

# Data recording and reporting

Accurate recording and reporting of bring site data is essential to both measuring individual site and overall scheme performance and to identifying potential service improvements. Consistent data recording and careful analysis over a number of years can help track the impact of changes in service delivery and inform a review of bring site provision. Regular analysis of data can also help manage sites more effectively – for example by highlighting where service regimes need to change.

## Importance of data

Collecting and analysing good quality data on the performance of bring recycling sites is vital to the effective management of the service. The data can be used for a variety of purposes, including:

- supporting a cost review of all sites;
- assessing the performance of individual sites as part of optimising bring site provision;
- assessing the contribution of bring sites to overall recycling performance;
- contract monitoring;
- measuring the impact of changes to kerbside schemes on the performance of bring sites – for instance, following introduction of new materials or a fortnightly refuse collection;
- reviewing the density of bring sites;
- assessing the suitability of locations;
- reviewing servicing frequency;
- assessing contribution of third party tonnage;
- providing feedback to the community; and
- monitoring trends in site usage, or recycling of different materials.

	A	B	C	D	E	F	G
1	Paper tonnages						
2		2013 -Month					
3	Site	April	May	June	July	August	September
4	Superstore, Mill Lane						
5	Superstore, High Street						
6	The Bull Pub, Big Town						
7	The Anchor, Anytown						
8	The Swan, Villagesham						
9	Villagesham School						
10							
11							

**Consider how best to record individual site tonnages so that you can easily access information and analyse data**

## Issues to consider

The key to measuring the performance of both individual sites and the bring service overall is to capture all tonnage data, by site and by material, to a consistent format and standard. It is therefore good practice to ensure that any contracts with service providers include a requirement to provide tonnage data.

One option is to capture tonnage data using on board weighing systems on all collection vehicles. This allows tonnage data for individual materials/containers to be captured. An alternative option is to use a single vehicle to collect from multiple sites, which would give a total tonnage for all sites serviced – rather than providing data by site, but is likely to be specific to one material. Some local authorities incorporate bring site collections as part of the dry recycling collection service: this means that bring site tonnages cannot be separated from kerbside collection tonnages.

**Case study:** Exeter City Council operates 69 bring sites collecting a range of materials across the sites, including mixed colour glass, card, paper, textiles, footwear and cardboard beverage packaging. A local contractor services these sites and uses a specialist hiab vehicle that weighs each bank when it is emptied and can also provide an indication of whether it is worth emptying the bank at that time. Exeter does not currently collect glass at the kerbside and bring sites are the only way of collecting glass. The onboard weighing system has allowed for modification of collection frequency, as many glass banks were visited too often. The time saving on emptying the banks has allowed for additional site cleaning and general improvements at sites.

In the absence of an on-board weighing system or dedicated bring site vehicle, a visual assessment, or the periodic collection of bring site materials separately for weighing, would be potential routes to gathering data for individual sites.

### Visual assessment

Visual assessment relies on the collection crews to record how full each container is before they empty it. Their assessment of fullness can then be converted into weight per container collected and total tonnages estimated.

This could be based on test weighings periodically carried out by the local authority or based on established bulk densities<sup>1</sup> for different types of containers. You would need information on your container volumes to estimate the weights of materials and to interpret bulk densities as appropriate. See the *Selecting Containers* fact sheet for more information on average container volumes and weights when full.

A sample calculation is shown below:

#### Mixed colour glass in 1100 litre wheeled bin

Standard continental bin = 1,100 litres or 1.1m<sup>3</sup>  
Bulk density conversion factor for glass = 694kg/m<sup>3</sup>

Visual assessment	Calculation using conversion factor	Weight in kilograms
Full	1.1m <sup>3</sup> x 694kg/m <sup>3</sup>	763kg
¾ full	1.1m <sup>3</sup> x 694kg/m <sup>3</sup> x 0.75	573kg
½ full	1.1m <sup>3</sup> x 694kg/m <sup>3</sup> x 0.5	382kg
¼ full	1.1m <sup>3</sup> x 694kg/m <sup>3</sup> x 0.25	191kg

### Container weighing

If established bin weights are unavailable for a particular container type and material from contractors, then an alternative approach is to weigh the containers, with the specific material in, at quarter, half, three quarters and completely full. This exercise can be repeated several times

<sup>1</sup> WRAP - Material Bulk Densities Summary Report (January 2010)

<http://www.wrap.org.uk/sites/files/wrap/Bulk%20Density%20Summary%20Report%20-%20Jan2010.pdf>

with various combinations of materials as required. For more detailed guidance on how to conduct this kind of measuring, see WRAP's [Improving the Performance of Waste Diversion Schemes – A Good Practice Guide to Monitoring and Evaluation](#), Chapter 6 Monitoring Quantities Diverted (February 2010).

### **Calculating overall performance**

If you are using visual assessment rather than weighing containers, an accurate record of all bring sites and containers, and their sizes, is required so that you can convert visual assessments of container fill levels into tonnage estimates. Any changes to containers, or removals/additions at sites should also be recorded. A sample recording sheet, that can be adapted to suit local requirements, is provided at the end of this information sheet.

### **Reliability of data**

Performance data should be assessed regularly to ensure that it is collated correctly. Estimated weights from visual assessments of container fill levels can be checked against the weights recorded when vehicles off load and re-calibrated if necessary. Regular communication with the collection crews or contractors is required to ensure that the correct procedure is being followed. You may also want to conduct periodic inspections of assessment processes.

### **Frequently asked questions**

*Our bring site materials are collected in the same vehicle as kerbside materials so we are unclear on how each site is performing. How can we measure bring site tonnage?*

There are three possible options.

1. Conduct visual assessments following the process set out above.
2. Carry out test weighings.
3. Where possible, carry out bring site collections using a separate vehicle, on a periodic basis.

*Why is it important to have individual site performance data?*

Individual site performance data helps justify expenditure at each site and for the service overall. Careful data analysis will assist in informing waste strategy development, tendering for collection contracts, optimising performance and understanding the contribution of bring sites to your authority's overall recycling performance.

**Checklist**

- Review existing systems and procedures to ensure you have a robust data reporting and recording system. Conduct further reviews at least once a year.
- If on-board measuring is not possible, consider alternative ways to measure bring site tonnage, such as separate storage bays at a transfer station and recording reprocessors' tonnage for individual material streams.
- Ensure that agreed weights are used for items such as book banks, CDs etc.
- Consider time and resources required to conduct monitoring of bring sites – can this be included in an existing collection or cleaning practice at sites?
- If materials are collected by a third-party organisation or contractor, ensure that weighbridge tickets are received or tonnage data for that specific material.
- Consider developing your own weight estimates based on container type and size.
- Develop a monitoring sheet for visual assessment (see example below).



Sample fill rate sheet for monitoring recycling collections from bring sites

Date: \_\_\_\_\_

Address	Material	Fill rate *				Contaminated	Any damage?					Comments
		1/4	1/2	3/4	full		Graffiti	Signage	Lid	Lock	Wheels	
Site # 1	Glass											
	Cans/plastic											
	Paper/card											
	Textiles											
Site # 2	Glass											
	Cans/plastic											
	Paper/card											
	Textiles											
Site # 3	Glass											
	Cans/plastic											
	Paper/card											
	Textiles											