therefore the council and Enterprise made plans to consolidate the services and co-collect household and commercial residual waste on the same vehicle. To make this service efficient the council set about encouraging commercial customers to move to a fortnightly residual waste collection in line with household collections.

In October and November 2010 the council wrote to commercial customers in rural areas and explained that the businesses could reduce costs by moving to a fortnightly service because they would only be paying collection costs once rather than twice. The council provides additional containment capacity where requested. At the time of writing the council had received positive responses to this letter.

Where a customer continues to receive a weekly refuse collection the commercial waste is co-collected with household waste by one household crew in week one, and another household crew in week two. The council believes that, through the move to rural residual waste co-collections, there will be a saving of one vehicle and crew (previously used to collect commercial waste on a dedicated basis).

**Collection contract**

The council’s collection contract with Enterprise is based on a fixed total cost per year for all services. The vehicle and crew savings will therefore reduce Enterprise’s costs rather than the council’s). However, there is still some benefit to the council due to the reduction in size of the service’s carbon footprint and when the contract is relet, the council may then realise the cost savings.

**Determining the proportions of commercial and household waste**

The council undertook some of their own analysis, as well as using some of their neighbouring authority’s data, to provide them with the average weight per litre for each material. Average weights are multiplied by the number of lifts of each material and container.

Calculations are based on:
- Paper and card – 57g per litre
- Glass – 250g per litre
- Residual – 80g per litre
Case study 5: Suffolk Coastal District Council

This case study describes how Suffolk Coastal District Council has moved to an alternate weekly collection system whilst maintaining co-collections from commercial and household premises in rural areas.

<table>
<thead>
<tr>
<th>Refuse:</th>
<th>Residual waste is co-collected fortnightly from households and commercial customers in rural areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Collections for commercial customers in urban areas are carried out at a frequency that suits them</td>
</tr>
<tr>
<td>Recycling:</td>
<td>Co-mingled dry recycling is co-collected from households and commercial customers in rural areas as is organic waste</td>
</tr>
<tr>
<td></td>
<td>Collections from commercial customers in urban areas are made at a frequency that suits them</td>
</tr>
<tr>
<td>Service differences:</td>
<td>Commercial customers can also opt for a source-segregated cardboard and glass collection service</td>
</tr>
</tbody>
</table>

**Background**

Suffolk Coastal District Council is primarily a rural authority, situated in East Anglia. There are approximately 126,000 residents living in 57,500 dwellings. It covers an area of 89,153 ha, and the district is designated as a ‘SPARSE’ (predominantly rural) authority.

Approximately 90% of the geographical area of Suffolk Coastal district is rural, housing 40% of the population.

**Collection services**

Waste and recycling services for both households and commercial customers are operated by the council’s partner, Suffolk Coastal Services Ltd (SCS). Between 2006 and 2010 the council moved from weekly to alternate weekly collection services. The household waste collection services are:

- Fortnightly residual waste collection
- Fortnightly co-mingled dry recyclables collection; comprising mixed plastics, metal cans, foil, paper and cardboard collected in a 240 litre wheeled bin
- Fortnightly organic waste (mixed garden, food and cardboard) collection in 140 litre wheeled bins

Glass is not collected at kerbside, but there is a network of recycling banks for people to deposit material. For households where wheeled bins cannot be accommodated the Council provides sacks and a weekly collection using a dedicated vehicle.

For commercial customers in urban areas, the following services are offered:

- Residual waste in a range of different sizes of wheeled bins and pre-paid sacks
- Co-mingled recycling (same materials as households) in a range of different sizes of wheeled bins
- Separate glass collection in 140, 240 and 360 litre wheeled bins
- Separate cardboard, collected in bundles
- Organic waste (garden, food and cardboard), collected using a range of different sized wheeled bins.

In the urban areas commercial waste and recycling is collected at a frequency that suits the customer’s needs, by a combination of dedicated trade rounds and co-collection on domestic rounds. The separate bundled cardboard collection service is aimed at customers that don’t produce significant quantities of other recyclables, and may not be able to accommodate wheeled bins. However it is a more expensive option for the customer due to the collection requiring the use of a separate vehicle.
In rural areas, commercial and household waste and recycling are co-collected on an alternate weekly basis. Co-collecting household and commercial waste in these areas enables more cost-effective, practical service delivery, as vehicle passes and mileage are reduced. Separate collections of glass and cardboard are also offered.

SCS believes that the change to co-collection, within an alternate weekly service configuration, has been a success, and largely attributes this to the scheme’s phased introduction, in line with the scheduled replacement of vehicles, and the targeted promotions plan, which included roadshows in each town and village, and service information leaflets. It took approximately four years to introduce this service, with around 5,000 households and businesses introduced in each phase.

SCS worked with their commercial customers to understand their needs and by explaining the new service, often involving face to face visits, the changes were met with few complaints. Businesses are pleased that they can now recycle. SCS thinks that introduction of the co-collection on an AWC basis has been viable as many of the rural businesses are fairly small and not significant waste generators.

Private waste companies also operate in all areas of the district. However, in the rural areas, their range of services is often more limited than those offered by SCS. SCS decides upon the method of recycling/treatment for the commercial waste collected on the dedicated trade rounds. As the Waste Disposal Authority (WDA), Suffolk County Council directs all household residual waste for disposal and treatment, and through an Inter-Authority Agreement with the Waste Collection Authorities directs the commercial residual waste for disposal and treatment. Household and commercial compostable waste is sent to a composting facility in East Suffolk.

**Determining the proportions of commercial and household waste**

SCS uses a combination of national and locally agreed volume to weight ratios, for each of the main waste streams, enabling an accurate estimate of residual, recycling and organic waste collected from businesses, to be calculated on a monthly basis. The amounts of materials from each source can then be apportioned between household and commercial arisings.

In 2010/11 in Suffolk Coastal, 48.1% of commercial waste, and 58.7% of household waste was diverted for recycling or composting, making the district one of the top performers in the county.