

Good Practice Guide to Bring Recycling

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Prepared for:

**Department of Environment, Food and Rural Affairs
Waste Implementation Programme (WIP)
Local Authority Support Unit (LASU)**

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Table of Contents

| | |
|---|-----------|
| 1. Introduction | 1 |
| The Purpose of this Good Practice Guide..... | 1 |
| Who is this guide for? | 1 |
| The Importance of Bring Recycling | 2 |
| 2. Factors Influencing the Success of Bring Recycling | 4 |
| Material Mix | 4 |
| Bank Density | 6 |
| Socio Economic Factors..... | 8 |
| High Density Housing..... | 9 |
| Location of Sites..... | 10 |
| Site Design and Planning | 11 |
| Education, Promotion and Awareness | 12 |
| Interaction of Kerbside with Bring Recycling..... | 13 |
| Good Contracts and Strong Relationships with Collection Organisations | 14 |
| 3. Site Assessment - Improving Existing Bring Recycling Sites | 16 |
| 4. Locating New Sites | 19 |
| Sieving Process Step 1: Information gathering & local knowledge..... | 19 |
| Sieving Process Step 2: Applying the selection criteria | 21 |
| Sieving Process Step 3: Final selection of sites..... | 22 |
| 5. Evaluation of the costs for bring collections | 25 |
| Calculation of bring collection costs for paper: Horsham District Council (HDC) | 28 |
| Calculation of bring collection costs for glass: Babergh District Council (BDC) | 34 |
| 6. Types of Bring Recycling Containers and Systems | 38 |
| 7. Case Studies and Strategic Reviews | 42 |
| Birmingham – Castle Vale Community Environmental Trust | 43 |
| South Somerset District Council..... | 46 |
| London Borough of Redbridge | 49 |
| Strategic Review: Developing Bring Sites to Provide Convenient Recycling in Blocks of Flats | 52 |
| Liverpool City Council (LCC) | 56 |
| Examples of Top Performing Authorities..... | 60 |
| 8. Useful Information | 67 |
| 9. Glossary of Terms..... | 68 |

1. Introduction

The Purpose of this Good Practice Guide

Highlight the importance of bring recycling

This Good Practice Guide aims to highlight the continued importance of bring recycling facilities; such facilities play a valuable role in local authorities' (LAs) waste strategies, are essential in achieving UK recycling targets and enable a wider section of the public to carry out recycling.

Provide useful information

The Guide provides helpful information and facts, in an easy to understand format, to assist recycling managers make decisions regarding the provision of bring recycling networks across the UK.

It has been designed to give guidance on the key factors to consider when planning, monitoring, reviewing and developing a bring recycling network.

Share experience of local authorities

Good practice tips, lessons learnt and the real experiences of a variety of local authorities are incorporated into this Guide, to illustrate current practices and assist recycling officers identify good practice for their authority.

Explain the factors involved in managing bring sites

It provides general guidance on bring recycling, including information on collection systems, material collection rates, bank densities and costs. It also proposes some simple tools to assist in locating new sites and assessing existing facilities, in order to ensure LAs are getting the most from their bring recycling network.

The Guide does not include advice, or data, on Household Waste Recycling Centres (HWRCs). A guide to HWRCs is provided on the DEFRA LASU website.

Who is this guide for?

LA Recycling Officers

This guide has been produced to assist local authority recycling officers and others looking at developing bring recycling in their area.

The Importance of Bring Recycling

Existing infrastructure and collection quantities

There are just under 20,000 bring recycling sites throughout England, providing facilities for recycling aluminium cans, steel containers, glass bottles and jars, paper, plastic and textiles.

The bring network as a whole, including sites for collecting organics and other materials, accounted for just over 2.5 million tonnes of material recovered in 2003.

Accounts for 44% of dry recyclate collected by LAs

From the data gathered in the 2003/04 statistical return to DEFRA¹, it can be seen that bring recycling accounts for an average of 44% of the total amount of dry recyclate collected by local authorities in England and Wales. The remaining 56% of dry recyclate is collected through kerbside collection schemes.

Though the contribution of bring recycling, in terms of overall material collected, has reduced in many areas with the introduction of kerbside, it still provides relatively large quantities of material which contribute to recycling targets. It is highly unlikely that kerbside collections will completely replace bring recycling systems as they are a service liked by the public and suited to a number of areas where kerbside collections are not feasible. The importance of maintaining, or developing, complementary bring recycling sites therefore remains.

Key to recycling in rural areas

The contribution of dry recyclables collected through bring sites is generally higher in rural areas, where kerbside collections are only in the early stages of development and where bring bank densities can be higher. (The higher the bring bank density, the fewer households exist per bank.)

A cost effective solution in high density housing estates

Some local authorities have found it better, easier and more cost effective to implement bring recycling in areas of high density housing. Operating kerbside collection schemes in such areas can be logistically complex and can result in lower participation levels.

Local authorities such as Bath, Bristol, Hounslow, Hackney and Lambeth are examples of LAs that have used centralized bring facilities, or near entrance bring facilities, to provide services to high density housing or estates. A number of useful case studies on these initiatives are published in the LASU website as part of the Estates Recycling Toolkit².

Alternate

In areas where kerbside recycling and residual collections are fortnightly or

¹ DEFRA Annual Waste Statistical Return 2003/04

² "Recycling for Flats", Waste Watch/ SNU, DEFRA report and toolkit, LASU 2005:
<http://lasupport.defra.gov.uk/Default.aspx?Menu=Menu&Module=ViewArticle&ArticleID=154>

**Weekly
Collections**

less, bring sites offer a facility to which householders can take excess material in between collections.

**Cost effective
way to collect
glass**

Bring recycling is often a more cost effective way to collect certain materials, particularly glass bottles and jars. To collect glass through bring recycling centres can cost between £15 and £45 per tonne; to collect the same material through kerbside recycling can cost as much as £180 per tonne³.

³ WRAP, 'Kerbside Collection of Glass', June 2002:
http://www.wrap.org.uk/templates/temp_publication.rm?id=698&publication=336

2. Factors Influencing the Success of Bring Recycling

Measuring Performance

In order to provide a simple measurement of recycling performance, a standard unit of measure has been adopted throughout this guide: kilograms per household per annum (kgs/hhd/annum).

To calculate a level of performance for bring, kerbside or both types of recycling combined, take the tonnage of material (or materials) collected in an area within a one year period and divide by the number of households in that area.

Influencing Factors

There are many factors which can influence the success of a bring recycling network. When considering site performance or development, it is important to take into account each of these factors individually, in addition to considering the combined affect of the most relevant factors.

This section of the guide outlines each of the main factors found to influence the performance of bring sites:

- Material Mix
- Bank Density
- Socio-economics of area
- High density housing/neighbourhood centres
- Community involvement
- Locations of sites
- Site design and planning
- Education, promotion and awareness
- Interaction with kerbside
- Costs of site servicing and maintenance
- Contracts and relationships with collection contractors/organisations

Also highlighted are the key issues to be addressed in considering each factor.

Material Mix

Types of Material

The material mix is the selection of materials that are collected at any one site, although it is not uncommon to collect just one material at a site. The material mix plays an important role in the look, performance and costs of a site.

Materials commonly collected at bring sites include:

- Clear, Brown & Green Glass
- Paper, newspapers & magazines
- Aluminium cans

- Steel Cans
- Plastic bottles
- Cardboard
- Textiles

Good Range of Materials

Research has demonstrated that recovery rates can increase as the range of materials included in a collection service is expanded. This is particularly evident for plastic bottles, where their inclusion has led to significant overall recovery rates.

For example, Bracknell Forest Council found an increased uplift of up to 53% across all materials, on introducing plastic collection banks. Similarly, Warrington Council found an increased uplift of 10% across its paper, glass and metal can bring collections⁴.

Though the evidence from these schemes and front of store recycling schemes is limited, it does suggest that householders like to recycle plastics and are more likely to recycle other materials at the same time, where appropriate bring banks are available. This may be because householders prefer having a “one stop shop” at which to recycle all their materials in one visit.

Cost-effective materials

Most materials can be collected through bring systems, but some are easier to collect than others, such as paper and glass. These two materials are the most commonly collected at bring sites, due to the quantities that can be obtained and their weight/volume ratio; they are generally low volume, heavy materials, which makes them more cost effective to collect.

Look

The look of bring recycling sites can vary due to the material mix, as the types of banks used at a site depend on the nature and volume of the material or materials to be collected. For example, glass may be collected in relatively small types of container and emptied on a frequent basis, but plastic, due to the large weight to volume ratio, may require larger capacity containers if they are to be emptied on a similar frequency.

Key Considerations

- Ensure that the banks chosen for a bring recycling site are appropriate to the size and volume of materials to be collected
- Ensure that the correct number of containers is in place at each site, providing sufficient capacity for the volume of material deposited. This can be done through careful monitoring of site performance; driver log sheets should record collection quantities/volumes, frequencies and other site information (overflow, cleanliness, etc).
- Collecting a wider range of materials at a site can increase the quantity of materials collected overall. This is particularly common if plastic bottle

⁴ RECOUP www.recoup.org Best Practice Studies, Local Authority Bracknell Forest Borough Council and Warrington Council

recycling is added to the mix.

- When providing a range of collection banks, try to ensure they are of similar size, design and look (colour, branding). A more uniform format makes a site look better and gives the impression that it has been well planned. This type of planning and format can assist in gaining local community acceptance of the site and planning permission.
- Banks should be marked, colour coded or labelled to clearly distinguish which materials should be deposited into which bank. This will help maintain the quality of material collected. www.recyclenow.com provides a range of icons and colour coded label formats for all types of recycling banks and materials.

Bank Density

Number of Households per bring bank

The overall density of the banks in a bring recycling network is an important factor influencing the performance of bring collections. Bank density represents the number of households per bring bank in a given area; the fewer households per bank, the higher the bank density.

Higher Density, Higher Performance?

Project Abraham⁵, carried out for Valpak in March 2002, showed that the best performing local authorities in the UK had bring site densities of 1:400 households or fewer (high density). Some of the worst performing authorities had bring site densities of 1:5,000 households and more (low density). Statistics from the 2003/04 DEFRA returns⁶ show that this situation remains relatively unchanged.

High bank densities for both glass and paper are particularly relevant; authorities like Lewes District Council, Berwick upon Tweed Borough Council and Ryedale District Council, all have high glass and paper bank densities and site performances of over 73 kgs per household, per annum (kgs/hhd/annum). A table of regional performance levels is provided in section 8, figure 22 which provides ranges of performance in kgs/ hhd/annum.

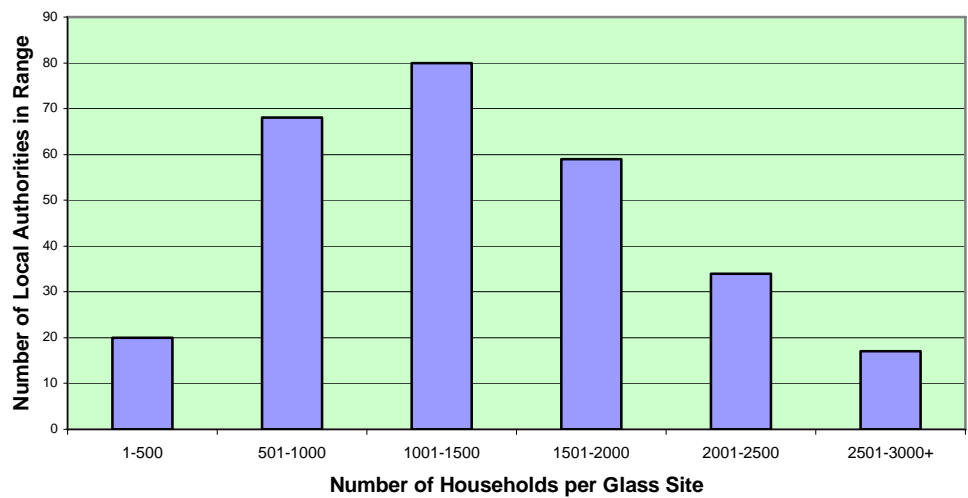
Glass Bank Densities

Figure 1 below illustrates a range of glass bring bank densities and the number of English local authorities that fall within each range, based on the 2003/04 DEFRA returns.

⁵ Project Abraham, "Material Recycling through Bring Sites", March 2002, David Davies Associates.

⁶ DEFRA Annual Waste Statistical Return 2003/04

Figure 1. Profile of Glass Bank Density



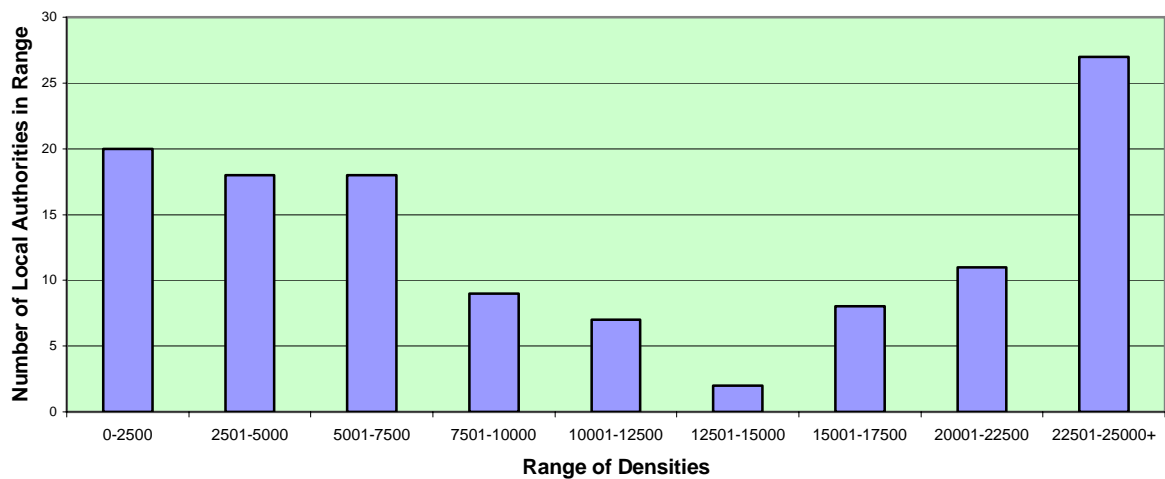
This graph highlights that the majority of English local authorities are high performing in terms of glass site densities, with 168 authorities reporting glass bank densities of 1: 1,500 or fewer. This reflects the fact that glass bring recycling has been established in the UK for some time and that it is a popular material to recycle amongst householders.

Plastic Bank Densities

What is considered a ‘good’ density of banks changes for each material. This is due to the predominant way the material is collected or the costs of collection.

Figure 2 below illustrates bring bank densities for the collection of plastics in England. The density of banks for plastics are much lower; they are more commonly collected on kerbside as they are less cost effective to service than, for example, glass bottle banks, due to their high volume and low weight.

Figure 2. Profile of Plastic Bank Density



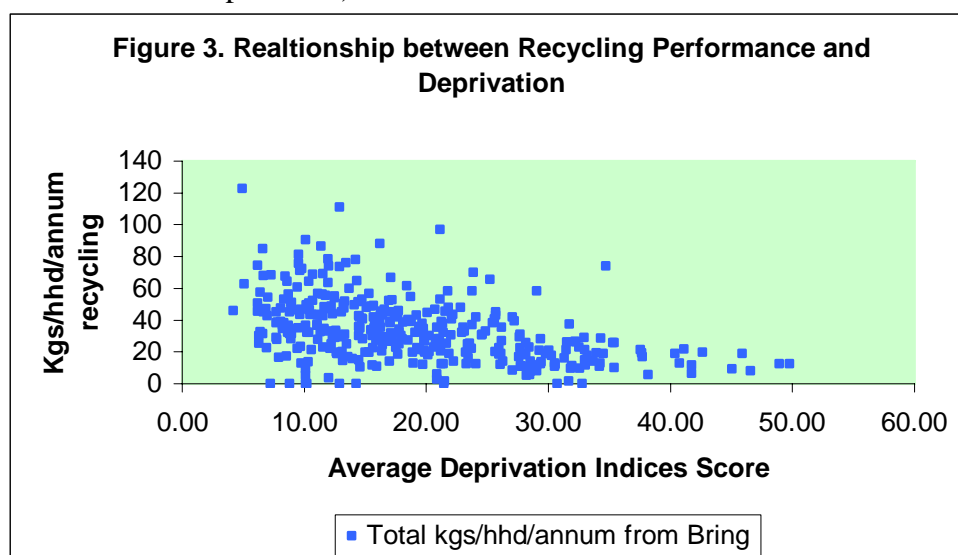
Key Considerations

- In general, the higher the density of banks in an area, the higher the level of performance
- Kerbside collections are likely to impact the performance of bring banks in an area, particularly if the same materials are being collected
- Bank densities vary by material; there are rarely equal numbers of banks in an area for each material, therefore performance by material varies too.
- The best bank densities for all material sites are 1:500 households and less
- The worst bank densities for all material sites are 1: 6,000 households and more
- The average site density for all material sites for the whole of the UK is 1:1,300

Socio Economic Factors

Deprivation Levels

Level of deprivation is another factor believed to play a role in the performance of bring recycling. This is best illustrated in Figure 3 below which charts local authority bring recycling performance, in kgs/hhd/annum, against an average deprivation indices score⁷ (the higher the score, the greater the measure of deprivation).



Though there appears to be a link between performance and deprivation when looking at the above graph, statistically there is no correlation. However, through observation of this graph it is evident that local authorities with

⁷ <http://www.odpm.gov.uk/odpm/SOA/LASummaries2004.xls>

higher deprivation scores are achieving lower kgs/hhd/annum for their bring recycling, whereas authorities positioned at the other end of the scale are achieving both poor and good levels of performance.

Therefore it can be stated that affluence in an area doesn't necessarily lead to high performance levels in bring recycling, but currently, the highest performing areas are those with lower levels of deprivation. Furthermore, the areas of highest deprivation are currently experiencing only low levels of performance.

**Location of
Banks in
Affluent Areas**

It is important to bear in mind that bring banks are often deliberately located in more affluent areas, due to demand from householders, fewer incidents of vandalism and better chances of high performance levels.

**Key
Considerations**

- Studies show that more affluent members of the population are likely to recycle and therefore banks located in more affluent areas have a higher likelihood of good performance rates.
 - Affluence can not be taken as the sole beneficial factor to achieving high performance levels; many other factors influence the individual performance of bring sites, for example existence of kerbside, promotional campaigns, etc.,
-

High Density Housing

**Concentrated
catchment
areas**

Recycling centres located close to high density housing, such as blocks of flats, where there is no provision of kerbside recycling, can experience higher performance levels due to the concentration of residents within the site catchment area. The fact that kerbside is not suited to this type of housing in many circumstances can mean bring is the only form of recycling available in an area.

**Community
Involvement**

Centres run with the co-operation of the local community/neighbourhood centres are more likely to achieve higher performance levels. Good examples of this type of arrangement are provided in Section 7 of this Guide.

Sites located as a result of community consultations tend to have a faithful and committed group of users who ensure the site is well maintained and used. A number of the best examples of these sites are often found in high density or estates recycling situations.

In some authorities, for example Babergh District Council, a number of community councils provided sites for recycling centres and inform the

District Council when the banks require servicing or maintenance work.

Location of Sites

Identification of New Locations In order to identify new locations for recycling centre sites, it is important to consider a number of issues which will give the site the best opportunity to be successful in terms of tonnages collected, site acceptance and ease of installation/operation/servicing.

To achieve high capture rates the site should be:

- Located in an area that will attract high numbers of people
- Close to main access roads
- Highly visible
- Close to centres of high population density and pedestrian footfall

Locating banks in well lit, safe and pleasant surroundings, with good access will often encourage higher levels of use and fewer incidents of vandalism.

A 'Sieving Process' to assist in the selection of suitable new locations is detailed in Section 4 of this Guide.

Supermarket & Retail Sites Sites which meet the above criteria are typically sites such as retail car parks or public amenities. Large grocery retail sites, such as Tesco or Asda, generally attract a high footfall of recyclers from a wide catchment area. They have good access by car, foot and public transport and adequate car parking. They also provide recyclers with a well lit, safe environment to deposit their recycling and are convenient in that they enable householders to fit recycling in with their shopping or other activities.

Site Acceptance Site acceptance is important, as rejection of a site by local residents can lead to it being removed. Therefore sites should be easy to access and convenient for large numbers of population to use, without causing undue negative impact on neighbouring residential properties. It is a careful balance between ensuring sites are close enough to centres of population, whilst being sympathetic to those who live close by.

Key Considerations

- High profile retail sites generally achieve superior performance as bring locations due to high footfall, good car parking and convenience for users
- Inner city supermarket locations may prove unsuitable as they have little or no space for parking or facilities for recycling
- Sites should not create congestion due to users parking their vehicles
- Bring recycling sites should be well lit and safe

- Avoid creating an area which could be deemed a fire hazard
 - Sites should not become facilities from which people can climb onto to gain access to residents gardens, neighbouring business, etc
 - Avoid creating a site at which people are tempted to congregate
 - Ensure any new site can be safely and effectively serviced; collection vehicles and staff must be able to safely gain access to the recycling containers and be able to empty them quickly and efficiently
 - In addition to having adequate space to house the full complement of bring banks, sites should also provide litter bins. It is understood that there is a cost to providing litter bins but there is also a cost in collecting litter from around the site or removing it as contaminant from the recycling containers.
 - Appropriate sign posting to direct people to recycling sites and inform them of which materials can be recycled in which banks, is crucial
 - Preferably, the site should be a level, hard surface as this is the best surface on which to place recycling receptacles.
-

Site Design and Planning

Sites Should Appear Attractive and Permanent

The design of a bank or site can play a vital role in reducing vandalism and graffiti at recycling sites, through designing spaces which are attractive, foster a sense of ownership in users and are defensible (incorporate design factors which minimise opportunities for vandalism and graffiti).

Making a site look more permanent and ensuring it fits to the local built environment will also reduce the chances of vandalism. Banks, if possible, should be locked and bolted to the ground to make it difficult to move or gain access to them. Any features of a bank which are liable to damage or are easy to remove should be designed out of the product.

Furthermore, provide hard standing areas, signage and lighting at sites and as much as possible, landscape the local environs. In deciding the type of banks to use, some of the points raised in the section “Material Mix” above should be considered.

Community Involvement

Management policies which foster a sense of ownership and responsibility in the areas close to the sites should be introduced. Ensure that councillors, local tenants associations, housing groups, school parent teacher associations and others who play an active role in the community are informed of the reasons for a recycling policy and the benefits to their area. It is also important to

provide them with an opportunity to suggest design changes and measures. Such involvement of the local community is likely to reduce vandalism and increase participation at a site or proposed site.

Local authority practices such as constant maintenance and quick repairs are a basic requirement to gain the trust of these groups. These policies show that an LA is committed to delivering high standards of service.

**High Standards
& Maintenance**

Poor design and inappropriate material specification and selection of banks result in defects, which are widely regarded as a major trigger of vandalism. All sites should comprise materials and fixtures that will be strong enough to withstand everyday wear and tear, careless use and even misuse.

Wherever economically feasible, vandal-proof materials should be used. These include surfaces which resist paint or are easy to clean, unbreakable glass and plastics, and durable fixtures with no removable parts.

Damage attracts more damage, so vandalised sites should be cleaned up and repaired as quickly as possible, graffiti should be removed before it attracts further graffiti or other forms of anti-social behaviour.

Education, Promotion and Awareness

**Bring Bank
Locators**

The most common reasons given for not recycling by householders is that they are either unaware of a service or the location of facilities⁸.

Bank locators are provided on all of the main UK waste awareness websites, to assist the general public find their local recycling sites. A number of these sites are listed in the 'Useful Information' section at the end of this Guide. Recycling officers should regularly update their bring bank details on these websites and encourage householders to use them to locate the facilities closest to them.⁹

**Promotional
Campaigns**

Extensive guidance and information on promotional and awareness campaigns can be accessed through the recyclenow¹⁰ website provided by WRAP. This site also provides advice on branding and the use of colour coding to help consumers become aware of what they can recycle and where, as well as give advice to local authority officers and other collectors on how to improve their branding.

⁸ Professor Peter Tucker Paisley University, Understanding Human Behaviour Vol. 1 & 2, 2001/2003, University Of Paisley, Paisley, ISBN 1-903978-01-7

⁹ Recycle-more.co.uk

¹⁰ RecycleNow, www.recyclenow.com

Education

It is also important that once the householder is at the site they know what is expected of them. Banks should be clearly labelled and marked as to what materials are acceptable for deposit in which banks.

Giving feedback to the consumer is also a good idea; it provides a reinforcement message that what they are doing is good and performance is being monitored.

Interaction of Kerbside with Bring Recycling

Influencing Factors

The introduction or expansion of kerbside recycling services across an area are likely to effect bring recycling performance in that area. The main factors likely to impact bring recycling levels are the:

- Materials being collected on kerbside (especially if they are the same as those collected at local bring sites)
- Number of households offered a kerbside service
- Frequency of kerbside collection
- Size of kerbside collection container
- Participation rate in kerbside schemes

Impact of kerbside collections on bring recycling

In Valpak's Project Abraham Report¹¹, the main findings suggested that there is only a relatively small drop in bring tonnage (10kgs/hhd/annum or less), following the introduction of kerbside collections to an area. In some circumstances, the implementation of kerbside schemes can introduce more householders to recycling, resulting in a rise of both kerbside and bring collection tonnages.

Project Abraham was carried out in 2002, when kerbside schemes were relatively new and did not have the same level of coverage as they do today. However, recent analysis carried out as part of a number of Defra LASU¹² projects, suggests that it is the contribution of bring recycling to the total diverted material that dramatically reduces, rather than actual tonnages.

Complementary Recycling Systems

A review of a bring site network is advisable following the introduction or expansion of a kerbside collection scheme, to ensure that the bring sites are operating at an optimum level and that banks are located in the best place, in the right quantities. This does not mean removing all bring sites on introduction of kerbside collection; the two recycling systems are complementary.

¹¹ Project Abraham, "Material Recycling through Bring Sites", March 2002, David Davies Associates.

¹² DEFRA Bring Report, Liverpool LASU project, August 2005, Eco-Alternatives and Valpak Ltd

A review should include the monitoring of yields of individual bring sites and of each material collected, before and during kerbside introduction and expansion.

**Main
Considerations**

- The introduction or expansion of kerbside collections is an influencing factor on bring recycling in the same area
 - The contribution made by bring recycling with the introduction of kerbside collections ultimately appears to reduce
 - Monitor individual bring site performance data over the implementation and expansion phases of a kerbside system
 - Relocate or remove inefficient sites as required
 - Bring recycling complements kerbside collections and still contributes to the overall diversion rate in an area
 - Provision of bring sites is key in areas where kerbside collections are not available.
-

Good Contracts and Strong Relationships with Collection Organisations

Contracts

Many recycling services are carried out on contract by both in house direct services/ labour organisations or by private companies.

The quality of this relationship will directly reflect on the quality of recycling in an area.

Householders often compare the reliability of the service with the value of the recycling they are doing. Unreliable services often put householders off recycling on an on going basis, and the performance of a scheme, in terms of material collected, can fall as a direct result of poor service.

Performance standards and efficiency levels can be specified in contracts and the importance of relevant, accurate and up to date information is critical. This is to ensure that the contract is performing well and delivering high standards.

These standards and efficiency levels are also often the only way to control the delivery of a service. These combined with accurate records of collection are the only way to manage and assess performance in an area and make decisions on how to attempt to improve the service going forward.

Guidance

Guidance on specifying contracts and developing procurement plans has been produced by Enviro¹³ and is available on the LASU website. The site provides a useful toolkit which will assist officers in preparing procurement contracts and producing a formal document.

¹³ DEFRA, Local Authority Support Unit, website http://lasupport.defra.gov.uk/ViewDocument_Image.aspx?Doc_ID=121
Enviro October 2005

3. Site Assessment - Improving Existing Bring Recycling Sites

Monitoring Bring Recycling Sites

Measuring the quantities of material collected at a site is critical to monitoring performance, but does not provide a review of how the overall look and service of a facility is rated by the customer.

It is important to review the level of service offered at each bring site on a regular basis, to ensure the standard of service is maintained at a high level and that the service offered meets customer needs and expectations.

It is also important to investigate why certain members of the public do not use recycling sites and what may encourage them to do so.

Site Assessment Tool

The tool outlined below provides a quick and simple way for an authority to assess a bring network and to survey user and non-user attitudes to the service provided.

Once such a review has been carried out, it should enable an authority to take steps to improve and develop bring sites to match customer requirements and aspirations. This method has assisted a number of authorities separate out good and poor sites and identify specific areas for improvement.

Site Assessment Criteria

It is possible to carry out a review using a 'weighted scorecard'. This method facilitates the canvassing of opinion among recyclers and non-recyclers in an area, to establish how they rate specific bring sites.

The sample scorecard below combines the importance of particular factors (as established by the local public) with a score rating the standard of each of these factors (as determined by the local authority). It is therefore the importance of a factor that is the weighting element of the scoring process.

There are four steps in using a weighted scorecard, as explained below.

Step 1 – Factors influencing the design /operation of bring

First, develop a list of features to assess. The Example scorecard that is Figure 4 below, uses an adapted list of factors commonly believed to be influential in the design and operation of a good recycling centre¹⁴. For simplicity, the factors are grouped into four main areas: access, overall first impressions, the banks themselves and communication.

Step 2 – Weighting the Importance of Factors to users

The second step involves surveying local residents and those visiting sites to score the factors out of 10, with regard to their importance (1 representing 'not at all important' and 10 being 'extremely important'). This survey should also establish who is not using bring recycling sites and why, to assist in improving the footfall at sites.

¹⁴ A Practical Recycling Handbook, The Kindred Association, Thomas Telford, ISBN 0-7277-1990-4, 1994

For local residents, the most economical way to survey is by post, but this is also the slowest method and likely to receive a low response rate. Door-to-door or telephone surveys, although more costly, are more likely to achieve better results. Surveys of users of a particular site will be face-to-face at that site.

From all the scores gathered, collate an 'average score' for each factor. The more people you survey, the more accurate this score will be.

Figure 4. Sample Weighted Scorecard for Bring Site Assessment

| Sample Weighted Scorecard for Bring Site Assessment | Weighting Average Public Rate of Importance (Out of 10) | Score Score 1-10 (1 = extremely poor, 10 = excellent) | Weighted Score (Weighting x Score) |
|--|--|--|---|
| Access to Site | | | |
| 1 Signposting to the site from the main road | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 2 How easy it is to find | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 3 Available parking space | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 4 Access by public transport | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 5 Accessable by foot | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| First Impressions | | | |
| 5 Site planning / layout | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 6 Presence of screening of the banks (fence, hedge) | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 7 Adequate illumination (recycling winter months in the dark) | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 8 Tidiness of the site | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 9 Presence of litter bins | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 10 Presence of fly tipping | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| The Banks | | | |
| 11 Signs of vandalism - graffiti, broken locks | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 12 State of the banks (run down, neglected, rusty) | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 13 Cleanliness of the banks | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 14 Bad smells | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 15 Signs of vermin | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 16 Varieties of bank types (fewer types = better) | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 17 Selection of material types recyclable | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 18 Overflowing of materials from banks | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 19 Clear labelling of banks (material type, preparation needed) | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 20 Disturbance of local residents | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 21 Restrictions of use e.g. dawn to dusk? | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 22 Access to people - height of apertures? | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Communication | | | |
| 23 Presence/usefulness of information boards <i>eg. What happens to the material or other interaction with the public</i> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 24 Contact details for further information | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 25 Visible links to national or local recycling campaigns | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Instructions for use 1. Input the Weighting as per public survey 2. Assess site and determine its score 3. Multiply the Weighting by the Score to give a Weighted Score 4. Sum the Weighted Scores to give a Final Score for the Site | | | Final Score for Site <input type="text"/> (Sum of Final Scores) |

Step 3 – Scoring the Site

This step involves, for example, a local authority recycling officer rating the design and operational factors of each site. Having one person rate all the

Service Levels sites means that they are all rated in the same way, to the same standards.

Using a Scorecard, an assessor should visit each site and rate them between one and ten for the factors listed. For example, if there is ample space to park, a score of ten would be given, or if there is no space to park a score of one would be given. In some urban areas high footfall may no parking is not such an important issue.

**Step 4 –
Calculating
Final Factor
Scores and
Total Site
Scores**

Following the visits the scores are multiplied by the weightings, established from the public survey, to give a Weighted Score for each factor.

To determine the Final Score for each site, total the Weighted Scores of each of the factors. This provides a means of ranking assessed sites; further analysis will identify specific features which the public think is good or bad about individual sites, enabling steps to be taken to address any issues highlighted.

This process enables authorities to take informed decisions on how and where resources are best used to improve or develop a bring network.

4. Locating New Sites

Successful Bring Sites

In order to identify the best locations for new bring recycling sites, it is important to consider the criteria that maximise the potential for success. Success, or performance, of bring sites is generally measured through:

- total tonnage of material collected
- site acceptance
- ease of installation/operation/servicing
- capture rate per material

The basic elements to be considered are covered in the sections ‘Site Location’ and ‘Site Design & Planning’ in Section 2 of this Guide.

Site Selection - Sieving

Documented consideration of these elements will provide solid justification for the location of a site in a specific area and a sound audit trail of the decision making process. In order to facilitate this process, it is advisable to use a method such as a ‘sieving process’, whereby a list of potential sites is developed and assessed against relevant selection criteria.

The remainder of this section outlines a simple sieving process that can be followed to assist with the identification of the most suitable locations for new bring sites (now and in the future), cost implications and barriers to development.

Sieving Process Step 1: Information gathering & local knowledge

Getting Started

To carry out the sieving process it is important to have a detailed knowledge of the authority area, a large scale map and a list of community organisations and groups to consult with.

Developing a good Local Knowledge

A good, detailed local knowledge will make the process easier and quicker by providing a sound understanding of the roads network, urban areas, retail sites and car parks in the area. Land ownership is an important criteria and local knowledge will assist in discovering who is a local landowner, often much quicker than going through formal processes and searches.

A map is essential for recording possible locations and excluding unsuitable ones; use the table below (Figure 5) to mark-up a map and illustrate the areas for potential site location within an authority.

Figure 5. Potential Bring Site Locations

| Potential Site | Justification |
|---|---|
| Retail sites | Can attract up to 40,000 customers (depending on the size of the store), have good access and plenty of car parking |
| Leisure facilities/ schools/ public offices/ train stations | Attract high, regular footfall |
| Car parks | Provide space for recycling centres, good accessibility and flat hard standing surfaces |
| New planning application sites | Assess new planning applications for both retail and housing developments, to establish their suitability for new recycling facilities |
| Brown field sites | A piece of derelict/unused land may be a good opportunity for locating a new recycling facility. Regeneration funds may be available to develop the site and improve the overall aesthetics and appearance of the area. This is particularly likely if a new site is recognised as adding value to a local community and providing a needed, beneficial and valued service. This type of site may be more expensive to locate, but may perform well and provide a reasonable return on investment. |
| High density housing areas | Housing types which are not suitable for kerbside collection, but can accept larger receptacles for recycling, should be considered as valuable locations. Sites like these can service a localised high density of population and, when implemented with the consultation and support of the community, can prove easy to maintain to a high level, attract high footfall and achieve good yields. This is predominantly due to the local community being aware of the facility, having a sense of ownership of the site and appreciating the focus on their community. This is discussed in further detail below. |

Community Consultation

Consultation with community based organisations, other authority departments and individuals within the community will greatly assist the site selection process. Consult, for example, council officers, community councils, parish councils, councillors, community police officers, the recycling vehicle driver and individual local residents.

In addition to providing valuable guidance on what could potentially be a good or bad location, planning officers and local service organisations, such as the police and transport authorities, will be able to suggest possible new sites not yet listed as planning applications, advise on safety selection criteria and signpost comprehensive data, such as that on the locations of out of town retail sites, lay bys and car parking facilities.

The consultation will also bind participating individuals and organisations into the sieving process and may assist in any future development of the site.

Consultation Process

The consultation process can be carried out either in-house or outsourced to a third party. The process should provide people with:

- Information about the process, including the objectives
- A list of the criteria to assess possible new sites
- The reasons recycling is required in the area, such as Government targets, costs, details of kerbside systems and environmental benefits
- A presentation of initial findings detailing possible sites
- Container designs or site layouts, in order to gauge local opinion on design acceptance, health and safety concerns or any other aspect linked to the aesthetics of the site
- Details of focus groups or surveys householders can participate in to share their views

All findings from the consultation should be feedback to householders as the process continues, so they remain informed of progress and involved in the process.

Sieving Process Step 2: Applying the selection criteria

Site Selection Criteria

As discussed in Section 2 of this Guide, there are a number of elements that can effect, or maximise, the potential success of a bring site. These criteria are listed again in Figure 6 below, with a brief justification of their importance.

Taking each potential new location for a site, consider it against these criteria, in order to help assess its true suitability and potential.

In order to record the results, either continue marking/excluding the possible sites on a map or, if recording more detail, list, rate and justify potential sites in a simple spreadsheet.

Figure 6. Factors Affecting the Performance of Bring Recycling

| Factor | Justification |
|--|--|
| Population density | Important as it implies a higher catchment population for the recycling facility. |
| Proximity to A roads or major road networks | Main arterial roads carry large flows of local residents to and from work, shops, leisure activities, etc., and provide good, quick access to recycling facilities. These routes often offer public transport services too. Sites should also be readily seen from main roads, so that the public are aware of their existence and can easily find them. |
| Land ownership | Sites owned by the Council should be easier to gain permission to use as recycling facilities. |
| Proximity to existing sites | Avoid positioning a new site too close to an existing recycling site, or in the same location. New sites should be complementary to the existing network. |
| Site accessibility, operational and safety measures | Site suitability should be measured against ease of servicing for vehicles and staff and against any safety issues. Sites should not pose a threat to safety, or be difficult to service. |
| Positives Vs negatives | Consider the costs of alleviating the negative image caused by the siting of banks and the potential benefits in terms of performance. If the negative effects outweigh the positives for any one site, then it should be discounted. |

Sieving Process Step 3: Final selection of sites

Prioritisation of Sites Once all possible sites have been listed, and if desired rated, highlight the sites which meet the majority or all of the criteria. The more criteria that can be fulfilled, the better.

Each of the selected sites should then be given deeper consideration, the best sites selected and those lacking a basic necessity such as sufficient space, a hard surface or safe, practical service vehicle access, should be eliminated.

This process of prioritization and elimination will provide a more definitive list of possible sites. It will also provide a list of sound justification for why a site can or cannot be used.

Site specification Now a concise list of potential sites has been developed, each site needs to be further investigated to establish its requirements, in terms of:

- Planning permission / agreement of site usage
- Servicing
- Infrastructure
- Costs

The elements to be considered at this stage of the sieving process are detailed below:

Site Usage

It may be that access to a site is restricted as it may require a legislative requirement such as a planning permission or a formal permission such as from a land owner to site a recycling centre on their property.

These processes can cost time and carry a financial implication and these should be estimated to give an insight into the overall use of resource which will be required to develop a new bring site at this location.

Planning permissions and land owners may require certain conditions to be met to allow the site development to go ahead. This may involve the laying of a hard surface, fencing/ screening or sign posting. All of these measures will have a cost and time implication.

Servicing

Some sites may also have servicing restrictions and vehicles may not be allowed into a site around the clock. The restriction may mean that collection routes may need to be rescheduled.

In order to allow the vehicle safe access to a site the road may require some development work to provide safe conditions to enter, collect and leave the site. This could mean a low cost such as pruning overhanging trees but could also mean relaying or aligning the access road.

Infrastructure

The types of provision to be made at each site should be considered. This will include practical issues such as decisions on:

- Materials to be collected at the site
- Appropriate types of banks to be used (wheeled bins, skips, underground banks, etc.,)
- The number of banks required
- Signpost from the street or at the site itself.
- Hard standing flat surface
- Suitable access
- The provision of litter bins
- Lighting

Some of the factors above may be required in order to achieve the successful acceptance of a new site into an area. For example, issues over space may be reconcilable by considering solutions such as underground banks, if the costs of developing this type of site were acceptable. Summary tables on the types and costs of banks are included in section 6 of this report.

Costs

Once the above requirements have been specified it will be possible to estimate the costs of developing, installing and servicing each site:

- Draw up a simple spreadsheet detailing all the above requirements
- Estimate the costs associated with enabling each site to become operational
- Estimate the projected costs of servicing and maintaining sites in the future
- Take into consideration any benefits of bulk buying/servicing of groups of sites

Further information on the costs of bring recycling can be found in Sections 5 and 6 of this guide.

Final selection

- Weigh up the benefits and potential performance of each site with the estimated costs
 - Make the final selection of sites suitable to incorporate into the bring network now
 - Develop a plan, schedule and budget for the roll-out of the new sites
-

**Feeding
Further
Development**

Councils should try and review their bring network twice a year, to accommodate any developments and changes that occur in an area. Furthermore, it is possible to facilitate such reviews by considering potential future developments at this stage of the sieving process:

- List sites that could be incorporated into the bring network in the future, should changes in the area occur, e.g. change of retailer, increased housing/footfall, reduced servicing costs, etc.
 - List sites that could be incorporated into the bring network in the future at an additional cost, e.g. if a new access road required can be funded
 - Identify and monitor the development of new estates and shopping areas and, if appropriate, become involved early on in the development of these areas in order to co-ordinate the inclusion of bring sites. Include conditions that private developers should include recycling centres for developments over certain threshold numbers of houses.
-

5. Evaluation of the costs for bring collections

| | |
|---|--|
| Introduction | <p>It is very difficult to obtain information on the costs of operating bring collections, due to the different arrangements in place across Waste Collection Authorities (WCAs). Often arrangements are ad hoc and for some materials the collections are operated on a voluntary basis. Any information that can be obtained provides little indication of the possible costs of implementing similar systems in another authority.</p> |
| Contracts | <p>Authorities that don't operate their bring collections in house will either pay a collection contractor, or a reprocessor, to service the banks. The scope of the contracts (if they exist) can vary considerably:</p> <ul style="list-style-type: none"> • the banks are provided and serviced entirely by a third party, i.e. at zero cost or benefit to the authority • the banks are provided by the authority who pays a contractor for servicing them, • the banks are owned and serviced by the local authority <p>The contract terms will determine whether an authority receives any direct benefit from the value of the material or whether this is built into the contract price.</p> <p>Service contracts can also form part of wider waste management contracts e.g. for refuse collection, or be part of a County wide agreement, so it is not always possible to disaggregate the specific costs for an individual authority. Whether districts receive recycling credits for the materials depend on the contract terms and agreements with the County.</p> |
| Projecting bring collection costs using a 'bottom-up' approach | <p>Due to the many different arrangements, it is virtually impossible to make any meaningful comparisons between the prices paid by authorities for the servicing of bring banks. Furthermore, the prices paid are not a reliable guide to the actual cost of the banks. Therefore, to compare the costs of different bring scenarios within an authority, the costs must be constructed from first principles, i.e. with consideration of the number of vehicles required to service the banks, the number and type of banks etc. Costs should include:</p> <ul style="list-style-type: none"> • capital costs for banks • capital costs for vehicles • operating costs for vehicles • servicing costs for the sites • management overheads <p>In projecting costs in this way, consideration must be given to the fact that most contractors will use the same vehicles to service banks in several authorities. Costs of infrastructure such as hard standing has not been taken</p> |

into consideration in this section but has been discussed in the sieving process section of this report.

Capital cost for banks

Figure 19 (Section 6) summarises the types and costs of some of the more commonly used bring banks in the UK. The price range reflects that provided by a number of different suppliers.

Lifespan of a Bring Bank

The average lifetime of a bank will depend on the type of bank, how well it is used and how frequently it is emptied (the handling can be damaging in the longer term).

Other factors, such as the level of vandalism, will also influence the average lifetime.

In general, the lifetime of a bank is related to the original capital cost; smaller bins or igloo style banks will generally have a shorter lifespan than larger skips.

Bank numbers, Material mix and Frequency

In making cost projections it is necessary to consider the number of banks to be located at each site, the range of materials targeted, and the frequency the banks will have to emptied.

Capital cost of vehicles

The type of collection vehicle required to service the banks depends on the type of bank. Figure 7 summarises the types of collection vehicle that can be used to service banks, together with an indication of the types of bank they can be used to service.

Figure 7. Types of Collection Vehicles and Banks

| Vehicle type | Capacity (m ³) | Banks serviceable | Capital cost (£) |
|---|----------------------------|-------------------------------------|------------------|
| RCV – single compartment with bin lift | 12 to 26 | Wheeled bins up to 1280 litre | 65 - 130k |
| Top-loading multi compartment RCV/recycling vehicle | 28 | Wheeled bins up to 1280 litre | 95 – 130k |
| FEL | 27 - 33 | FEL banks | 116k |
| Crane lift | 25 - 33 | Modular (igloo), underground | 85k – 95k |
| Skip loader | 1 container | Skip | 50k – 60k |
| Hook loader | 1 container | REL and roll-on roll-off containers | 50k -80k |
| Cable lift | 1 container | Roll-on roll-off | 50k -75k |

The total cost of a vehicle varies according to the body supplier, type of chassis and type of optional extras, such as cameras, bin chip counters, on board weighing systems and lubricating systems etc. Therefore, the costs above are only ballpark indicative costs and represent base costs without any optional extras.

Industry sources suggest that purchasing the chassis and cab separately from the equipment, with an authority overseeing the body-building, can reduce costs by a significant amount.

Sheeting is required on certain skips which can incur an additional cost (up to £3,000).

Vehicle Capacity

The capacity of the vehicle will also depend on the maximum payload permissible of the vehicle, which will depend on the chassis type. As the bulk density of different materials varies, the actual number of banks it is possible to empty into a vehicle also varies.

Projecting the number of banks a vehicle can service

The number of banks a vehicle can collect will depend on a number of factors:

- The capacity of the vehicle
- The type of bank
- The volume and weight of each bank when it is emptied
- The time it takes to empty each bank, drive between sites and unload them
- Whether banks are emptied into the collection vehicle or whether they are exchanged full for empty, e.g. as for skips and REL.
- How frequently banks are emptied; whether they are emptied on a regular schedule or only when they are full
- Whether vehicles are used to collect one or more than one material
- How the contracts are arranged within an authority, but also between neighbouring authorities

Due to these many variables it is only possible to estimate the number of vehicles required to service a particular set of banks and it is impossible to provide indicative figures for an average number of banks collected each day.

Vehicle operating and standing costs

Vehicle standing costs include items such as insurance and licences. Vehicle operating costs include such elements as crews, fuel, maintenance and tyres. Again, the actual costs will vary due to the type of vehicle, how far it drives etc., but on average costs should be in the range of £5,000 to £10,000 per annum for vehicles.

For staff, an HGV driver has a salary and other associated costs (national insurance, holiday cover) of approximately £25,000 per annum and loaders a cost of approximately £20,000. Clearly these costs are subject to regional variation and if more accurate local values can be obtained these should be used.

Management and overheads

Local figures should be used for this cost element and consideration needs to be given to both client and contractor costs.

Post collection costs Following collection the materials will undergo a number of different processes that could include baling, sorting, onward transportation, etc. The costs for these will depend on the facilities available locally and on end market requirements.

Calculation of bring collection costs for paper: Horsham District Council (HDC)

Introduction In the summer of 2005, HDC participated in a DEFRA funded project to evaluate the potential costs and tonnage increases in switching from a newspaper and magazine (N&P) only collection, to a mixed paper collection in Horsham.

This case study details what the impact of this change would mean in practical terms and the related costs of this change in service.

Background to Bring Sites There are 41 existing Community Recycling Points (CRPs) within Horsham District Council area, of which 13 collect N&P. The current collector provides and services the banks as part of their contract with HDC.

The cost to HDC for this service ranges from £3.50 to £4.50 per tonne, depending on the quality of the material collected. With an annual tonnage of approximately 636t, the cost of this service can fall between £2,226 and £2,862. Figure 10 below provides an estimated breakdown of this cost, constructed from information provided by HDC.

Proposed development options In order to provide a comparison and an element of choice in selecting the most appropriate system for collecting mixed paper instead of N&P, three options were costed for HDC, as follows:

Option 1:

- The Council will provide the infrastructure and service the banks
- The banks are moved from an FEL service to an underground or modular system
- The material is baled and sold to an export market

Option 2:

- The Council will provide the infrastructure and service the banks
- The banks are moved from an FEL service to an underground or modular system
- Paper is sold to a merchant for sorting and grading prior to sale to reprocessors

Option 3:

- A contractor would service the banks on contract to HDC bank system and retain and sell the material collected

- The banks are moved from an FEL service to a modular bank system

Financials to be considered

In order to cost the switch in service, it is necessary to consider all of the unit costs associated with the changes. These are detailed in Option 1, and the appropriate elements adopted in Options 2 and 3. Figure 10 towards the end of this case study illustrates all the estimated costs associated with the current system and the three proposed options.

- Financials considered in Option 1, and selectively in Option 2 and 3 are:
- New bank costs
- Vehicle/servicing costs
- Baling costs
- Revenue from materials sale
- Recycling credits

Some costs have been estimated to ensure confidentiality and to provide a comparable cost indication.

Option 1

Considers the replacement of the FEL banks with modular or underground banks serviced by HDC.

Cost of Banks

The bank costs will vary considerably between using modular banks or underground banks. It has been estimated that modular banks cost between £385 and £500 a unit, while underground banks cost approximately £5,000 per bay.

The capacity of the underground banks is much larger, being up to 15m³ compared to 2m³ to 3.5m³ for the modular banks. As the cost of the underground banks will depend on the sites selected and the installation requirements, and these are unknown, the costs have been projected assuming 2.5m³ modular banks are used to replace the current FEL containers.

Research carried out by HDC suggests that approximately 825TPA of mixed paper could be collected. Mixed paper has an average bulk density of 279kg/m³. Thus, the average weekly volume that would be collected is approximately 57m³ (or 2957m³ average annual volume.) Assuming the banks are emptied once a week and are 85% full when they are emptied, a total of 27 banks would be required.

Modular banks have a capital cost of approximately £500. Depreciating this over 5 years and allowing for finance charges on the capital at 6%, the annual capital cost for each bank is approximately £130.

Thus, the annual cost for 27 banks is £3,510.

Vehicle Costs

These would require a HIAB vehicle to service the banks with. A new HIAB vehicle has a capital cost of approximately £90,000. Depreciating this over 5 years and allowing for finance charges on the capital at 6%, the annual capital cost for the vehicle is approximately £23,400.

The annual operating costs are estimated as £5,000 for standing costs, £8,000 for running costs and £20,000 in crew costs. As the vehicle will be owned by HDC it will be assumed to be 100% utilised collecting the mixed paper banks.

Thus, the total annual cost for each vehicle is estimated at approximately £56,400.

Baling Costs

To move material to end markets it may be a requirement to bale mixed papers. If the material was to be exported then there will be a requirement for a loading ramp and loading vehicle. This equipment would provide choice, flexibility and optimise transport costs to end market.

The baling costs below were estimated by identifying the capital equipment that would be required and applying unit costs to the equipment. These costs have then been amortised over the useful lifetime estimated for each piece of equipment.

It has been assumed that the equipment could be located at the current facility that handles the kerbside collected materials, but that one extra operator would be required. It has also been assumed that the mixed paper would be baled into 0.5T bales capable of being packed into freight containers to optimise transport costs. The equipment required is presented together with its unit costs and the operator costs in Figure 8 below.

Figure 8: Baling equipment and operator costs

| Equipment | Cost | Useful lifetime | Annual cost |
|----------------------------|----------------|-----------------|----------------|
| Loading ramp | £3,000 | 10 | £300 |
| Baling equipment | £50,000 | 15 | £3,333 |
| Short mast loading vehicle | £9,000 | 10 | £900 |
| Operator | £15,000 | - | £15,000 |
| Total | £62,000 | - | £19,533 |

Revenue from materials sale

The value of paper collected depends on a number of factors. These include the grade of the papers collected, level of contamination and whether the material is baled to mill specifications and delivered to the mill for reprocessing, or whether it is delivered to a merchant for re-baling and onwards transport to the end market. Current price ranges for mixed paper and N&P are presented in Figure 915.

The mid-points for these ranges will be used in the projections.

The UK domestic mill price and the export price are ex-works prices and will usually be baled. The Merchant price is for material that is delivered loose. Therefore, the costs to transport the materials to the end market also need to be included in the cost projections. This will depend on the precise location of the end market, but for the purposes of modelling the scenarios £5/T is used.

¹⁵ www.letsrecycle.com May 05

Figure 9: Paper prices (May 2005)

| £/T | UK domestic mill price | Export price | Merchant price |
|------------------|------------------------|--------------|----------------|
| Mixed papers | 24 – 26 | 38 – 39 | 0 – 10 |
| Newspapers & pam | 44 – 46 | 47 – 52 | 10 – 18 |

Recycling credits

The value of the recycling credits paid by West Sussex County Council (WSCC) to HDC depends on the quantity of material recycled. Assuming the credit remains at £41.79, the recycling credit paid for 825T of mixed paper would be £36,644. (For 636T of N&P, it would be £26,578.)

Option 2

Option 2 also considers the replacement of the FEL banks with modular or underground banks, to be serviced by HDC, and relies on the Council to collect the mixed paper. However, following collection the material would be sold to a merchant, therefore eliminating the need for HDC to bale it. Costs for these activities remain the same as detailed above in Option 1 and are summarised in Figure 10 below.

Option 3

Option 3 is similar to Options 1 and 2 in terms of cost of banks, however a contractor would be employed to service the banks.

Collection Costs

To establish approximate costs for this option, contractors were asked to provide estimates of the possible costs of providing the service. Based on the figures quoted, an average of £30/T has been used.

Thus, for an annual quantity of 825T the net collection cost would be approximately £24,750.

Using Cost Projections: Caution

The cost projections based on the costs presented above only provide 'ball park' estimates and their main use is in the comparison of Options, to determine which has the lowest cost. More precise costings should be carried out by HDC before implementing any of the scenarios.

Furthermore, the costs are not necessarily the price requested from a contractor to undertake any of the services. Therefore, as the costs are primarily to explore the relative costs of the collection options and are only 'ballpark' estimates, some cost elements have been excluded, such as early replacement of the banks due to vandalism and site maintenance.

Summary of existing and projected costs

Using the values above, costs were projected for the current collection of N&P and for the Options to collect mixed paper. The results are summarised in Figure 10 and discussed in turn below:

Figure 10: Projected collection costs for paper collection in HDC

| Scenario | Tonnes collected (T) | Collection (£) | Banks (£) | Baling (£) | Annual gross cost (£) | Material revenue (£) | Annual net cost (£) | Annual net cost per tonne (£/T) | Recycling credit (£) | Annual cost/benefit to HDC (£) |
|--|----------------------|----------------|-----------|------------|-----------------------|----------------------|---------------------|---------------------------------|----------------------|--------------------------------|
| Current N&P | 636 | 23,313 | 4,784 | - | 28,097 | 25,440 | 2,657 | 4.18 | 26,578 | -23,921 |
| Option 1 (sell to export) | 825 | 56,400 | 3,510 | 19,533 | 79,443 | 27,638 | 51,806 | 62.79 | 34,644 | 17,162 |
| Option 2 (sell to merchant) | 825 | 56,400 | 3,510 | - | 59,910 | 0 | 59,910 | 72.62 | 34,644 | 25,266 |
| Option 3 (contractor collects and sells) | 825 | 24,750 | 3,510 | - | 28,260 | 0 | 28,260 | 34.25 | 34,644 | -6,384 |

Current N&P projected costs

The projected costs above for the current collection are similar to the costs based on the contract price paid to their current contractor. This provides confidence that the projections provide good ‘ballpark’ estimates of the likely costs.

The projected costs for the current collection are the lowest, with an overall net benefit once recycling credits are taken into consideration, of approximately £24k per annum.

Option 1 projected costs

Option 2, in which the mixed paper is sold to a merchant for sorting and grading prior to sale to reprocessors has the highest cost. This is because the collection costs are much higher for the mixed paper, due to the increased quantity and the greater volume than the N&P collection. These additional costs are compounded by a much lower sales value due to the lower grade of the paper.

Option 1 benefits from much higher sales revenues than Option 2 as a result of the material being baled and thus possible to sell to the export market. However, the export value of the material is still lower than the UK mill value for N&P and is insufficient to off-set the higher collection costs and the additional baling costs.

Option 2 &3 projected costs

The projected net costs for Option 2 are quadruple those for Option 3. However, the costs for Option 3 are projected based on information from a contractor rather than being projected on estimated collection costs and are not directly comparable. The costs for Option 3 could be lower because a contractor can achieve more potentially operational efficiency as it does not need to restrict its operation to HDC. It could also reflect inaccuracies in the projections.

Reducing Option 1 & 2 projected costs

The costs for Options 1 and 2 are very much higher than the costs for the other Options because the collection costs are estimated to be much higher. This is because it has been assumed that a dedicated HIAB vehicle would be required to service the mixed paper banks. However, this would mean that each day the vehicle would only service approximately 5 to 6 banks. If the vehicle could service twice as many banks, and be utilised the rest of the time to service banks for other materials, the costs would drop considerably.

Figure 11 re-summarises the costs assuming the vehicle is only used to service the mixed paper banks for 50% of the time and discusses the Options again. It highlights that:

- The current arrangement remains the most cost favourable
- The cost of Option 1 becomes more favourable than the costs of Option 3
- Before deciding on which option to pursue, HDC should obtain specific costings from vehicle and bin manufacturers and contractors
- HDC should carry out a more detailed analysis of how the HIAB vehicles could be used optimally to service banks for all its materials.

Figure 11: Projected collection costs for paper collection in HDC, assuming the HIAB vehicle is only used to service the mixed paper banks for 50% of the time

| Scenario | Tonnes collected (T) | Collection (£) | Banks (£) | Baling (£) | Annual gross cost (£) | Material revenue (£) | Annual net cost (£) | Annual net cost per tonne (£/T) | Recycling credit (£) | Annual cost/benefit to HDC (£) |
|--|----------------------|----------------|-----------|------------|-----------------------|----------------------|---------------------|---------------------------------|----------------------|--------------------------------|
| Current N&P | 636 | 23,313 | 4,784 | - | 28,097 | 25,440 | 2,657 | 4.18 | 26,578 | -23,921 |
| Option 1 (sell to export) | 825 | 28,200 | 3,510 | 19,533 | 51,243 | 27,638 | 23,606 | 28.61 | 34,644 | -11,039 |
| Option 2 (sell to merchant) | 825 | 28,200 | 3,510 | - | 31,710 | 0 | 31,710 | 38.44 | 34,644 | -2,934 |
| Option 3 (contractor collects and sells) | 825 | 24,750 | 3,510 | - | 28,260 | 0 | 28,260 | 34.25 | 34,644 | -6,384 |

Conclusions

Whatever the reasons behind the cost differences, the current collection is significantly more cost effective for HDC than any of the options to collect mixed paper. The costs for Option 3 are directly comparable with those paid to the current contractor, as both are based on unit costs provided by contractors.

An important factor that has not been taken into account in this analysis is the risk associated with each Option. The reliance on export markets, whether directly or via a contractor or merchant, associated with the collection of mixed paper, carries a much higher risk than that associated with the home market for N&P.

Calculation of bring collection costs for glass: Babergh District Council (BDC)

| | |
|--|---|
| Introduction | <p>In the summer of 2005, BDC underwent a DEFRA funded review of their bring bank network, in order to establish options to improve glass recycling from their bring sites. Part of this review involved recommending options for site improvement, which would provide BDC with a range of improvement measures and associated estimated costs.</p> <p>This case study details the measures and estimated costs presented to BDC, for improving the appearance of their bring sites.</p> |
| Background to Bring Sites | <p>There are 7 main sites that collect the majority of glass in BDC, some sites being even more popular than HWRCs. Householders are both familiar with site locations and used to sorting glass by colour.</p> <p>On the whole the majority of bring sites appear tidy, but run down. There is great scope for visual improvement of the bring sites, which should in turn lead to improved tonnages collected at the sites.</p> |
| The proposed Costs & Measures | <p>Three cost scenarios are presented below, all which will assist in improving the appearance of BDC's bring network . Two of these are extreme cost comparisons; Scenario A represents improving all 60 current sites and Scenario B represents improving just the seven main sites. Scenario C is more middle ground, providing costs on improving the 13 bring sites collecting at least 20T pa, as these sites contribute the majority of the overall tonnages.</p> <p>The costs outlined below cover:</p> <ul style="list-style-type: none">• Container costs• Signage (at site and on roads)• Bank labels (large & small)• Cleaning |
| Container Costs | <p>Instead of modelling costs for all the different container types used, costs have been estimated based on modular containers; popular with many authorities and glass collection contractors in England, due to their robust design and moderate costs.</p> <p>A ball park figure of £467 per container was used (the median in price range for this type of container), as the permutations even within one type, material, size and manufacturer are great. The total costs for the three scenarios are shown in Figure 12 below.</p> |

Figure 12: Containers Cost Comparison

| Scenario | Description | Approximate cost |
|------------|--|------------------|
| Scenario A | Replace all of the estimated 111 banks | Almost £52k |
| Scenario B | Replace 37 banks at 7 main sites | Almost £17.3k |
| Scenario C | Replace 60 containers at 13 sites | Approx £28k |

Signage

Most bring sites at BDC lack any form of signs, either directional signposting from the road or information boards at the sites.

Information boards

A quote of £117.45 was obtained to provide one information board (dimensions 1000mm x 300mm) using three colours, plus post and end cap. It is estimated that there would also be installation costs of approximately £146 per site, based on 2 hours work for 2 people at £36.50 per hour. Travelling time between the sites would approximate to 20 minutes, which at the same cost of £36.50 is £12.17 per site.

Thus, the total cost per information board is approximately £275. The total costs for the three scenarios are shown below:

Figure 13: Signage cost comparison

| Scenario | Description | Approximate cost |
|------------|--------------------------------|----------------------|
| Scenario A | Provide boards at all 60 sites | Approximately £16.5k |
| Scenario B | Provide boards at 7 main sites | Just under £2k |
| Scenario C | Provide boards at 13 sites | Approximately £3.6k |

Road signage

Road signs are estimated to cost £28.55 each, including clips to fix the sign to existing lampposts, etc. Naturally, if road signs and information boards were required at the same sites, then travelling time would not be included twice. Labour costs at £36.50 per hour would bring the costs to a total cost per sign of £37.68, assuming the signs are quick to fit (about 15 minutes). Total costs for the three scenarios are shown in Figure 14 below.

Figure 14: Road sign cost comparison

| Scenario | Description | Approximate cost |
|------------|------------------------------------|---------------------|
| Scenario A | Provide road signs at all 60 sites | Approximately £2.3k |
| Scenario B | Provide road signs at 7 main sites | Just over £260 |
| Scenario C | Provide road signs at 13 sites | Approximately £500 |

Labelling

Communicating which coloured glass goes into which bank is important in order to reduce contamination. Self adhesive stickers or vinyls can be printed with any design, in a wide variety of colours and to quite large size. Indeed vinyls could be used instead of information boards, although these are more likely to become damaged.

Large Labels

Costs for vinyls with dimensions of at least 1000mm by 500mm are approximately £13 each for a print order of 300. Cleaning containers with

alcohol and then fixing labels on would be an additional cost of approximately £18.25, at the labour rate given above. Travelling time has not been included in these costs, as labelling and sign erection could be carried out by the same operatives, providing the correct specification is given and followed. The total costs for providing large labels on containers for each scenario are shown in Figure 15.

Figure 15: Large label cost comparison

| Scenario | Description | Approximate cost |
|------------|--|---------------------|
| Scenario A | Large labels on 111 containers at all 60 sites | Approximately £3.5k |
| Scenario B | Large labels on 60 containers at 7 main sites | Approximately £1.9k |
| Scenario C | Large labels on 37 containers at 13 sites | Almost £1.2k |

Aperture Labels

Smaller labels to be used nearer container apertures are cheaper; £460 for 500 labels (200mm x 200mm), including origination and a cutter. Labour time would be similar for the larger vinyls.

Thus, the cost to label one container would be about £19.17, as shown below:

Figure 16: Aperture label cost comparison

| Scenario | Description | Approximate cost |
|------------|---|---------------------|
| Scenario A | Aperture labels on 111 containers at all 60 sites | Approximately £2.1k |
| Scenario B | Aperture labels on 60 containers at 7 main sites | Approximately £1.1k |
| Scenario C | Aperture labels on 37 containers at 13 sites | Approximately £700 |

Cleaning

Jet washing is an effective way to clean up even the dirtiest banks. Quotes obtained from local firms for jet washing were for the outside only of containers, but at various frequencies. A one off clean would cost around £20.50 per container. To do this monthly at the main sites would be about £13.80 and quarterly at the smaller sites about £14.65. The total costs, including a one off cost, are shown in Figure 17.

Figure 17: Cleaning costs comparison

| Scenario | Description | Approximate cost |
|------------|--|----------------------|
| | Jet wash all containers, one-off cost | approximately £2.2k |
| Scenario A | Wash monthly 37 containers (outsides only) at main sites, and 74 containers quarterly at small sites | approximately £10.5k |
| Scenario B | wash monthly 37 containers (outsides only) at 7 main sites | approximately £6.1k |
| Scenario C | wash monthly 60 containers (outsides only) at 13 sites | approximately £9k |

After a one-off clean, another option would be to require the collection contractor to note which sites require container cleaning and then to hire the jet wash contractor to clean the banks on an ad hoc basis.

Total Cost Comparison

It was intended that BDC pick and mix from the options given above, to best suit its own purpose; however, the total cost profile to include new containers, road signs, information boards, large and small vinyls and cleaning are summarised in Figure 18 below:

Figure 18: Comparison of the total improvement costs

| Scenario | Description | Approximate cost |
|------------|--------------------------|----------------------|
| Scenario A | Improve all 60 sites | approximately £86.4k |
| Scenario B | Improve the 7 main sites | approximately £27.5k |
| Scenario C | Improve the 13 sites | approximately £45.1k |

**Further Information
(Both Cost Case Studies)**

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6. Types of Bring Recycling Containers and Systems

Bring Recycling Containers There are a choice of container designs available to use for bring recycling. They vary in terms of capacity, lifting and servicing features, materials they are constructed from, capability to be branded and carry user information, and prices.

The choice of container will ultimately come down to what suits a particular authority, in terms of available sites, service vehicles, materials to be collected, budgets and preference of the contractor (if collections are out sourced).

Bring Recycling Systems In the past, bring systems were principally designed for ease of use by the collector. This often means that containers are large, hard wearing and not very customer friendly. This has resulted in sites that are big and bulky, with bank apertures relatively high from the ground due to the overall size of the banks.

A new range of bring systems are being developed which are more stylized, customer friendly and carry advertising to cover some of the costs of installation and servicing. These systems have been designed to be more appropriate to high profile locations and to meet the needs of both the consumer and the collector.

Some systems have been designed to suit high density housing and are smaller in scale to fit to smaller space requirements.

Tabled Information The two tables (Figure 19 & 20) on the next three pages summarise the types of both bring recycling banks and bring recycling systems that are currently used in the UK.

Figure 19: Types of Bring Recycling Banks

| | Container Size | | Material Type | | Design and Complexity | | Existing Fleet | |
|-------------|--|--|---|--|--|---|--|---|
| | Large | Small | Plastic | Steel | Basic | Complex | Fit to Fleet | New Vehicle |
| Pros | <ul style="list-style-type: none"> • Larger Capacity • Empty less frequently • Harder to push over and move • Easier to see • Bigger space for words/ signs/ information • Cheaper vehicle can collect • Can be 1 operative to service site generally who can drive and collect container | <ul style="list-style-type: none"> • Easier to site in smaller locations • Less visually intrusive • Can locate closer to housing • More easily integrated with kerbside • Collection by standard RCV • Less vehicle access problems as containers can be wheeled to vehicle | <ul style="list-style-type: none"> • Can be lower cost • More flexible designs • Don't rust • Solid colour so scratches don't show through • Embossing of words/ emblems and logos • Lightweight • Less noise issues for glass collection • UV resistant in many cases • Can stand most aggressive cleaning agents | <ul style="list-style-type: none"> • Good fire proof qualities • Robust material • Hard wearing • Galvanised gives protection against the elements and fine finish • Can be refurbished | <ul style="list-style-type: none"> • Simple to understand • Often cheaper • Low maintenance • Fit to existing fleet • Low replacement costs • Lower risk • Maintenance agreements available | <ul style="list-style-type: none"> • New designs have better public acceptance and become part of built environment • Higher participation • Lower vandalism rates • Higher tonnage • Serviced offering • Revenue from advertising • Improved service standards • Can help get planning permissions more easily • Can include servicing and maintenance agreements | <ul style="list-style-type: none"> • Simple • Easy decision to approve • Low cost • Known knowledge • More flexibility • Less or no training required as staff are aware • No buy in time required • Cheaper costs • More choice • All other parts of the business/ authority will probably be compatible with service format, spares, maintenance, etc. | <ul style="list-style-type: none"> • New technology Allows for new systems • May benefit other part of service • Opportunity to have vehicle which can lift various types of containers – large and small • Allows for change, progress and flexibility |
| Cons | <ul style="list-style-type: none"> • Specialist Vehicle to lift banks but can be cheaper than RCV • Higher apertures to reach sometimes • Take up a lot of floor space • Require flat safe lifting area • Checks for safe lifting (H&S) • Can be more visually intrusive • Bigger surface area to maintain • Can have access problems due to size of container and vehicle | <ul style="list-style-type: none"> • Require more frequent servicing • Easier to push over and move • Less visual impact • Wheels can buckle and become faulty • Lids can break or be lost • Not suitable for all material collections (OCC - cardboard) • May need 2 men to service, 1 driver and 1 operative to help wheel containers | <ul style="list-style-type: none"> • Banks will burn • Damage needs plastic welding or patching • Can be difficult to attach vinyl stickers to • Can suffer damage more than steel when lifted with heavy weight on regular basis | <ul style="list-style-type: none"> • Noise issues with glass banks though liners can be installed • Will rust with low maintenance • Hold dents and bumps | <ul style="list-style-type: none"> • Banks look old quickly unless maintained on regular basis • Hard to sustain and improve levels of participation • Pressure from land owners and neighbours to improve sites | <ul style="list-style-type: none"> • Can require planning permission • Can require ground works • May need specialist collection vehicle • Higher costs • Need to use in high profile locations to justify costs or advertising opportunities • High replacement costs (should be insured) • Hard to get support for new ideas sometimes | <ul style="list-style-type: none"> • Old system • No progress • Older vehicles sometimes and therefore more breakdown/ down time • Less Choice • Less flexibility | <ul style="list-style-type: none"> • New technology • Need for training • Worries about change • Less or no compatibility with existing support functions |

Figure 20: Types of Bring Recycling Systems

| | Description | Materials | Features/ Uses | Volume | Costs per container* £ | Extra Options/ Services etc. |
|--|--|--|--|--|---------------------------|--|
| Small Household Systems | Small volume wheeled bins. Some have coloured lids and apertures for allowing paper, bottles and jars, cans, etc., to be deposited into the containers | Plastic moulded containers | These containers are often used to provide facilities at multiple occupancy residences, small local facilities with space restrictions, pedestrians areas and events | 120 litre, 240litre or 360 litre for wheeled bins. (0.1m ³ to 1m ³) | 100 - 300/ unit | Coloured lids, coloured bodies, apertures in lid, frames to secure containers to ground/ walls, lid restrictors, wheel locks, delivery, installation and maintenance, hot foil stamping. |
| Mini Recycling Centre Systems | Small to medium volume wheeled bins. Some have coloured lids and apertures for allowing paper, bottles and jars, cans, etc., to be deposited into the containers | Both plastic or steel bodies. Both have plastic lids. | These containers are often used to provide facilities at multiple occupancy residences, small local facilities with space restrictions, High density bring, on street, pedestrians areas and events. | 440 litre to 1280 litre for wheeled bins.(0.3m ³ to 1m ³) | 250 - 350/ unit | Coloured lids, coloured bodies, apertures in lid, frames to secure containers to ground/ walls, lid restrictors, wheel locks, delivery, installation and maintenance. |
| Igloos, Hoop/ Hook Lift Banks, Hi-Ab Containers | Larger volume hard standing containers. Solid colour bodies which have apertures for allowing paper, bottles and jars, cans, etc., to be deposited into the containers | Banks are manufactured in plastic, fibre glass and steel. Most banks have a steel lifting hoop/ hook. The base of the unit opens to allow material to be released into collection vehicle. The banks require a crane / Hi-ab lift to position, move and service banks. | The larger volume containers provide a system for collection which allows more material to be collected prior to the bank requiring serviced. They come in ranges of colours and designs and due to their size and volume prove more difficult to move or push over. | 2m ³ to 3.5m ³ | 385 - 550/ unit | Coloured lids, coloured bodies, apertures in lid, frames to secure containers to ground/ walls, lid restrictors, wheel locks, delivery, installation and maintenance |
| Large Skip Containers/ FELs | Larger volume hard standing containers. Solid colour bodies which have apertures for allowing paper, bottles and jars, cans, etc., to be deposited into the containers | Skip type containers of much larger capacity. Steel fabrication. FELs can have either steel or plastic lids. Skips are lifted by either chain lift or roll on roll of systems. Placed on flat hard standing. Larger footprint than other systems as individual unit but much larger capacity | The larger volume containers provide a system for collection which allows more material to be collected prior to the bank requiring serviced. They come in ranges of colours and designs and due to their size and volume prove more difficult to move or push over. Skips are lifted by either chain lift or roll on roll of systems. | 3m ³ to 30m ³ | 550 - 4000/ unit | Various coloured bodies and lids if using FELs, locks, lifting apparatus, delivery and maintenance. |

Figure 20: Types of Bring Recycling Systems cont.

| | Description | Materials | Features/ Uses | Volume | Costs per container* £ | Extra Options/ Services etc. |
|--|--|--|--|---|--|--|
| Recycling Banks and Housing/ Street Furniture | Visually attractive systems designed to become part of the street furniture of an area. Modular designs, patterned formats to allow for different layouts, advertising/ awareness raising panels, lighting, signage, etc., Many come in a range of colours and sizes, they have both integrated and internal bins for storing and servicing banks. | These systems are normally wheeled bins or cages clad to hide the operational storage container serviced by the collector. The designed unit provides a pleasing design to help with planning issues and acceptance from the general public. The more aesthetically pleasing design can allow for the possibility of advertising revenue to be derived from the banks. The banks can require floor fixings | Range of materials but predominantly steel facing. Larger units have specialist materials for roofing and lighting fixtures. | 3m ³ to 15m ³ (depends on individual bay size and numbers of bays specified.) | 250 unit/ bay to 2500 unit/ bay | Site surveys can be required. Options for lighting, colours, advertising, delivery and installation. Some companies offer service and maintenance agreements. Companies can also offer one stop shop service, maintenance and cleaning contracts with purchase. Advertising can be used to offset costs and some companies will assist with this or arrange this |
| Under/ ground Systems | Systems designed to become part of the street furniture of an area but key difference to other systems is the banks are sub street level with deposit stations above ground. Modular designs, patterned formats to allow for different layouts. Different apertures allow for the deposit of paper, cans, glass, etc., Some systems allow pneumatic lifting equipment to raise banks out of ground for servicing and others use hook lift and hi-ab technology to service internal containers. | Range of materials. Underground chambers are normally concrete construction with steel inners built to a similar design to large hook lift steel banks. Above ground has a range of formats but often come in coated steel and plastic fixtures which allow for the deposit of various materials | System requires underground bays into which steel containers are fitted. Above ground steel, plastic and wooden access chutes allow material to be deposited. Some systems allow pneumatic lifting equipment to raise banks out of ground for servicing and others use hook lift and hi-ab technology to service internal containers | 3m ³ to 15m ³ (depends on individual bay size and numbers of bays specified.) | 5000 bay plus consideration of appropriate investment in lifting/ servicing vehicle. | Site surveys and site ground works. Maintenance, installation and delivery. Consultation on lifting gear to empty banks. Card sweep systems can be installed to restrict access or allow for monitoring of use at site. |
| Reverse Vending Systems | Intelligent technology, processing and storage systems designed to become part of the street furniture of an area also but key difference is the banks are designed to allow deposit of materials, crushing, shredding and conveyance of material to storage bays. | The systems can recognise bar codes, material types, sort and handle material appropriately. Patterned formats to allow for different layouts. Different apertures allow for the deposit of paper, cans, glass, etc., Systems allow for a range of materials and collection containers for servicing. The system can also pay out incentives based on requirements of client. | Range of materials but predominantly steel facing. Larger units have specialist materials for roofing and lighting fixtures. | 3m ³ to 15m ³ (depends on individual bay size & numbers of bays specified.) | Models can vary in price from 10,000 up to as much as 100,000 for fully installed and commissioned units | Site surveys and site ground works. Maintenance, installation and delivery. Consultation on system requirements. Card sweep systems can be installed to allow deposit incentive systems to be used, restrict access or allow for monitoring of use at site. Advertising, cleaning and maintenance available. |

7. Case Studies and Strategic Reviews

Introduction

The following case studies and strategic reviews provide practical examples of why some local authorities have chosen a specific operational strategy for their bring recycling, their experiences and the outcomes of their decisions.

They aim to give a practical understanding of the issues faced by each authority and the strategy taken to address them.

The Case Studies

Increasing Performance

Organisations who have changed the design of their sites to tackle issues related to bring, resulting in increased coverage and performance:

- Birmingham – Castle Vale Community Environmental Trust
- South Somerset District Council

Involving the Local Community and Incentives

A Council who has invested in developing strong links with the community and embedding the ethos of recycling at an early stage

- London Borough of Redbridge
-

The Strategic Reviews

Encompassing Hard to Reach Areas

Review written by SNU, citing a number of Councils who have tackled bring recycling in flatted properties.

Data Collection

A Council which has recently been assisted by the Local Authority Support Unit of DEFRA, in reviewing their bring systems:

- Liverpool City Council
-

Birmingham – Castle Vale Community Environmental Trust

Background The Castle Vale Housing estate near Castle Bromwich is one of the UK's largest post war developments, with over 4000 properties within its boundaries. The estate has been undergoing a programme of regeneration for the last 10 years.

In 2002, the Housing Action Trust identified a need to improve upon the existing recycling provision for the estate. At that time the only facility was a single bring site at a local supermarket, consisting of a series of igloo banks for the recycling of paper and glass.

Issue The location of the site meant that many residents were excluded from recycling as they needed a car to reach the site. The site also suffered problems related to vandalism and was not felt to provide the level of service and quality which residents wanted. As a result recycling rates for the estate were very poor.

Process A group of local organisations required to be involved in the project were brought together to discuss developing recycling across the estate, including the Local City Council, the Castle Vale Community Environmental Trust, The Housing Action Trust, local collectors and the residents representatives; the Residents Environmental Group.

The start point for the development was to establish what material was being recycled, what could be recycled in larger volumes and what the best way to do it would be.

The Castle Vale Housing Association and Environmental Trust carried out an environmental study across the estate, including a waste audit, which found that large proportions of glass and metal existed in the waste generated by householders.

Solution The partnership decided to target these materials for collection and in February 2004, Castle Vale Community Environmental Trust installed a network of five underground bring bank sites across the Castle Vale estate.

Different suppliers and container designs were considered by the development group, but it was a local company, Egbert Taylor, that was selected to supply the underground banks. The service the company provided in identifying the best options for the estate was a key factor in deciding to use this type of system and manufacturer.

Introduction of Underground Banks The banks sit below the ground and are located in readily accessible points in the housing areas. There is access for parking and all that is seen above the ground are the small units for posting materials for recycling (left).



Picture Kindly Supplied By Egbert Taylor and Company Ltd

The new sites were identified through consultation with local residents and site surveys, to ensure that the ground works could go ahead safely and unhindered by underground services.

The new bring systems were also complemented by the introduction of a kerbside paper recycling

service, which was rolled out to over two-thirds of the estate at the same time as the installation of the banks.

Promotion

The installation of the new sites has been supported by a promotional campaign by the local radio station Vale FM and through the local newsletter. Details about the sites, their location and the history of the sites and project are also placed on the Castle Vale Environmental Trust website, the details of which are provided below.

Costs

The Trust indicated that costs of the banks and installations have been higher than using more standard banks, such as igloos or wheeled containers, but the returns have been worth the investment.

The capital costs have also been met as part of a regeneration budget, as opposed to the recycling budget from the City Council.

It is estimated that the average costs of underground banks, for the containers, groundwork and installation are approximately £5000 per module. However, these costs vary according to individual quotes, sites surveys and order quantities.

Results

The local residents like the new banks, which they feel are convenient and non intrusive. Vandalism problems have reduced since the introduction of the new banks and there is a feeling that the new development has improved the environment in the local area.

The performance results of the new bring sites are very promising, with improvements in tonnages collected; the rate of paper recycling has doubled since the first week of the collections starting. Actual weights have been very hard to get as the bring sites are serviced as part of a round and therefore no site specific data is available.

The banks are serviced by the City Council, with no issues to date. The Following the success of the Castle Vale bring sites, the Council has decided to introduce a further 11 underground sites in other districts of the City.

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<http://www.cvcet.org.uk/castle vale/projects page/recycbin>

<http://www.cvhat.org.uk>



Picture Kindly Supplied By Egbert Taylor and Company Ltd

South Somerset District Council

Background

South Somerset has 95 bring recycling sites across the authority, with a relatively high performance rate of 59.9 kgs/hhd/annum. This places it in the top 10% of local authorities in the UK.

In addition to bring recycling, the Council has introduced a kerbside recycling scheme, with 64,500 households (over 95% of the total housing) now receiving a fortnightly collection of papers, cans and textiles. However, not all of the houses and developments in the area are suitable for a kerbside collection service, such as high density housing and flatted properties.

Issue

The bring site network in South Somerset has seen a drop in recovery rates since the implementation of the kerbside scheme.

Solution

In order to complement the kerbside collection scheme, optimise the performance of bring recycling and to provide a more inclusive recycling service to householders, the Council has recently introduced 50 micro recycling sites to high density housing and flatted properties in the area. This brings the total number of bring sites in the network to 142.

The Council bid for funding from DEFRA in 2002/03, in partnership with neighbouring local authorities (Mendip, Taunton Deane and Sedgemoor District Councils), which intended to install similar facilities in their areas.



Pictures Kindly Supplied By Peter Ridley Waste Systems

Process

The Council worked with local housing associations, residents groups, land lords and tenants, to consult upon appropriate sites for the new micro centres. The consultation involved the design of the site, the location, the number of banks per site, sign posting and the materials to be collected.

Council officers made site visits to identify potential micro sites prior to the consultation process with residents. They consulted on the placement of the banks and the number required for uplift, through face to face consultations and letters.

The process took four to six months in total from identification of sites, consultations and finally installation of banks.

Introduction of Micro

The micro sites consist of a number of 240 litre wheeled bins, which have lid apertures suitable for the collection of various materials – paper, mixed glass

Recycling Sites and cans. In some circumstances stands have been provided to ensure the containers are locked in situ.



Pictures Kindly Supplied By Peter Ridley
Waste Systems

The collection of the banks has been incorporated into the collection contract operated on behalf of the Council by ECT, which service the banks using a standard 17 tonne split recycling vehicle on a fortnightly schedule.

Promotion and Awareness of the Recycling Services

Both South Somerset Council and ECT have promotional information and literature regarding their recycling services on their websites.

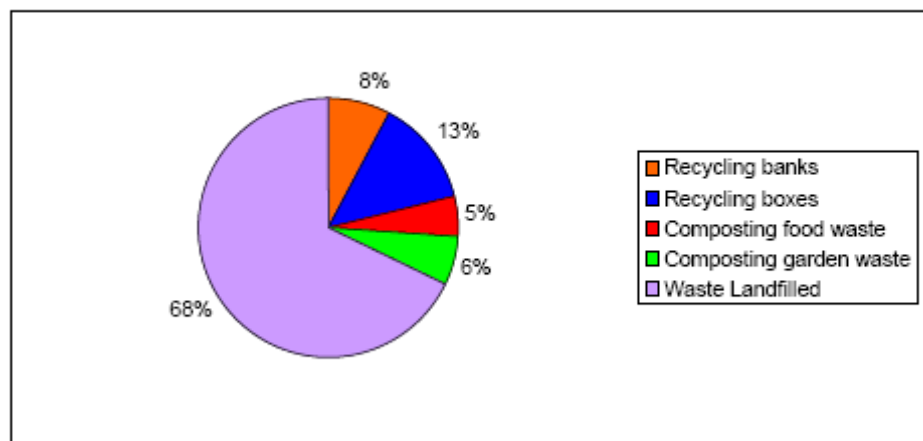
The Council website provides a bank locator which details the sites and services available, to inform the consumer of the nearest facilities to their homes. The locator also allows householders to search the network of banks by material to find specific services for recycling aluminium, glass bottles and jars, etc.

Both the ECT website and the Council website give details of what can and can't be recycled to educate householders on what to put in recycling containers and to reduce levels of contamination.

Performance of Bring in South Somerset

Figure 21 South Somerset Waste Collection

Recycling Rates for August 2005



The chart above (Figure 21) shows that bring recycling in South Somerset contributes 8% of the total materials collected for recycling in the area. The box system collects 13% of the recycling tonnage and therefore bring is still a significant contributor to recycling performance in the area.

The Results

There are no detailed costings or tonnage information available from the scheme as of yet, but the new micro sites have been deemed a success and there are already plans to expand the scheme to more properties in the area.

There have been some minor problems with contamination at the micro sites, which the Council is working with residents to resolve.



**Further
Information**

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London Borough of Redbridge

Background

London Borough of Redbridge provides local residents with access to a network of 69 bring recycling sites across the authority. The sites are regularly serviced and maintained by Shanks East London.

They presently divert a relatively high amount of material through their bring network; just over 27 kg/hhd/annum. This is in conjunction with operating kerbside recycling across 98% of the authority. The materials collected on kerbside are the same as those collected on bring; papers, plastic, glass and cans. They are collected co-mingled and on a fortnightly basis.

Good Practice

London Borough of Redbridge provides several good examples of the benefits of raising awareness and involving the local community in bring recycling and the wider local authority waste strategy.

Redbridge promotes its recycling centres through various media, including their website, where information on the importance of recycling, locating recycling services and what is expected of you when you arrive at a recycling site is available.

Community Involvement

Redbridge offers an “adopt a site” scheme where local community groups are encouraged to look after the bring recycling sites in their area. The groups monitor site performance, encourage higher use of the site and report overflows and vandalism/repair requirements on a daily basis. For their assistance they are rewarded by the local council through receipt of a small quarterly payment.

A link to the Redbridge “Adopt a Site” report form is given below:

<http://www.redbridge.gov.uk/toolkit/publication.cfm/755/1409/Page/Order>

"The group promotes our sites at every opportunity - newsletters and meetings - this benefits both parties by advertising the sites and by emphasising our environmental objectives. Speaking to 'customers' when they are recycling, similarly provides a means of advertising our group and attracting new members for Barkingside 21."
Barkingside 21

Results

The scheme has run since early 2002 and in 2006 there are now at least ten local community groups involved in adopting and encouraging the use of 13 public recycling centre sites in Redbridge.

The groups look after one or more sites and receive a maximum payment of £51 per site, per quarter. In return groups must provide regular reports on each site, their operation and cleanliness, and make suggestions on how to promote and improve the site over time. The reports are submitted monthly and are logged by the local authority to ensure that comments are read, taken on board and, if appropriate, responded to.

These sites have had fewer complaints about them than other sites throughout the Borough, even withstanding the fact that complaints are relatively rare in the area. The sites have also been popular with local communities as a result of the involvement of the community groups in promoting them.

High Density Housing

Redbridge has also installed 180 recycling centres at 160 flatted properties throughout the area. These recycling points are collected as part of the kerbside collections operated by the contractor, Shanks East London, and Redbridge. The sites have one container for papers and another for a mix of plastic bottles and cans.

The officers are pleased with the inroads these centres have made into tackling high density housing in the area; they feel that involving the local community at various levels and consulting widely with local residents has assisted in gaining so many sites, so quickly.

School Involvement

Redbridge also offers recycling services to local schools, embedding the recycling ethos at an early age. They employ a recycling education liaison officer who co-ordinates the schools recycling programme and visits to assist with various recycling projects.

The scheme has been successful with recycling bring sites operated in 93 of the 96 schools in the area. The collections are for papers, mixed plastic bottles and cans. Significant levels of recycling have been achieved through this route. Redbridge feedback recycling performance levels for each of the schools involved through their website, reporting on their efforts and encouraging higher levels of recycling.

<http://www.redbridge.gov.uk/housing/schoolsrecycling.cfm>

Close working with Recycling Contractor

Redbridge also feels that a great deal has been achieved through working closely with the waste contractor for these recycling contracts. The contractor is Shanks East London and they are responsible for the kerbside collections, the community recycling points at high density housing and the public bring recycling sites.

Shanks East London provides an educational liaison officer for the contracts in the east of London, who works closely with the Local Authority on their schools programmes and educational resources. They also provide up-to-date, accurate data on the initiatives, to provide regular feedback on contract performance.

**Further
Information**

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Siri Mittet

Recycling Education Liaison Officer

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Strategic Review: Developing Bring Sites to Provide Convenient Recycling in Blocks of Flats

Introduction

Interest in providing recycling facilities for residents in blocks of flats has grown as councils have come under pressure to meet recycling targets and as flat dwellers have demanded access to local recycling facilities. This is not surprising as there are 3.43 million flats in England; 17% of total housing provision.¹⁶

There are a number of questions this review aims to answer:

- How can genuinely convenient recycling facilities be provided that residents are likely to use?
- How can councils ensure that sufficient recycling capacity is provided so that flat dwellers have a chance to contribute fully to recycling targets?
- What part could bring recycling systems have in all of this?

A number of councils have worked hard to provide convenient recycling facilities for flat dwellers. Now simple tools have been developed to help councils plan even more effective flats recycling schemes. Often the answer will simply be well sited, well serviced bring sites. This review explains how.

General Waste Collection from Flats

There are perhaps three distinct approaches¹⁷ to the collection of refuse from blocks of flats:

- Refuse chutes in which residents deposit material in a hopper usually on the nearest landing. Material falls down the chute into a bulk bin placed below it
- Door-to-door refuse collections in which care-taking or waste management staff remove waste left outside individual flats on designated collection days
- Bring communal refuse arrangements in which flat dwellers themselves take their waste to a ground level refuse area which might be a room, a shed, an open compound, or simply containers in a car park or by a pathway

In many (although not all) local authorities **bring communal refuse areas** are the most common method of waste management from blocks of flats, as demonstrated in recent surveys undertaken by groups like SNU under the WIP LASU scheme.

For example of a sample of 89 blocks of flats in Brighton surveyed in 2005, 63 were found to have **bring communal refuse areas** including several 12 storey tower blocks, 15 had serviced door-to-door refuse collections and only 11 were equipped with refuse chutes.

¹⁶ Table S120, *Type of accommodation and whether self-contained by tenure* in Trends in tenure and \Cross tenureTopics (General) ODPM, 2005, www.odpm.gov.uk

¹⁷ A small number of blocks of flats have the Garchey system in which food waste, cans and glass can be disposed of through the kitchen sink. The organic matter is removed with the waste water while the cans and glass are pumped at intervals into collection vehicles from retaining tanks.

Also surveyed in 2005, all 198 blocks of flats in South Bedfordshire totaling over 3,000 dwellings were found to have **bring communal refuse facilities**.



Bring Refuse Systems for Blocks of Flats: Top left: internal bin room reached by hatch, ground floor 12 storey block Brighton. Top right: External bin shed serving four-storey blocks of flats Redbridge. Bottom left: Fenced open air bin compound at side of three-storey block Crewe & Nantwich. Bottom right: Informal bin area in car park for block of flats in South Bedfordshire.

SNU has been surveying blocks of flats to help plan convenient recycling facilities for several years. SNU has found **communal bring refuse collection** to be much the most common method in blocks of flats surveyed for example in such authorities as South Oxfordshire, London Borough of Redbridge, Braintree and South Ribble.

The convenience of kerbside recycling and therefore its success in attracting significant participation is a function of its requiring the householder only to separate and save targeted recyclables. The householder takes the recycling to the same place as they take their refuse usually on the same day of the week

It is this matched convenience between recycling and refuse that can be offered to residents in flats with communal bring refuse by simply installing bring recycling facilities in or very close to the existing refuse areas.

Bring recycling alongside communal bring refuse



Bring recycling alongside bring refuse for blocks of flats: Clockwise from top left: 1100 litre refuse bin and adjacent sets of 240 litre recycling bins for flats at Ellesmere Port and Neston Borough Council, top right: 1100 litre refuse and 1100 commingled recycling bins in open walled bin area on large flatted estate Wandsworth; bottom right enclosed commingled recycling and refuse bin in covered waste and recycling area, block of flats South Bedfordshire; bottom left enclosed refuse area with adjacent recycling containers, block of flats, Colchester Borough Council

Does it work?

Already significant numbers of authorities offer this type of recycling to residents in flats. SNU are aware of combined bring refuse and recycling locations in Colchester, Tendring, Ellesmere Port & Neston, Elmbridge, Redbridge, Wandsworth, Westminster, South Bedfordshire and elsewhere.

One significant difficulty in assessing these and other approaches to recycling from flats is a dearth of performance data. It is rarely operationally practical to confine recycling or waste collections solely to blocks of flats and so weights based data exclusively from flats is often unobtainable unless authorities invest in on board weighing.

Some authorities have, however, been able to generate tonnage data from their flats recycling schemes. This has produced a wide range of performance spreads. For example:

- Westminster report that their flats recycling schemes secure an average of 67 kg per flat served per year, with the best securing 115 kg and the worst only 18 kg per flat per year. Westminster is achieving an average of about 11% diversion and a top performance of 18.5%
- Redbridge report a more modest collection achievement of 36 kg of recyclables per flat served per year¹⁸. Although there are some variations driven mainly by household size, a recent study of household waste composition¹⁹ reported that the average waste arisings for flats is 11.9 kg per household per week or about 620 kg per annum. This suggests that the

¹⁸ Data from *Recycling for Flats*, WasteWatch with SNU for DEFRA, forthcoming

¹⁹ *Variations in the composition of Household Collected Waste*, Jim Poll, AEA Technology for shanks.first, December 2004

Redbridge programme might be diverting about 5.8% of flats based household waste

However, until more effective means of comparing collected recycling with residual refuse from the same flats are found, a rather unsatisfactory element of calculation and estimation will govern the performance assessment of these schemes.

Operational Problems

Waste composition studies of the contents of refuse and recycling containers are planned for some blocks of flats in the Wandsworth flats recycling scheme in spring 2006. This will allow a more accurate assessment to be made of the effectiveness of the scheme, though of course it will be only a snapshot.

Obviously with multiple users, it is more difficult to prevent or to remedy any problems of contamination and misuse in this approach to recycling. Some authorities have reported serious contamination problems, and some have even moved recycling sites away from refuse areas in an attempt to minimise contamination. However it is not always clear whether contamination is because of resident misuse, a consequence of fly tipping or because of inadequate refuse capacity.

Without matching residual or refuse data, it is not possible to work out the diversionary achievement of these schemes

Planning for a successful scheme

Careful planning of bring recycling facilities might help to maximise recycling performance and counter contamination difficulties. Organisations like SNU and WasteWatch carry out detailed surveys of communal bring sites to advise authorities on appropriate recycling arrangements. These surveys consider:

- the type and weekly capacity of current refuse containers
- whether there are current waste management problems such as overflows or littering
- what elements of the waste stream are to be targeted for recycling
- what type, capacity and collection frequency of recycling containers might be appropriate to secure a proportionate contribution towards recycling targets
- whether there is sufficient space to accommodate recycling containers within or alongside existing refuse containers
- vehicle access
- identification of landlords if not known
- identification of local caretaking staff and residents' representatives.

It may well be that surveys of this type will indicate that there are waste management or space limitation problems which should be resolved before the introduction of any recycling programme.

Liverpool City Council (LCC)

Background

In 2003, LCC took steps to improve its recycling performance through introducing kerbside collections schemes across the city, in addition to its bring recycling network. This was supported by a comprehensive education and awareness programme.

The authority recognised that participation at its 26 bring recycling sites might drop following the introduction of the kerbside system. In an attempt to maintain and further grow recycling tonnages and ensure that there remained a complementary collection to the kerbside system, a strategy was drawn up to increase the density of bring banks across the City.



Increasing Bring Bank Density

A target was set to develop an operational network of 275 sites by March 2005. Initial progress to identify new sites was fast, but it soon became increasingly difficult for new sites to be identified. Between November 2003 and October 2004, the Council increased the number of sites from 26 to 160.

Furthermore, maintaining some of the existing sites became difficult, as problems associated with anti-social behaviour resulted in a number of sites having to be withdrawn.

Servicing & Data Collection

Both ACRE and GRUK are contracted by the LCC to place the recycling banks at sites, service and maintain them. They also ensure the cleanliness of the sites, that overflows do not occur, carry out emergency clean up of sites, report and manage issues related to vandalism and assist in locating potential new sites.

Both contractors provide collection data to the local authority to enable site performance to be monitored and to assess the performance of the network overall. The data is both site and material specific.

It is supplied in both paper and electronic format and stored in a computer database. The database is updated monthly and allows officers to see both monthly summaries of collection data and site specific data, on a collection by collection basis.

Affect on Bring Recycling

The data was used to assess individual site performance and material performance in Liverpool during the introduction of kerbside collections. Initially, material tonnages collected at the bring sites did drop, however more recently council officers have observed tonnages rising again. Officers felt

that tonnage fell significantly in the first 6 weeks of collection, before starting to rise.

Incentive Schemes

LCC have worked with schools and community business and run incentive schemes, rewarding local causes based on the performance of recycling in the City, to encourage higher participation and performance in recycling.

Service Levels

LCC have also put in place contracts designed to improve the bring recycling service and have used policies and procedures to manage the location, development and servicing of sites. This work has improved service levels overall across the City, but the performance of the bring network remained low, suggesting that a different approach was required.

Strategic Review

Liverpool City Council decided to review the performance of their bring network, to establish whether their strategy of developing a high density bring bank network was still appropriate, following the expansion of kerbside recycling across the City.

To assist with the review, they received funding from the Local Authority Support Unit (LASU) of DEFRA. This enabled them to contract a consultancy to provide them with 30 days of support over a 3 month period.

Key Results

- The top 12 performing sites (of 160) in Liverpool deliver 77% of the total tonnage collected in the City (approximately 1647 tonnes of material)
 - This pattern is similar across all materials; the top performing sites deliver the vast majority of the total material collected in glass, paper and metals
 - The highest performing banks, in terms of tonnages collected, are predominantly located at retail sites
 - 65 of LCC's bring sites return less than 1 tonne of material per annum
 - 95 of LCC's bring sites return between 1 and 2 tonnes of material per annum
 - (An established recycling company quoted between 1.5 and 2 tonnes a month of material **excluding** glass as a respectable figure to achieve in terms of performance.)
 - A 1% improvement at Liver pools top 6 sites would return a 13 tonne performance improvement
 - A 1% improvement at the 95 sites returning 1 to 2 tonnes of material, would result in just over half a tonne of extra material
-

Conclusion

The results suggested that site density was no longer the most important factor in achieving high performance levels across the bring network. A greater return on investment was believed to be through LCC reconsidering existing procedures and policies and switching their focus to maximising performance at existing, or new, high performing bring sites.

Potentially, this could be achieved in a number of ways:

- Changing site designs at existing high performing retail locations
 - Gaining access to new retail locations
 - Working with the planning teams in the Council to identify potential new retail sites to be developed in the City over the next few years
-

8. Top Performing Local Authorities

| | |
|---|---|
| Introduction | This section discusses some of the similarities between high performing local authorities in England, in order for other Councils to consider what might assist them in improving their bring recycling performance. It is based uniquely on the data provided by local authorities to DEFRA for the 2003/04 statistical return and includes a summary of the main statistical findings. |
| Common factors | <p>By analysing the statistics it is possible to identify some similarities between the top 20 performing local authorities on bring recycling. It should however be remembered that this data does not consider factors such as access and signage to bring sites, parking space, bank design, etc.</p> <p>The highest performers don't share one common factor; rather they have a number of similarities. These vary in importance depending on the authority, which makes it difficult to directly compare one authority with another.</p> <p>General factors affecting the performance of bring are outlined earlier in section 2 of this Guide. Common factors shared between high performers on bring, are outlined below.</p> |
| High Paper & Glass Yields | Top performing bring authorities typically perform well on tonnages recovered from both paper and glass banks; nearly 75% of the top 20 high performing bring authorities have high yields from both of these materials; over 41kgs/hhd/annum for glass and over 27kgs/hhd/annum for paper. |
| High Bank Densities | 45% of the high performers had paper bank densities within the top quartile and 50% of the high performers had glass bank densities within the top quartile. |
| Low level of Deprivation | Only 2 of the top 20 performing local authorities had average deprivation levels above the national average of just under 19%. |
| Fortnightly Kerbside Collections | The majority of the Top Performers have fortnightly kerbside collections, including paper, across more than 50% of their area. |
| Regional Performance Levels | The majority of the Top Performers are in the South East, South West and London, with some in Yorkshire and the North West. Figure 22 below details regional performance levels: |

Figure 22: Regional Performance Levels

| | Average kgs/hhd/annum | | | | | |
|------------------------|-----------------------|-------------|------------|------------|------------|------------|
| | Bring Total | Glass | Paper | Metals | Plastic | Other* |
| North East | 16.8 | 9.5 | 5.4 | 0.2 | 0 | 1.7 |
| North West | 20.4 | 12.1 | 5.7 | 0.4 | 0.2 | 2.0 |
| Yorkshire and Humber | 33.7 | 16.2 | 12.1 | 0.6 | 0.5 | 4.3 |
| East Midlands | 25.8 | 15.4 | 6.6 | 0.5 | 0.7 | 2.6 |
| West Midlands | 27.0 | 13.1 | 8.9 | 0.4 | 0.2 | 4.4 |
| Eastern | 31.5 | 19.5 | 8.1 | 0.7 | 0.2 | 3.0 |
| London | 20.3 | 8.9 | 8.2 | 0.3 | 0.2 | 2.7 |
| South East | 43.8 | 25.2 | 10.6 | 0.6 | 0.3 | 7.1 |
| South West | 37.8 | 20 | 13.2 | 0.7 | 0.7 | 3.2 |
| England 2003/04 | 30.3 | 16.8 | 8.9 | 0.5 | 0.4 | 3.7 |

*Includes textiles and card

Examples of Top Performing Authorities

Surrey Heath Borough Council

Contact Details Derek Gutteridge
Surrey Heath House
Knoll Road
Camberley
Surrey GU15 3HD
Tel: 01276 707100
Fax: 01276 707177

Diversion from Bring 122.8 kg/hhd/annum (2003/2004)

Total Number of Bring Sites 61

Number at Retail Locations 7

Site Density 1 site for every 500 households
(except plastic and textiles at 1:2500 households)

Bring Materials Collected Paper, plastic, glass, textiles and cans

Deprivation Indices 4.9%

**Kerbside
Details**

Coverage - 100%
Materials Collected – Paper and cans
Frequency – Weekly

Special Interest

Surrey Heath meets all the criteria which assist in providing a high diversion rate from bring, as detailed above.

The Council recently surveyed 33,500 residents in the area as to their awareness of recycling services and their opinion of the quality of the service. They received a respectable 17% return, of which 91% said they used the bring network on a regular basis and that just under 70% were satisfied with the network.

Surrey Heath have focused on the cost effective option of bring recycling. The high density banks and the mix of materials including plastic have driven good performance, but now they need to focus on a combined strategy for both bring and kerbside. This must be done in a way which gets the highest performance out of both services.

In terms of good practice, this Council has high bring bank density and includes a good mix of material, including plastics, at most sites. They have utilised high profile sites, where possible, and have reviewed the existing service with householders to see if anything else can be done to improve the service.

Lewes District Council**Contact Details**

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Waste and Recycling Services
Lewes District Council,
Robinson Road
Newhaven

Julia Black,
Recycling Officer

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Tel: 01273 486619
Fax: 01273 486619

**Diversion from
Bring**

110.9 kg/hhd/annum

| | |
|------------------------------------|---|
| Total Number of Bring Sites | 100 |
| Number at Retail Locations | 8 |
| Site Density | 1 site for every 390 households (except paper and plastic bottles at 1: 500 households) |
| Bring Materials Collected | Paper, plastic, glass, textiles, card and cans |
| Deprivation Indices | 12.8% |
| Kerbside Details | Coverage - 80% Materials Collected – Paper, Cans, textiles, glass and Plastic Bottles Frequency – Fortnightly |
| Special Interest | <p>Lewes used to operate a mobile bring recycling system which arrived at set locations for a timetabled period and collected material from householders living in the location of the stop. The service enabled communities which did not have the appropriate space, location or desire to have a permanent site, to benefit from a recycling service. The authority utilised spare resource to provide this service, but has had to find alternative permanent sites now that the resource is no longer available.</p> <p>In terms of Good Practice, this authority provides a relatively high density of banks, across a good mix of materials, including plastic. They have been innovative in providing bring systems to areas which have either had no bring system, or kerbside collections, available in the past. The decision to use a mobile centre for a period of time was driven by consultation with the local community, opportunistic use of spare resource and cost saving measures.</p> |

South Lakeland District Council

| | |
|------------------------|--|
| Contact Details | Margaret Blackstone Recycling Officer Waste Minimisation and Recycling Team South Lakeland District Council Canal Head House Canal Head Kendal |
|------------------------|--|

Cumbria
LA9 7BY

Tel: 01539 717 195 or mobile 07773341472
Fax: 01539 737 659
Email: m.blackstone@southlakeland.gov.uk

Telephone: 0845 050 4434
Fax: 01539 717 262
Email: recycling@southlakeland.gov.uk

| | |
|------------------------------------|---|
| Diversion from Bring | 73.9 kgs/hhd/annum |
| Total Number of Bring Sites | 56 |
| Number at Retail Locations | 5 |
| Site Density | 1 site for every 850 households (except paper at 1:1200 households) |
| Bring Materials Collected | Paper, plastic, cans, textiles and glass |
| Deprivation Indices | 12% |
| Kerbside Details | Coverage - 30% Materials Collected – Paper, Glass and Cans Frequency – Fortnightly |
| Special Interest | <p>South Lakeland has carried out a lot of work on waste awareness and education work. They run a website for young recyclers called 'Sort It Out'. This site promotes the waste hierarchy and methods of reducing and recycling waste materials:</p> <p>www.southlakelandrecycling.co.uk/</p> <p>They also run recycling road shows around the District which provide local</p> |



householders, school children and other groups with up to the minute, comprehensive information and advice about what they can do to reduce waste going to landfill in South Lakeland.

Their website is comprehensive and provides details of how much has been collected by month, by material and by system. This provide householders with direct feedback on how well they are doing and reinforces the fact that the Council is taking time to appreciate the efforts of its citizens and setting them targets to achieve more.

www.southlakeland.gov.uk/main.asp?page=1061

In terms of Good Practice, South Lakeland have a relatively high density of banks including paper and glass. They have promoted and educated the local population, and visiting population, using a well designed web site, mobile promotional campaigns and the national waste awareness campaign.

Camden Borough Council

| | |
|------------------------|--|
| Contact Details | Ms Ann Baker, Asst Head of Service (Recycling) Camden Town Hall Extension Argyle Street London WC1H 8EQ Tel: 0207 974 1819 Fax: 0207 267 0763 |
|------------------------|--|

| | |
|-----------------------------|------------------|
| Diversion from Bring | 74 kgs/hhd/annum |
|-----------------------------|------------------|

| | |
|------------------------------------|-----|
| Total Number of Bring Sites | 153 |
|------------------------------------|-----|

| | |
|-----------------------------------|---------|
| Number at Retail Locations | Unknown |
|-----------------------------------|---------|

| | |
|---------------------|--|
| Site Density | 1 site for every 650 households for paper 1 site for every 1060 glass lower densities for plastic and textiles |
|---------------------|--|

| | |
|----------------------------------|---|
| Bring Materials Collected | Paper, plastic, cans, textiles and glass |
| Deprivation Indices | 35% |
| Kerbside Details | Coverage - 100% Materials Collected – Paper, Glass Textiles and Cans Frequency - Weekly |
| Special Interest | <p>Camden operated over 100 mini on-street commuter paper recycling points, capturing the high footfall of passengers using public transport in the Borough. These facilities provide a valued service for recycling the daily papers bought in and brought into the area.</p> <p>This project was carried out in partnership with 14 other London Boroughs and London Remade.</p> <p>The service originally targeted newspapers but some sites now have facilities for recovering plastics and cans and others are being developed to receive mixed recyclables.</p> <p>Contamination has been reported as low and the sites are appreciated by local householders and commuters alike.</p> <p>This Council has shown good practice in using bring to address a waste problem unique to certain parts of the UK. They rolled out on-street bring recycling points which have provided a service for both the commuting population and the local residents.</p> |

Warrington Borough Council

| | |
|------------------------|--|
| Contact Details | <p>Mr Peter Hyde Waste Minimisation and Recycling Warrington Borough Council Warrington WA1 1UH</p> <p>Tel: 01925 442586 Fax: 01925 442564 Email: phyde@warrington.gov.uk</p> |
|------------------------|--|

| | |
|------------------------------------|---|
| Diversion from Bring | 36 kg/hhd/annum |
| Total Number of Bring Sites | 29 |
| Number at Retail Locations | 10 |
| Site Density | 1 site to every 2800 households |
| Bring Materials Collected | Paper, card, glass, cans, textiles and plastics |
| Deprivation Indices | 19.4% |
| Kerbside Details | Coverage - 100% Materials Collected – Paper Frequency - monthly |
| Special Interest | <p>Approximately 96% of the dry recyclate collected in Warrington comes from bring sites. Although there is a relatively low density of banks in the area, sites are mainly based at high profile locations, offer a full material range for collection (including plastic bottle recycling), and complement a monthly kerbside paper collection. This means that bring recycling contributes a large amount of the total recycling tonnage achieved in this metropolitan area.</p> <p>It is important to remember that if the coverage of kerbside is low in an area and if the material collected on kerbside is a single stream such as paper then the importance of bring recycling is significant and bring sites will recover larger levels of materials.</p> <p>This is especially so if plastic recycling facilities are available at bring sites.</p> <p>This authority has not necessarily shown good practice but has shown that if bring is the only form of recycling in an area, it is important to still consider all of the options available to try to increase tonnage performance. They have placed sites at high profile retail locations, provided services for a range of materials including plastic and they have promoted the sites both on the web and through local promotional leaflets and advertisements.</p> |

8. Useful Information

www.recyclenow.com

The national waste awareness site for England is the consumer website which includes the bank locator.

www.recyclenowpartners.org.uk

The WRAP website which contains iconography, toolkits and common branding for bring and other recycling systems.

www.recycle-more.co.uk

An educational and awareness website which carries useful information on recycling and carries a bank locator for bring sites

www.lasupport.defra.gov.uk

The DEFRA website has toolkits on:

- Estates Recycling
- Procurement Toolkit
- Household Waste Recycling Centres

And other guidance on issues relating to bring and recycling in local authorities

WRAP/ROTATE provides advice to LAs on bring scheme enhancement and performance

Other useful websites:

www.wrap.org.uk

<http://www.alupro.org.uk/>

<http://www.britglass.org.uk/index.html>

<http://www.ciwim.co.uk/>

<http://www.scrib.org/>

<http://www.recoup.org/>

9. Glossary of Terms

| | |
|------------------------------------|---|
| Average Deprivation Indices | The indices collected and published by the Office of the Deputy Prime Minister. These measures look at levels of employment, literacy, housing stock and other indications of areas wealth and standards of living. This measure is an average of several of these studies. |
| Bank Density | The number of households to each site in an area. |
| Bring Network | The total amount of bring locations in an area. This includes the sites for one material and the sites which collect several. |
| Bring Recycling Site | A location to which householders and others can take recyclables to deposit into a container for collection and ultimately recycling. This guide does not include work related to civic amenity sites. |
| Container | The skip, bank, wheeled bin or other form of receptacle used to deposit recyclables into. |
| Contribution of Bring | The number of tonnes collected from bring sites and the level they assist achieving the recycling targets set for an area. |
| Dry Recyclables | Dry materials collected for recycling e.g. - paper, card, glass, cans, plastic bottles, textiles and foil |
| FEL | A container for recyclables or refuse which is loaded from the front end of the vehicle, over the cab and into the storage bay at the back of the vehicle. |
| Footfall | The number of pedestrians walking by a certain location |
| Frequency of Collection | This describes the time period between collections at the kerbside |
| Good Practice | A technique or technology which through research or experience has been proven to reliably lead to a desired result. Processes that represent the most effective way of achieving a specific objective. |
| Hi-Ab | A hydraulic crane system for lifting and emptying bring containers on site |

| | |
|-------------------------------|--|
| Hook Lift | A skip or hydraulic crane lift that uses a hook on the vehicle to lift a hoop on a container to take it away and empty it off site. |
| Igloo | A dome top large container with apertures for the deposit of recyclables and capable of being emptied on site. |
| Kgs /hhd / annum | Kilogrammes per household per annum |
| LASU | The local authority support unit of DEFRA |
| Material Mix | The range of materials you can recycle at one site |
| Micro Recycling Centre | A centre which is small in scale and normally consists of 140 litres or 240 litre containers which are sometimes attached to a frame. |
| Mini Recycling Centre | A centre which consists of one or more larger continental style wheeled bin containers. |
| Reverse Vending | A recycling system which allows various forms of packaging to be deposited into receptacles and vend a reward. The systems also have the capability to crush, shred, bale and convey materials to make their handling more cost effective. |
| Underground Centres | Centres which have the deposit point above the ground and a large volume storage container below ground. |