Recycling for flats

planning, monitoring, evaluating and the communication of recycling schemes for flats with case studies from the UK and abroad
This study was commissioned by Defra, Waste Implementation Programme, Local Authority Support Unit (WIP LASU).

The research has been carried out by Waste Watch and the Safe Neighbourhoods Unit.

Waste Watch is the UK’s leading national environmental organisation promoting sustainable resource management in the UK by campaigning for all areas of society to: reduce resource consumption, maximise resource reuse and increase the percentage of waste recycled. It occupies a unique position as a delivery organisation (working on the ground) that also provides analysis and policy commentary. Waste Watch is respected not only for its knowledge and experience in waste issues, but also for the objectivity embodied in its approach and for innovation in developing new ideas and addressing old problems. More information about Waste Watch can be found at www.wastewatch.org.uk.

The Safe Neighbourhoods Unit (SNU), is a not-for-profit research and development body with charitable status specialising in community development, community safety, regeneration and environmental improvement work in disadvantaged communities. SNU has undertaken research, consultancy and project development assignments for central government departments, local authorities, housing associations, environmental organisations and regeneration schemes throughout the UK. It was set up in 1981 and became an independent charity in 1990. Information about the scale and scope of SNU’s work can be found at www.snu.co.uk.

We gratefully acknowledge both the contribution of the authorities informing the final case studies and that of the many others involved in the early stages providing valuable information to assist the final selection.

This report for Defra was written by Claudia Kuss-Tenzer and Matthew Minchin of Waste Watch and David Birley of the Safe Neighbourhoods Unit, with support from independent consultant Julia Bragg.
### Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMARY OF HIGH LEVEL FINDINGS</td>
<td>6</td>
</tr>
<tr>
<td>PROJECT RATIONALE, SCOPE AND OBJECTIVES</td>
<td>7</td>
</tr>
<tr>
<td>The importance of providing recycling services for flats</td>
<td>7</td>
</tr>
<tr>
<td>Project rationale</td>
<td>7</td>
</tr>
<tr>
<td>REPORT STRUCTURE</td>
<td>8</td>
</tr>
<tr>
<td>METHODOLOGY</td>
<td>10</td>
</tr>
<tr>
<td>Case studies</td>
<td>10</td>
</tr>
<tr>
<td>Case study selection</td>
<td>10</td>
</tr>
<tr>
<td>Information gathering</td>
<td>13</td>
</tr>
<tr>
<td>Data limitations</td>
<td>13</td>
</tr>
<tr>
<td>Value of the case studies</td>
<td>14</td>
</tr>
<tr>
<td>Guidance documents</td>
<td>15</td>
</tr>
<tr>
<td>OVERVIEW</td>
<td>16</td>
</tr>
<tr>
<td>DEFINITIONS</td>
<td>16</td>
</tr>
<tr>
<td>COMMON DRIVERS</td>
<td>17</td>
</tr>
<tr>
<td>Meeting Targets</td>
<td>17</td>
</tr>
<tr>
<td>Social Inclusion</td>
<td>17</td>
</tr>
<tr>
<td>Resident demands</td>
<td>17</td>
</tr>
<tr>
<td>Taking advantage of external funding</td>
<td>17</td>
</tr>
<tr>
<td>COLLECTION METHODS AND ARRANGEMENTS</td>
<td>18</td>
</tr>
<tr>
<td>Central collection facilities</td>
<td>18</td>
</tr>
<tr>
<td>Combined refuse and recycling facilities</td>
<td>19</td>
</tr>
<tr>
<td>Near-entrance collection facilities</td>
<td>20</td>
</tr>
<tr>
<td>Door-to-door collection</td>
<td>23</td>
</tr>
<tr>
<td>Inclusion of flats in kerbside schemes</td>
<td>24</td>
</tr>
<tr>
<td>Recycling using refuse chutes</td>
<td>25</td>
</tr>
<tr>
<td>Provision of in-home collection containers</td>
<td>25</td>
</tr>
<tr>
<td>Arrangements for collection</td>
<td>26</td>
</tr>
<tr>
<td>Contamination</td>
<td>26</td>
</tr>
<tr>
<td>PLANNING THE SERVICE</td>
<td>28</td>
</tr>
<tr>
<td>Determining collection method, container location and capacity</td>
<td>28</td>
</tr>
<tr>
<td>Data collection</td>
<td>28</td>
</tr>
<tr>
<td>Involvement of residents and other stakeholders</td>
<td>30</td>
</tr>
<tr>
<td>Liaison with other local authority departments</td>
<td>32</td>
</tr>
<tr>
<td>Planning for future service provision</td>
<td>32</td>
</tr>
<tr>
<td>Communication and awareness raising</td>
<td>33</td>
</tr>
<tr>
<td>Informing multi-cultural communities</td>
<td>34</td>
</tr>
<tr>
<td>Incentive schemes</td>
<td>34</td>
</tr>
<tr>
<td>PERFORMANCE AND COST ASSESSMENT</td>
<td>36</td>
</tr>
<tr>
<td>Tonnage, participation and capture rate monitoring</td>
<td>36</td>
</tr>
<tr>
<td>Costs monitoring</td>
<td>36</td>
</tr>
<tr>
<td>RECYCLING FOR FLATS: HARD-TO-REACH RESIDENTS IN HARD-TO-REACH ENVIRONMENTS?</td>
<td>37</td>
</tr>
<tr>
<td>Flats as hard-to-reach recycling environments</td>
<td>38</td>
</tr>
<tr>
<td>Communal refuse facilities</td>
<td>38</td>
</tr>
<tr>
<td>Refuse chutes</td>
<td>39</td>
</tr>
<tr>
<td>Refuse door-to-door collections</td>
<td>40</td>
</tr>
<tr>
<td>Conclusions - The importance of surveys</td>
<td>40</td>
</tr>
<tr>
<td>Flat dwellers and the hard-to-reach</td>
<td>40</td>
</tr>
<tr>
<td>Tenure of flats and income of flat dwellers</td>
<td>40</td>
</tr>
<tr>
<td>Socio-economic status and participation in recycling</td>
<td>41</td>
</tr>
</tbody>
</table>
Summary of high level findings

From our study of 16 local authorities featured in the 2004 report and our work with eight authorities under the 2004/05 WIP LASU work programme, we found the following:

• A number of different approaches to including flats in recycling schemes are adopted, including the provision of communal containers at central and near-entrance locations, door-to-door collection and conventional kerbside collections. As highlighted in the 2004 study, the overriding concern in selecting collection methods for flats recycling schemes is to provide convenient and secure services at reasonable cost. There appears to be wide variation in the interpretation of this objective.

• Relatively few authorities plan flats recycling schemes through on-site assessments of the options for providing recycling services. Generally, collection methods were determined by the number of households served, the range of materials collected, bulk purchasing opportunities or availability of containers of particular sizes, vehicle constraints and contract specifications. Such a ‘one-size-fits-all’ approach can result in problems in implementing the scheme at sites where space for additional collection containers is restricted. There are many examples where this has resulted in the provision of recycling capacity which is inadequate for the number of households served and subsequent problems such as overflowing recycling bins and untidy bin stores.

• Although the 2004 study showed that one of the main drivers for providing flats recycling schemes is the need to meet statutory recycling targets, none of the authorities were found to have based the recycling collection container capacity on the volume of recyclables that would be required to allow the flats served to make a proportionate contribution to recycling targets.

• Many of the good practice lessons in communication and awareness-raising with residents in kerbside collection areas are equally relevant to communication with flat dwellers. Attitudinal research with residents of flats has highlighted the need for locally relevant, site-specific information if recycling facilities are to be used properly and regularly. Authorities can take advantage of the additional opportunities for communication presented by multi-occupancy buildings, for example making use of residents’ groups and providing information in communal areas. Face-to-face communication such as doorstepping has been shown to be equally valuable in the context of flats as in kerbside collections areas.

• The 2004 study noted a marked lack of performance measurement and this remains the case to date. Some authorities have gathered tonnage data from flats recycling sites. Several have been able to calculate the weight of recyclables collected per flat served per annum. However, none have so far been able to compare this data with tonnages of residual waste from the same flats. This may be possible in future as on-board weighing is introduced for both recycling and residual waste collections. None of the case study authorities have reported undertaking waste composition analysis from their flats. Diversion rates can only be estimated by comparing actual recycling performance with model waste profiles. It remains unclear therefore as to whether any of the flats recycling schemes featured here are making a proportionate contribution to meeting recycling targets.
Project rationale, scope and objectives

*The importance of providing recycling services for flats*

In England, comparatively few people live in flats. Of the 21.25m households identified in the 2001 census, only 19% (4.1m) were flats and only 14% (3m) were purpose-built blocks of flats. By contrast, 42% of households in France are flats, 61% in Germany, 62% in Spain and 65% in Italy.

It is perhaps unsurprising therefore that in England the provision of dedicated recycling facilities for flat dwellers, whether in estates, mansion blocks or high-rise blocks, does not seem to have been a priority for recycling policy makers. The language of recycling provision reflects the dominance of the *house* with references to *kerbside, doorstep and curtilage*.

Defra's interest in recycling from flats is principally driven by the perception that the logistics of collecting materials for recycling and composting is likely to be more challenging than in areas of street level housing. But it might be argued that recycling from flats in England is very much a secondary consideration given the relatively small numbers of the total population living in these types of housing. If there are serious logistical challenges to address as well, then why not focus all recycling effort on areas where kerbside recycling can easily be implemented?

A more detailed examination suggests that such a conclusion would be hasty. First, flats are not evenly distributed among English local authorities. Indeed, 112 of England’s 348 councils at borough or district level have more than 10,000 flats each in their total housing provision. Thirty-four councils have over 20,000 flats, and ten have more than 40,000. For these councils, to make no dedicated recycling provision for flat dwellers would be to exclude significant numbers of householders from access to recycling facilities.

Secondly, in 49 councils in England, flats represent at least 25% of their housing provision. In 13 authorities, more than half of all dwellings are flats. For these councils, dedicated recycling provision for flats will be a significant element in the way they meet their recycling targets.

Finally, it is likely that in areas where there is pressure to build new dwellings in the future a disproportionate number will be flats.

So there should be no doubt that examining good practice in recycling from flats - to assist authorities who have yet to make major provision, to aid councils looking to enhance or expand existing services, and in anticipation of new build blocks of flats - is a worthwhile undertaking.

*Project rationale*

In June 2004, Waste Watch and Safe Neighbourhoods Unit (SNU) produced a case study report on recycling schemes for flats, *Recycling for flats*, which was commissioned by Defra’s Waste Implementation Programme Local Authority Support Unit (WIP LASU).

The research provided valuable insights into the different approaches to recycling from flats. However, it was not possible for all local authorities to provide sufficient quantitative and qualitative data to allow a rigorous comparison of the different flats recycling systems to be made. Some of the reasons for limited data availability included:

- Recently established programmes were too new to have comprehensive sets of performance data
- The weight of recyclable material from flats was not collected separately from other material collected on the same round
• In all cases, data on residual waste collected from flats was not available, making the calculation of diversion or recycling rate of flats-based programmes impossible.

During 2004/05, the Defra WIP LASU Direct Consultancy Support programme and Wrap’s Rotate programme commissioned a range of projects focusing on recycling schemes for flats, which have generated further case studies of approaches taken by local authorities. These projects have also included further elements, including:

• Site surveys and options assessments for the implementation or improvement of flats recycling schemes
• Attitudinal research with residents of flats in relation to their knowledge and usage of existing flats recycling facilities
• Assessments of the actual and potential participation of ‘hard-to-reach’ groups in flats-based recycling schemes
• Planning guidance for refuse and recycling provision in future residential developments
• Communications assessment and guidance targeting residents of flats
• Monitoring and evaluation guidance for flats recycling schemes
• Review of literature on flats recycling schemes and communication with residents of flats

Many of these project outputs are of general interest to local authorities. Defra has therefore commissioned Waste Watch and SNU, the principal consultants on the majority of these projects, to incorporate these additional case studies and other relevant research findings into the 2004 Recycling for flats report.

The rationale for the 2004 report was the common view that the logistics of collecting materials for recycling and composting from flats is likely to be more challenging than in areas of street level housing. The original report concluded that generally flats are not ‘hard-to-reach’ environments and detailed planning can be used to identify and address potential barriers to implementation.

The 2004 case study research and the WIP LASU projects highlighted that there is also a perception that in fact residents of flats themselves are ‘hard-to-reach’ and represent challenges in terms of communication and achieving participation. A discussion of whether on-the-ground experience bears out this notion is presented in the Recycling for Flats: Hard-to-Reach Residents in Hard-to-Reach Environments? section.

**Report structure**

This report represents an updated version of the 2004 Recycling for flats case study report.

The case studies featured in the 2004 report are updated with new data being presented in the format of the original report.

Other project outputs, including additional case studies, from the 2004/05 Defra WIP LASU Direct Consultancy Support programme and Wrap’s Rotate programme are adapted to make them applicable to local authorities in general and are presented as new sections.
The overall structure of 2006 *Recycling for flats* report is as follows:

<table>
<thead>
<tr>
<th>Section</th>
<th>Status of information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview of case study findings</td>
<td>Updated from original report</td>
</tr>
<tr>
<td>Flats and the ‘hard to reach’</td>
<td>Added</td>
</tr>
<tr>
<td>Communications guidance</td>
<td>Added</td>
</tr>
<tr>
<td>Monitoring &amp; evaluation guidance</td>
<td>Added</td>
</tr>
<tr>
<td>Planning guidance</td>
<td>Added</td>
</tr>
<tr>
<td>Local authority case studies</td>
<td>Updated from original report/added</td>
</tr>
<tr>
<td>University accommodation case studies</td>
<td>Added</td>
</tr>
<tr>
<td>Annex 1- Example Planning Advice Note from the London Borough of Barking and Dagenham</td>
<td>Added</td>
</tr>
<tr>
<td>Annex 2- Example Draft Supplementary Planning Guidance from Hampshire County Council</td>
<td>Added</td>
</tr>
<tr>
<td>Annex 3- Example Good Practice Planning Guide from Woking Borough Council</td>
<td>Added</td>
</tr>
<tr>
<td>Annex 4 – Attitudinal survey template</td>
<td>Added</td>
</tr>
<tr>
<td>Annex 5 – Site survey templates</td>
<td>Added</td>
</tr>
<tr>
<td>Annex 6 - Literature review</td>
<td>Added</td>
</tr>
</tbody>
</table>
Methodology

Case studies
The research for the 2004 edition of this report was undertaken in three stages: case study selection, information gathering and presentation of results. These are shown in Table 1 below together with an outline of the main activities undertaken in each stage.

Table 1: Key activities for each stage

<table>
<thead>
<tr>
<th>Stage</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>case study selection</td>
<td>desk-based review to identify potential studies</td>
</tr>
<tr>
<td></td>
<td>identification of key factors</td>
</tr>
<tr>
<td></td>
<td>final selection of case studies</td>
</tr>
<tr>
<td>detailed information gathering</td>
<td>design of structured questionnaire</td>
</tr>
<tr>
<td></td>
<td>face-to-face (or telephone) interviews</td>
</tr>
<tr>
<td></td>
<td>site visits</td>
</tr>
<tr>
<td>analysis and presentation of results</td>
<td>analysis of information</td>
</tr>
<tr>
<td></td>
<td>preparation of written case studies</td>
</tr>
<tr>
<td></td>
<td>preparation of guidance</td>
</tr>
</tbody>
</table>

Case study selection
For the first edition of this report, a desk review was undertaken to identify a range of different flats-based recycling schemes. This included an internet search which returned information on a number of authorities providing recycling services for flats at the time. A large proportion of these were London Boroughs. In addition to the internet search, the project partners' knowledge of local authority schemes, involvement in relevant projects and experience of surveying housing stock was drawn on.

The factors considered in the selection process are listed below:

Housing type and management
- tower blocks, mansion blocks, estates and houses in multiple occupation (HMO)
- social and private ownership
- different management arrangements

Socio-economic factors
- affluent and deprived areas
- cultural diversity with associated language/communication issues
- areas with a high occurrence, or fear of, enviro-crime
Local Authority drivers
- authorities with a strategic need to provide recycling services to flats
- schemes driven by social inclusion issues
- schemes provided in response to resident demand

Collection methods
- conventional kerbside
- centralised or near-entrance bring facilities
- door-to-door collection

Waste types
- dry recyclables
- garden waste
- food waste

Contractual arrangements
- waste management companies
- local authority in-house organisations
- not-for-profit community enterprises

Public engagement
- consultation at the planning stage
- awareness raising during implementation
- incentive schemes and innovative approaches

On a more pragmatic level, the selection process also took into account the availability of local authority staff for participation in the study, the desirability of avoiding the inclusion of schemes that appeared similar in nature and the level of scheme maturity (discussed further below).

The 2006 edition of this report also includes additional case studies generated by 2004/05 Defra WIP LASU direct consultancy projects. The combination of updated case studies and new ones gives the new edition a wider scope as it covers recycling schemes in university halls of residence as well as a wide range of blocks of flats.

The latter case studies were chosen as a result of initial desk-based research and follow-up telephone calls and site visits. They represent a range of approaches trialled by universities at specific halls of residence.

Case studies presented in this report are listed overleaf in Table 2.

Please note that all information on population and housing stock for the UK case studies is sourced from the 2001 census.

Please note that throughout this report abbreviated references are made to the authorities participating in the study, hence, the London Borough of Camden is referred to as ‘Camden’, Manchester City Council as ‘Manchester’ etc.
Table 2: Case studies

<table>
<thead>
<tr>
<th>Location</th>
<th>Case studies</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>London Borough of Camden</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>London Borough of Hackney</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>London Borough of Hounslow</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>London Borough of Islington</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>London Borough of Lambeth</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>London Borough of Lewisham</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>London Borough of Redbridge</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>London Borough of Southwark</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>London Borough of Tower Hamlets</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>Westminster City Council</td>
<td>Updated</td>
</tr>
<tr>
<td>Regional</td>
<td>Birmingham City Council</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>Bristol City Council</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>Eastleigh Borough Council</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>Ellesmere Port &amp; Neston Borough Council</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>Elmbridge Borough Council</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>Fareham Borough Council</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>Havant Borough Council</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>Leeds City Council</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>Lewes District Council</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>Manchester City Council</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>Newcastle-upon-Tyne City Council</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>Portsmouth City Council</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>Southampton City Council</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>Vale Royal District Council</td>
<td>Added</td>
</tr>
<tr>
<td>University accommodation schemes</td>
<td>University of Bristol, Manor Hall</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>University of Bristol, University Hall</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>Oxford Brookes University, Clive Booth Hall</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>University of Portsmouth, Rees Hall</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td>London South Bank University, McLaren Hall</td>
<td>Added</td>
</tr>
<tr>
<td>European</td>
<td>Berlin, Germany</td>
<td>Updated</td>
</tr>
<tr>
<td></td>
<td>Cinisello Balsamo, Italy</td>
<td>No new data available</td>
</tr>
<tr>
<td></td>
<td>Paris, France</td>
<td>Updated</td>
</tr>
</tbody>
</table>
**Information gathering**

The 2004 case studies of English authorities were based on structured interviews with local authority staff carried out between January and April 2004. In Manchester, Birmingham and Hackney, personnel from local non-profit community organisations offering flats recycling services independent of the council were also interviewed.

For the 2004 survey, a questionnaire was developed to ensure a uniform approach. Sent out in advance to facilitate information gathering, the questionnaire was then used as the basis for a follow-up interview. Almost all of these were conducted face-to-face, in some cases being combined with a site visit to view recycling collection operations.

The questionnaire was designed to capture as much detail as possible of the different approaches taken by the participating authorities. Five main areas were covered:

- Scale and scope of recycling services for residents living in flats
- Drivers behind the service provision, funding and future plans
- Scheme planning, including data gathering and resident involvement
- Scheme operation, including awareness raising and scheme promotion
- Monitoring, problems encountered and measures to improve performance

Information for the European case studies was drawn from an internet-based review of local government statistics, official publications and contractor websites. In addition, interviews with locally based researchers and experts were carried out.

The new case studies are accounts of developments following on from extensive field work. These and the updates of the original case studies follow the format established in the original studies. Information for this updated version was gathered through telephone calls and emails to the local authorities featured in the 2004 report. Consultants established the relevant contact person, as in many cases a different staff member was now in charge of the recycling schemes. Information gathered covered the following:

- Extent of scheme coverage
- Changes to collections methods
- Communications programmes targeting residents of flats
- Monitoring and evaluation methodologies
- Performance data

**Data limitations**

The original case studies provided valuable insights into several different approaches to recycling from flats.

The first edition of this report noted the general absence of quantitative data to permit serious performance comparison between different types of project. Unfortunately this continues to be the case with both newer projects and the established ones which were updated.

Some of the reasons for limited data availability included:

- The weight of recyclable material from flats was not available separately from other material collected on the same round for operational reasons
• A number of authorities had faced teething problems when introducing new weighing and monitoring technology, leading to limited data availability, although several councils now routinely weigh recyclable material deposited in flats-based recycling containers.

• In all cases, data on residual waste collected from flats is still not available. This seems to be partly because residual waste rounds may not be compatible with flats recycling collections, and partly because of anticipated technical difficulties and high costs of on-board weighing of residual material. The consequence of these difficulties is that it remains difficult to calculate diversion or recycling rates for flats-based programmes.

• In all cases, waste stream analysis data specific to flats had not been carried out, although some analysis exercises focusing on the recycling performance of flats recycling schemes took place.

• Data on the number and ownership of flats and on the current capacity and type of refuse containers in flats proposed for recycling schemes was often difficult for authorities to obtain.

• Comprehensive participation studies of flats recycling programmes had not been carried out other than for door-to-door exercises or in conjunction with doorknocking promotional campaigns.

• Costs for flats recycling services were often not shown separately within the overall contract price.

• In one case, the scheme design in place in 2004 was changed considerably, making comparison difficult.

Planning tools (such as the survey template included in Annex 5) will facilitate the selection of optimum collection methods and container locations. As noted above, several authorities now record the performance of flats-based recycling services. However, this study suggests that it is unlikely that both recycling and residual waste data will be collected from flats-based sites. Assessing the recycling performance of flats schemes may therefore have to rely on comparing weight data with model waste profiles and on waste composition analyses from time to time.

Value of the case studies
Notwithstanding the data limitations described above, the case studies provide valuable information on planning and implementing flats recycling schemes.

Below, an Overview distils the key points from the case studies. Significant difficulties and how they were overcome are discussed. Typical practice is identified together with unusual or innovative approaches. Some Key considerations are offered to take into account during scheme development and operation.

Following the Overview are the individual Case Studies each of which is presented in a standard format, which includes:

• Details of population and housing provision

• An outline of the approach to flats recycling adopted by the council

• Information on resident and other stakeholder involvement at the planning and operational stages

• Details of significant difficulties and how they have been overcome

• Data on performance and cost where available

• Contact details and further information
**Guidance documents**

Information for the additional guidance sections was gathered using a variety of methods as outlined in Table 3 below.

**Table 3: Additional information sources**

<table>
<thead>
<tr>
<th>Project element</th>
<th>Information sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>literature review</td>
<td>survey of relevant publications and summarising key themes and findings</td>
</tr>
<tr>
<td>monitoring and evaluation guidance</td>
<td>review of standard monitoring mechanisms and examination for applicability in context of communal recycling collection schemes</td>
</tr>
<tr>
<td></td>
<td>consultation with a range of practitioners</td>
</tr>
<tr>
<td>planning guidance</td>
<td>review of planning developed by a range of UK and overseas local authorities and other relevant publications</td>
</tr>
<tr>
<td></td>
<td>development of a generic SPG template</td>
</tr>
<tr>
<td></td>
<td>consultation with planning departments of WIP LASU project authorities</td>
</tr>
<tr>
<td>communications guidance</td>
<td>review of communications strategies and promotional materials of WIP LASU project authorities</td>
</tr>
<tr>
<td></td>
<td>review of results of attitudinal research undertaken in WIP LASU project authorities</td>
</tr>
<tr>
<td></td>
<td>formulating recommendations for communications with targeted residents groups</td>
</tr>
</tbody>
</table>
Overview
This section presents an analysis of the findings from interviews with representatives of ten London Boroughs, seven provincial unitary authorities, seven district or borough councils and seven university halls of residence.

The three European studies are not discussed here, in view of the small number of cases and the very different conditions under which the systems operate. The European findings are presented as case studies at the end of this report.

Definitions
It became apparent during the interviews that uniform terminology for different approaches to flats recycling schemes is lacking. For example, a common approach was to ask residents to sort material into different containers provided at a single location – this might be referred to as a mini recycling centre or micro recycling centre.

For the purposes of this study the following broad definitions apply:

Flats - unshared dwellings in purpose-built blocks, including maisonettes and apartments, and in houses converted to houses in multiple occupation (HMO).

High-density housing - purpose-built blocks of flats or HMOs.

Central collection facilities - recycling containers located at central collection points on land forming part of the housing development, but separately from the existing refuse facilities.

Combined refuse and recycling facilities – recycling facilities purposely located within or adjacent to existing refuse facilities or areas.

Near-entrance collection facilities - recycling containers located close to the entrance, inside or outside, of individual blocks of flats but separately from the existing refuse facilities.

Kerbside collection - collection of materials from individual households where residents take recyclable materials in a container to the kerb or perimeter of the property.

Door-to-door collection - collection of materials from individual households within blocks of flats where residents place materials at their front door.
Common drivers

Meeting Targets
In an effort to meet statutory recycling targets, the majority of local authorities have made the introduction of kerbside collection systems for dry recyclables their priority.¹ As discussed above, not all flats can be served by kerbside recycling collections for logistical reasons. Several case study interviews confirm that for authorities with a high proportion of flats in their total housing provision the obligation to meet recycling targets (as recorded under Best Value Performance Indicator (BVPI) 82) has driven the introduction of dedicated recycling facilities for flat dwellers. Some authorities mentioned the requirement to calculate the percentage of the local population served by kerbside or nearby recycling facilities (BVPI 91) as a driver for providing facilities for residents in flats. BVPI 91 indeed has now been amended so that local authorities can only count recycling facilities at flats towards the percentage of properties served by kerbside ‘as long as recycling facilities are provided specifically for that block of flats in the same way, or similar way, to how waste collection more generally would be provided for that block, or is within that building or complex, or is as close to the building as the kerb.’²

Social Inclusion
A second major driver is a commitment to provide equal access to convenient recycling services for all residents. This social inclusion motivation seems particularly important in authorities with large numbers of flats, but where flats are nonetheless a relatively small proportion of total housing stock. Major provincial cities such as Newcastle, Manchester, Leeds and Birmingham are cases in point. These cities might reach some recycling targets without offering dedicated recycling facilities to flat dwellers, but in doing so they would exclude thousands from participating in convenient recycling facilities.

Resident demands
City of Manchester Council responded to requests from residents living in city centre flats by trialling multi-material near-entrance collection facilities at a number of privately owned apartment blocks. The trial is considered a success and the authority now plans to roll out near-entrance collection facilities for blocks of flats across the city. Redbridge Council’s scheme similarly began in response to flat dweller demands for recycling services.

Taking advantage of external funding
The availability of cash to fund councils to develop certain types of recycling is a further driver. Several authorities indicated that the targeting of estates or flats recycling by the Waste Minimisation and Recycling Fund had been influential in stimulating the planning of flats recycling.

¹ In 2001/02, 87 out of the 371 authorities in England and Wales did not offer any sort of kerbside collection of dry recyclables. In 2003/04, this number had fallen to three. (Aylesford Newsprint, Recycling Atlas – England and Wales, March 2004, pp. 6 – 7)
² Best Value Performance Indicators: 2005/06, ODPM, 2005, pp 153-154
Collection methods and arrangements

The overriding concern in selecting collection methods for dedicated flats recycling services continues to be the need to provide convenient and secure services at reasonable cost.

There is however wide variation in the interpretation of this objective. Six fairly distinct approaches to collecting recyclable material from flats can be identified (see the definitions above):

- Central collection facilities
- Combined bring refuse and recycling facilities
- Near-entrance collection facilities
- Door-to-door collection
- Kerbside collection from flats
- Refuse chute adaptations

In two authorities we found organic waste schemes at blocks of flats. In Hackney food waste and green waste is collected in door-to-door collections and processed on site using in-vessel composting facilities. On a smaller scale several estates in Southwark have composters to which residents take window box and uncooked vegetable waste.

Central collection facilities

All authorities were keen to ensure that the recycling facilities they provided were at a convenient location. On some flatted estates this has meant finding central locations that most residents are likely regularly to pass. Examples of authorities adopting this approach are Southwark, Lewisham, Islington and Camden.

Although all sizes of container were found on sites of this type, large capacity bins can generally more easily be accommodated centrally than in the close confines of most near-entrance sites. This may offer some operational advantages, but possibly at a cost of user convenience (see below).
In Southwark, for example, facilities have been installed in ‘areas of heavy footfall’. A mapping exercise carried out by a Development and Implementation Team specially appointed to plan and roll out the scheme determined these areas. Lewisham has adopted a similar approach. On several flatted estates, walled or fenced areas have been created for sets of recycling containers.

While this approach may provide a solution for sites where space for additional bins is scarce, it is uncertain whether locating facilities in ‘areas of heavy footfall’ leads to acceptable recycling opportunities for residents and capture rates. This type of central collection facility is based on the assumption that residents will use them as the pass by going about their daily business. However, a WIP LASU funded survey of 940 residents on flatted estates in Southwark found that less than half of residents were using the recycling centres. Ten percent of survey respondents said these facilities were too far away from their flats to use.

It must also be questioned whether these kind of central facilities are designed to secure a proportionate contribution from flats to recycling targets. In Southwark, the centres, consisting of sets of three 1,100 litre Eurobins were emptied only once a week. Generally, due to their low usage by residents, the containers were not being filled to merit additional collections.

Partly in recognition of some of the limitations of this kind of scheme, door-to-door recycling initiatives are being developed in a number of London boroughs including Southwark, Islington, Hackney and Camden.

**Combined refuse and recycling facilities**

In many local authorities the majority of blocks of flats have communal bring facilities for refuse, in which flat dwellers themselves take their waste to a ground or basement level area. This might be a room, a shed, an open compound, or simply containers in a car park or by a pathway.

Many councils have appreciated that installing recycling facilities in or next to these refuse areas could offer residents recycling opportunities as convenient as the kerbside system for street level properties. As with kerbside, the combined facility requires of the participant only that they segregate, store and carry their recyclables to the same place as their refuse for collection.

Furthermore, there are unlikely to be land use conflicts or other complaints often associated with the installation of new waste facilities – it is merely the configuration of the containers that is being changed or augmented in an area already in use for waste management.

Some authorities have been able to record the performance of recycling containers installed in combined refuse and recycling facilities. Redbridge calculates the average return from their sites at 36 kg per flat per annum, while Westminster (which has both combined sites and near entrance containers) reports an average of 67 kg per flat per year from its sites with a return of 115 kg per year at its best site.

Not all blocks of flats with bring refuse areas are suitable for the adaptation or augmentation of existing facilities. Some refuse areas are too small to accommodate additional containers. Where this is the case, authorities might consider near-entrance type facilities (see below). In some cases, the only effective means of providing adequate refuse and recycling facilities may be to rebuild bin areas completely to a new and more suitable specification. The survey and planning sections of this report outline possible procedures to that end.
Bring recycling alongside bring refuse for blocks of flats: examples of both 240 litre material specific recycling bins and 1,100 commingled recycling bins located in combination with 1,100 litre refuse bins

As the photographs above indicate, both classic sets of 240 litre recycling bins in frames and 1,100 litre commingled recycling bins are in use in combined refuse and recycling facilities. Large bulk refuse bins are in use alongside the recycling containers in both of these examples.

This might mean that in the sites with low recycling capacity, if recycling bins are filled up before collections are made, recyclable material could go into the bulk refuse by default, artificially depressing the performance of the scheme. Where this may be the case, authorities could trial replacing some of the refuse bins with more or larger recycling bins to expand recycling collection capacity. Residents should be informed of any proposed changes to secure their cooperation.

Near-entrance collection facilities

Near-entrance collection facilities (NECs) represent perhaps the first attempts to provide reasonably convenient recycling opportunities for flat dwellers at reasonable costs. The principle behind NEC is that a recycling facility close to the entrance to the block of flats will provide reasonable convenience even though the refuse facilities may be somewhere else (e.g. a refuse chute accessible on each floor of the block).

NECs were pioneered in the mid-1990s in blocks with refuse chutes in such places as Bristol, Bath and Lambeth. Subsequently NECs have also been used where refuse areas have insufficient space for additional recycling containers (e.g. in some blocks in Westminster and Redbridge) and also where flat dwellers did not want recycling facilities hidden away in the refuse area (Vale Royal).
Hounslow near-entrance collection facility with integrated hard standing

A number of halls of residence such as University Hall, Clive Booth Hall and McLaren Hall also utilise near-entrance systems. Here, students are provided with a recycling container at a convenient location such as their room, communal kitchen or hallway and it is the responsibility of the students sharing the box to carry the container to the NEC for emptying.

As with the combined refuse and recycling sites described above, NECs come in all shapes and sizes. The classic set of five or six 240 or 360 litre wheeled bins, usually labelled for paper, glass and cans, in a secured frame, often attached to paving slabs to provide a hard standing is still in use in Bristol and Birmingham.
However, near entrance schemes also use 660, 1,100 and even 1,280 litre recycling containers (Redbridge, Westminster and Lambeth) as well as the ‘Hybrid’ bin (Hounslow and Vale Royal).

The ‘Hybrid’ system consists of wheeled units, each with three removable 44 litre compartments, which can be designated for particular types of material or allocated to a particular flat or flats. It is a highly flexible approach, as further units can be added to increase overall capacity.

The individual units of the ‘Hybrid’ are unlocked and wheeled to the vehicle for collection. The drawers are removed and the contents transferred to the collection vehicle. The ‘Hybrid’ allows flats recycling collections to be integrated into existing kerbside box collection systems, as recyclables can be sorted onto a compartmentalised kerbsider type vehicle. This means that contamination can also be removed in the process.
The system was developed by Hounslow Council, but is now also used by other authorities. Vale Royal Council use 'Hybrid' bins and have exploited the flexibility of the system to adjust the capacities available for different material types.

**Door-to-door collection**

Several authorities were of the view that, in terms of convenience and capture rates, door-to-door collection was the preferred model. It was felt that door-to-door collection was providing a *kerbside equivalent* system to residents living in flats, especially where residual waste is disposed of using chutes. Door-to-door collection schemes are currently provided in the London authorities of Camden, Hackney, Islington, Southwark, Tower Hamlets and Westminster.

At the time of writing, there were two examples of schemes run by local community organisation. In Tower Hamlets, more than 80 percent of the housing stock is blocks of flats, a high proportion of which are located along streets rather than on estates. As a result, the Council has introduced door-to-door collection of dry recyclables servicing approximately 55,000 flats across the borough. Several factors have driven the door-to-door programme. First, the Council wants to offer flat-dwellers an enhanced recycling service. Secondly, the predominance of refuse chutes on each floor in blocks means that most residents are not accustomed to taking waste to a communal refuse area on the ground floor. Thirdly, a survey of over 2,000 blocks of flats in Tower Hamlets found limited space at ground level around many blocks, which would make it difficult to find acceptable locations for recycling containers.

In the door-to-door scheme, delivered by community enterprise Tower Hamlets Community Recycling Consortium (THCRC), residents are asked to set out recyclable material in either a standard kerbside box or a reusable pink bag at their doorstep on the weekly collection day. Operatives pass through each block, emptying box and bag contents into durable woven bags which are taken to ground level by lift or stairs for loading onto a vehicle and transfer to a local sorting and bulking facility.

Even more innovative has been the East London Community Recycling Partnership (ELCRP) initiative in Hackney. ELCRP offers a door-to-door collection of food waste to approximately 3,015 flats on several high-rise and high-density estates in the borough. The scheme has twin distinctions. Not only was it the first food waste collection door-to-door from flats, it was also the first scheme in England to comply with the Animal By-Products Regulations governing the treatment of food waste. Residents are provided with small kitchen containers, biodegradable bin-liners and bags of flakes containing 'Effective Micro-organism Bokashi'. Sprinkled on the food waste, which can include cooked leftovers and meat as well as vegetable peelings, the flakes delay putrefaction, in turn preventing the development of unpleasant odours.

Collected weekly from the doorstep, cardboard is added to the material, which is treated in a small-scale in-vessel composting unit ('The Rocket') based at the Nightingale Estate. The composted product is used as a soil enhancer on local landscaped areas and in the gardens of local sheltered housing schemes. As a result of the service, most food waste is no longer disposed of in refuse chutes or communal waste containers and the incidence of vermin has been significantly reduced. Tonnage data indicates that the collection is recovering about 33 kg of food waste per flat served per annum, which presents approximately 14 percent of the organics waste stream produced by flats.

---

Meanwhile, Camden has introduced door-to-door collection for 4,640 households, including some flats in high-rise blocks. Residents are provided with a 55 litre box, which they place on their doorstep once per week.

Islington is currently rolling out a door-to-door service that will cover 27,900 flats by 2007. Many of these flats were already serviced by a central collection system, which will be retained. This will provide residents in these estates more flexibility to choose how they want to participate in the Council’s recycling schemes.

A variation of a door-to-door service exists in a number of halls of residence including Manor Hall and Rees Hall. Students in these halls have recycling bins or boxes located either in kitchens or hall-areas which are then collected weekly by cleaners or porters and taken down to central facilities for emptying.

A more recent development has been to add door-to-door recycling to well-established door-to-door refuse collections. For example Southwark currently provide door-to-door refuse collections to 20,000 flats and have added an equivalent recycling collection service for about 12,000 of these flats.

Door-to-door refuse collections in flats are perhaps more common in private blocks. There may be opportunities for councils to identify blocks of flats that have this type of refuse collection and it might then be possible to persuade landlords or cleaning contractors to add recycling collections to the service.

**Inclusion of flats in kerbside schemes**

In all authorities interviewed, a proportion of flats were included in existing kerbside collection schemes. However, approaches to assessing which types of flat are suitable for kerbside collection vary widely and each authority has adopted an approach to fit in with existing collection infrastructure and capacity, as well as the characteristics of the local housing stock.

Hounslow uses the number of units per block or HMO as a guiding factor in determining kerbside provision – blocks with up to 12 flats are deemed suitable for kerbside collection. Similarly, Hackney generally includes blocks of flats with up to 25 flats.

Other authorities consider the total number of floors within a block of flats as their determining factor. In Lewes, blocks of flats with up to two floors receive a kerbside service, whereas blocks with more than two floors are provided with near-entrance collection facilities, thus maintaining a uniform service throughout each block.

In Bristol, some small blocks of flats receive kerbside recycling collections. Similarly in Westminster, HMOs and small blocks of flats in streets are served by kerbside collection if there is space for containers at the kerb.

In some authorities, if flats have traditionally received an individual refuse collection, as some small blocks and HMOs on streets do, then they are automatically included in the kerbside scheme, as in Lambeth and Southwark for example.

Some local authorities have introduced kerbside collection services aimed at flats located above shops. In Islington, approximately 8,000 flats above shops receive a daily recycling collection service. This service uses disposable plastic bags to ensure that empty containers and reusable bags are not left to present health and safety problems on shopping streets.
**Recycling using refuse chutes**

In 2004, our research did not find any examples of recycling chutes in operation. Currently, however, recycling chutes are being trialled at one block of 90 flats in Westminster. This trial involves the conversion of one of the two refuse chutes to accept sealed bags of commingled recyclable material for subsequent sorting. The bags are of a specific size suitable to the chute to help prevent blockages in the chute.

Other authorities have considered electronic adaptations of chute systems in which push buttons at each chute hopper would control either a segmented paladin bin on a turntable or a nozzle fitted to the end of the chute. Different materials could be directed into appropriate containers in this way. Cost and management issues have so far precluded any trials or installations.

** Provision of in-home collection containers**

Where near-entrance or central collection facilities are offered, a number of councils provide residents with a container for the storage of recyclables in their flats. In addition, a number of halls of residence schemes provide students with containers to collect recyclables within their rooms before transferring them to recycling bins in their kitchens or in central facilities. In cases where residents are not provided with these containers, they are expected to use their own receptacles such as plastic carrier bags.

The type of container provided to residents and the role the container plays in promoting the scheme varies between councils. In Islington each household included in the estates recycling programme is given a re-useable cloth bag. The bag is considered an important promotional tool and, when delivered to residents, contains leaflets introducing the service and giving advice on recycling. On the outside of the bag itself, depictions of the recyclable materials collected are printed to serve as a constant reminder.

In Birmingham residents served by Brumcan’s near-entrance facilities receive a 25 litre container with a lid and a carrying handle, specially designed for residents in flats with limited space.

In Westminster, the authority provides reusable woven bags to residents on council-owned estates and 35 litre baskets to residents in privately owned blocks included in its near-entrance collection scheme. As in Islington, the bags highlight recycling practice.

In Eastleigh, residents are provided with disposable clear plastic sacks, which they can use to collect and store their recyclables in their flat and then carry the materials to the near-entrance recycling bins.

In door-to-door collection schemes, the provision of individual containers to each flat is almost universal. Once again, the style and size of the container varies between councils.

In Hackney, ELCRP provides food waste containers with a handle-locking mechanism, biodegradable soya-based container liners and bags of flakes. Residents are asked to mix the flakes, containing ‘Effective Micro-organism Bokashi’, with the food waste to slow the putrefaction process and prevent unpleasant odours. However, Hackney does not provide a container for residents as part of their dry recyclables scheme, instead asking residents to use plastic carrier bags.

Both Camden and Islington provide residents with the option of using a recycling box or a reusable recycling bag. Tower Hamlets originally distributed boxes for their door-to-door service but has recently switched to the distribution of pink reusable bags.
Westminster provides residents in their door-to-door scheme with a 35 litre basket, while Southwark provide disposable clear plastic sacks that residents can leave their recyclables out for collection in.

**Arrangements for collection**
For door-to-door collection schemes, as with kerbside schemes, collections on the same day of the week, whether weekly or fortnightly, are critical to encourage participation in the scheme.

For central, combined refuse and recycling and near-entrance containers, residents can use the facilities whenever they wish regardless of the bulk collection arrangements. This flexibility should indeed be reflected in publicity material. However to maintain effective management of recycling sites the priority is to collect efficiently while avoiding overflows, such facilities are often emptied upon request or when full. Often contractors seek the cooperation of caretakers or cleaners who monitor the recycling containers and inform the contractor when they require collection.

In Newcastle, for example, caretakers monitor the recycling bins and contact the collection contractor shortly before they require emptying. Side-loading vehicles exchange full bins for empty ones, and therefore the system of emptying the bins on request ensures that only full bins are picked up, making collection rounds more efficient. In Southwark, estate cleaners help to maintain collection schedules by checking recycling containers and informing the collection teams if bins fill before the standard weekly collection.

However, as has been noted above, container capacities and planned collection frequencies of flats-based recycling schemes are often inadequate to capture the volume of the targeted recyclables present in the flats waste stream. What is unclear is whether this under-provision of capacity is driven by authorities’ low expectations of participation or whether the low recycling capacity itself reduces participation where potential recyclers encounter filled-up recycling bins and consequently have to dispose of their recyclables in the residuals bins.

**Contamination**
As discussed previously, in door-to-door recycling collections in flats, where flats are included in kerbside schemes and in flats using the ‘Hybrid’ system, collection operatives may have the opportunity to identify and exclude unwanted contaminants. They may even be able to identify the likely source of the contamination just as in kerbside programmes.

As with kerbside schemes, authorities must expect some contamination. However, with the more common communal bulk facilities, sometimes serving up to 80 flats, checking for contamination and tracking back to the likely source will clearly be much more problematical.

In terms of preventing contamination in recycling systems at blocks of flats, the first step for any authority should be to assess whether the recycling facilities are open to abuse by external fly-tippers or local retailers attempting to avoid trade waste fees. If this is the case, some way of confining use of the recycling facilities to the target group of residents may be necessary, for example security coded locks on the doors of combined refuse and recycling areas. This may be difficult if the facilities are in the open as illustrated earlier and the only solution may be the relocation of the facilities.

A second step would be to consider whether the refuse and recycling capacity provided is adequate. When refuse bins are full, residents may be faced with the choice of using the wrong container or leaving material on the floor or the ground.
The extent of contamination experienced varied between each local authority and halls of residence, resulting in different approaches to address the problem. Some councils relied on limited apertures and material specific lid designs to help reduce contamination.

The majority of councils contacted residents of blocks and estates with regular contamination problems via letters, leaflets, signage and stickers on bins to remind them about the correct use of the facilities. However, a number of councils indicated that in flats with a high turnover of residents, it was difficult to ensure all residents were aware of the correct use of the facilities.

Portsmouth originally aimed to provide combined refuse and recycling facilities wherever possible to allow residents to use both facilities at the same time. However, persistent contamination occurred in a number of the combined facilities because residents wrongly placed waste in the recycling bins or because the capacity for refuse was inadequate. Portsmouth now favours near-entrance collection facilities separate to the refuse bin store. The council recognises that this is likely to reduce the amount of recyclable captured, as it is less convenient for residents to use the facilities, but believes it is the best way to minimise contamination.

A number of halls of residence also identified that contamination and emptying of the recycling bins were significant issues. As a result two facilities, McLaren Hall and Clive Booth Hall, removed the recycling boxes from all flats and kitchens and only re-issued them to students who were willing to take responsibility for the boxes.

Eastleigh has recently introduced a cost-recovery system for their flats recycling service, whereby the building management is charged for any additional collections necessary to remove recycling bins that are considered too contaminated. As this is a new approach, there is no evidence as yet whether this encourages housing management companies to promote better recycling practices to their residents.

The Hampshire authorities featured in the case study section identified the presence of plastic carrier bags in commingled recycling bins as a contamination source. Some councils have tried to address this by providing reusable boxes or bags to each household. Southwark has addressed this issue by providing a small litter bin next to the recycling bins, which allows residents to empty the recyclables into the recycling bin and then dispose of the carrier bag in the litter bin.
Planning the service

In all authorities, the planning stage was considered an important aspect of successful service delivery and extensive information from a wide range of sources was sought to inform this process.

**Determining collection method, container location and capacity**

The *number of flats per block* is a common factor used by authorities to determine the most appropriate collection method. In Hounslow, blocks of flats and HMOs with less than 16 flats are included in the kerbside scheme. Blocks with between 16 and 29 flats are provided with the *Hybrid* scheme. Blocks with 29 flats or more are provided with near-entrance 240 litre containers.

Health and safety requirements, space constraints and other demands on available space, vehicle access, existing refuse collection provision, convenience, security, and noise were all factors commonly taken into account. Residents’ views on these, and other issues, were also often taken into account. Interestingly Newcastle also took into account architectural design.

There were some examples of councils taking advantage of bulk purchasing discounts by either limiting the number of different bin sizes or purchasing in partnership with other authorities. Others made an assessment of container capacity based on the number of households served and material segregation requirements.

In Redbridge, *the number of flats potentially using each site* is used to inform the capacity of recycling containers allocated. For sites serving up to 30 flats (by far the most common) 360 litre bins are used, for 31 to 60 flats 660 litre containers are provided, and for sites serving over 60 flats 1,100 litre containers are provided.

In Islington, vehicle access constraints were a major factor in identifying suitable container locations. The vehicles fitted with on-board weighing equipment required more room to manoeuvre and this, combined with a 10 metre trundle limit, meant that careful consideration had to be given to container locations. In some cases, containers were therefore located on public highways adjoining the blocks.

Newcastle assessed each block for the suitability of different collection options. Approximately 6,400 households are currently served with near-entrance collection facilities. However, for a number of high-rise blocks, known to have high rates of vandalism, the feasibility of modifying existing refuse chutes to accommodate the separate collection of recyclables was investigated as a preferable option. The cost of undertaking the work was found to be prohibitive and other alternatives are currently being considered.

**Data collection**

In all the case studies, data on the location of blocks of flats, the number of dwellings per block, existing refuse collection arrangements, and contact details for landlords, caretakers and any residents’ associations had been sought by those planning recycling initiatives from flats. In most cases block or estates maps were used to identify locations, mark proposed container sites and other information of relevance to collection contractors, and assist in planning collection rounds.

A common first step has been to seek information from local authority housing departments about blocks of flats owned and managed (or formerly managed) by the local authority itself.

Where comprehensive schemes encompassing all flats (socially and privately owned) in a local authority area have been planned, the data gathering net was cast wider. Geographical
Information Systems (GIS) have been used in several areas, including Hackney, Tower Hamlets, Islington and Hounslow, to locate blocks, generate maps and to obtain or store data on flat numbers etc. Refuse collection rounds have been examined for details of collections from blocks of flats. Site visits have been used to find suitable locations for recycling containers and to gather data where written records were out of date or unobtainable from private landlords.

Data gathering has not always been straightforward. In Hackney, difficulties were encountered in obtaining comprehensive data on the borough’s housing stock, particularly the number and location of high-rise blocks. Scheme planners drew up a list of properties from known blocks of flats and estates, which were targeted during the initial roll-out phase. In addition, consultants were commissioned to undertake a GIS mapping exercise of high-rise blocks in the borough.

Islington faced a similar lack of data. In response, the Recycling Team surveyed many of Islington’s blocks recording location, ownership and dwelling numbers on GIS, contributing to more effective planning and monitoring of the recycling services. The map below depicts the most recent status of recycling provision in Islington, including council owned and privately owned estates.

GIS map of Islington’s recycling provision (Spring 2004)

In Newcastle, although the housing department held comprehensive data, its categorisation was such that it was not suitable for planning a flats recycling service. In addition, records of waste collection were only available in hard copy and it was therefore difficult to use these for identifying blocks and planning collection rounds. To address this, the Recycling Project Team developed a dedicated database to record information obtained by the team through site visits and contact with site managers, caretakers etc.
Problems with establishing the locations of privately owned blocks and obtaining contacts for private landlords and residents’ associations were experienced by most authorities. As a result many private blocks have been provided with facilities only on residents’ request.

GIS have been used in several authorities to locate private blocks. In Tower Hamlets though, the pace of private new build is such that some blocks of flats were found by street survey workers before they had been mapped into the GIS.

Hounslow used Address Point GIS which generated maps and data on the number of properties per block (in other areas this information has not been available on GIS). Accurate data on the number of blocks of flats and the number of dwellings within each block were crucial to the authority’s systematic approach in determining the most suitable collection method for each (as described above).

Hackney, Tower Hamlets and Redbridge have appointed consultants to assist in mapping and data gathering. In Hackney, the consultants also examined the performance of some established estates recycling facilities to predict the performance of proposed locations and determine priority sites for new recycling facilities.

In Tower Hamlets, having determined to offer a door-to-door service, the authority commissioned consultants to carry out a GIS survey of over 2,000 blocks, mapping block layouts, household totals, phone entry systems, vehicle access points, and anti-social behaviour hotspots. The survey also identified housing and caretaker contacts. Initially it was planned to use the GIS only for the planning of the service, but it has also been identified as a useful tool for the systematic monitoring of the scheme’s performance.

Involvement of residents and other stakeholders

Although consultations with residents and other stakeholders are a common thread in initiating flats recycling schemes, there are wide variations in the scale and scope.

The choice of collection method is usually determined by the council. Exceptions to this are the small Birmingham and Manchester schemes where community enterprises Brumcan and EMERGE respectively have raised the funds to undertake recycling operations and have been responsible for determining the collection methods.

Where the chosen collection method requires new or additional external containers (i.e. central collection or near-entrance collection schemes) scheme planners will usually consult with landlords or housing managers and caretakers in parallel with the data collection operations described above. These consultations will help to confirm the locations of the recycling containers.

The level of involvement of the residents in identifying potential container locations and approving them varies.
Brumcan’s Estate Recycling Scheme in Birmingham is financed by the Neighbourhood Renewal Fund (NRF) which demands extensive community involvement. Furthermore the first sites selected for Brumcan’s programme were former City of Birmingham council properties transferred to the ownership and management of a resident controlled housing association. There were advantages for Brumcan therefore in fully involving local residents at all stages. Possible bin locations and performance standards were fully aired at residents’ association meetings. This satisfied NRF criteria but also entrenched recycling in the housing association’s culture.

Southwark’s policy has been to consult residents on the basis of proposals but not principles. The Development and Implementation Team prepared consultation packs for all 185 estates in the borough. The consultation included the proposed container locations as well as descriptions of the scheme. Details were presented at meetings with residents’ representatives and landlords with a view to gaining consent and support for the scheme.

In Newcastle, suitable container locations were identified with residents’ and tenants’ associations, caretakers and cleaners, as well as in consultation with the Tyne & Wear Fire Brigade to ensure health and safety concerns were taken into consideration. In blocks without a residents’ association, residents were consulted in writing on three different possible bin locations, which had been identified in advance. In general, plans were uncontroversial and collection facilities were installed at the locations preferred by the majority of residents. Newcastle also carried out questionnaire-based surveys at each site after three months to seek feedback from residents. A number of improvements were made to the facilities as a result of resident feedback, including the provision of screens and locks, retrofitting of noise-reduction equipment and the installation of signage advising residents of appropriate times for using the containers.

Redbridge and Hounslow write to residents to inform them of the proposed location of facilities and invite comment. Unless adverse comments are received, facilities are installed as indicated in the letter – the so-called default option. Installation of two facilities has been delayed as a result of residents expressing concerns about noise and visual intrusion.

Other common concerns are that the new facilities will attract vandalism and fly tipping. In Hackney a small number of residents’ associations strongly objected to the authority’s plans on the grounds of increased risk of vandalism. In these cases, it was decided not to provide the service.

In Tower Hamlets, proposals to locate containers on estates as temporary bulk stores for the recyclables collected in the door-to-door scheme have given rise to resident concerns, on both council and private estates, about vandalism, noise, visual intrusion and loss of car-parking space. Scheme collection methods have been modified so that bulk containers are no longer required in the controversial locations.

In Camden, a pilot location was deliberately selected which had a reputation for anti-social behaviour and vandalism, and frequently featured negatively in the local press. The scheme was supported by a vocal residents’ representative on the estate, who in turn encouraged support from other residents. The pilot scheme proved a success and the estate is now used to demonstrate the potential for its replication across the borough.

As a general rule, the default option of informing residents and landlords of an intention to provide recycling facilities is probably appropriate and useful where facilities are to be provided alongside existing refuse containers. The provision of recycling bins can be presented in communications with residents and landlords as a significant improvement in waste management services, rather than as a risky installation for which prior permission must be sought.
**Liaison with other local authority departments**

Where significant numbers of flats are owned or managed by the local authority, liaison with the housing department is obviously important. Recycling Officers should bear in mind that in many areas local authority housing management is currently undergoing major change as Arms Length Management Organisations (ALMO) and other initiatives are introduced.

In some areas exceptionally close working relations have been established between recycling and housing services. In Camden, for example, Street Environment Services and the Housing Department are working together both to roll-out the flats recycling programme and to improve its performance. A draft agreement, expected to be ratified by the Council shortly, will set targets, for example for installing near-entrance collection facilities and achieving participation rates. In effect the agreement formally ties housing in to the achievement of recycling targets.

In Islington and Westminster, good relations have already been established with new ALMO bodies to aid recycling planning.

In addition to housing, effective liaison with planning and finance departments can assist in scheme development. Planning departments can ensure that developers incorporate provision for recycling containers in new developments (see below) and finance departments can ensure that Council Tax address records for new blocks of flats are made available to recycling teams.

**Planning for future service provision**

Future housing development will increase the demand for recycling services. Several authorities have anticipated this trend.

For example, Lewes requires developers proposing the construction of six or more new residential units to cover the cost of additional recycling facilities. This is intended to cover the cost of infrastructure, such as recycling bins or boxes or additional vehicles, as well as promotional material to raise new residents’ awareness of the service.

In Hounslow, the Planning Department obliges developers to incorporate recycling provision in their proposals and Recycling Officers are invited to comment on the proposed arrangements.

Other authorities have developed Supplementary Planning Guidance or Good Practice documents for developers which set out the required refuse and recycling facilities for new residential developments. Examples of these are provided in Annexes 1, 2 and 3.
Communication and awareness raising

From the research conducted there is a wide variation in the extent and the timing of communication and awareness raising initiatives about flats recycling services.

Most authorities informed residents about their intent to deliver a new or enhanced service and sought to involve residents and a variety of other stakeholders in aspects of the planning process, predominantly in approving the proposed location for new containers.

Once the service is in place, wider publicity campaigns are launched to raise awareness of the service. These typically include leaflet distributions to individual households, posters in block entrances, presentations at residents’ and tenants’ association meetings and doorknocking campaigns.

Islington launched an estates outreach programme, financed through the Neighbourhood Renewal Fund, which included a doorknocking campaign and provision of a reusable cloth bag to each household for the storage of recyclables. This effort is part of an extensive borough-wide campaign focussed on kerbside collection as well as flats recycling.

Hackney carried out a doorknocking campaign on several estates in conjunction with a participation survey. Preliminary data suggests that the campaign has been effective with the tonnage of material collected increasing by 35%.

ELCRP have also relied on an intensive doorknocking campaign to maintain participation rates in their door-to-door collection scheme in Hackney. Door-knockers are recruited from the local community and to ensure that each household is visited, door-knockers will return at different times of the day (up to five times per flat) if residents are not at home. ELCRP reports that participation in some blocks of flats has reached 80%. The organisation manages a recycling shop on the estate, where residents can buy and sell second-hand goods such as furniture. Residents can also obtain advice and information about recycling at the shop.

In Westminster, an introductory leaflet is delivered to all flats. Performance information, based on weight records maintained for each commingled container, is provided to residents through estate newsletters. Newsletters are also used to promote the scheme, as are social events such as Good Neighbour Days. The authority also publishes a quarterly Recycling News leaflet and provides detailed recycling information on the Council website.

Southwark launched an extensive advance publicity programme in early 2004. All flats in the programme received publicity describing the recycling centres and maps showing the nearest collection point. At the estate level, performance information from each container will be provided to tenants’ associations. Other performance information and updates will be provided through Southwark Life, the Council’s bi-monthly magazine, through the Council’s website and through housing newsletters.

In Tower Hamlets, the contractor, THCRC, has developed an extensive outreach programme. This includes estate and block meetings with tenants’ associations, tenants’ management organisations and housing associations to review progress and discuss problems and improvements. Quarterly newsletters covering progress and holiday collection arrangements are also produced. Details of the collection timetable and other key information are also available on the contractor’s website. THCRC has been able to appoint a number of local people as collection operatives. These local appointees act also as advocates for the scheme with family, friends and neighbours.
In Birmingham, Brumcan has worked closely with residents’ associations to organise launch events for the new service. Estate-based newsletters are used to provide updates on tonnages and reminders on good recycling practice. These newsletters are distributed to residents’ associations and displayed on block noticeboards rather than distributed door-to-door.

At most halls of residence, when students move in they receive a welcome pack with information about the available recycling service. In addition, there are posters and signage placed across most halls of residence informing students about the scheme. In some halls, recycling officers from the local council visit each year to talk to residents of the halls about how they can use the recycling service.

**Informing multi-cultural communities**

The linguistic and cultural diversity found in some authorities, particularly the inner London Boroughs, must be taken into account in scheme delivery. The majority of authorities offer telephone translation services or leaflets in community languages, which non-English speakers can request. However, some authorities have reported that there is only limited demand for these.

In Camden, where an estimated 125 languages are spoken, the authority has sought additional measures to ensure that residents whose first language is not English are adequately informed about its recycling services. Future doorknocking campaigns plan to employ speakers of community languages such as Bengali (the main language after English). The authority has also produced a 10 minute video on recycling, available in five languages. This is distributed to schools and is available to community groups on loan from libraries.

In Tower Hamlets, THCRC’s strategy has been to recruit operatives from the local community to provide its door-to-door recycling service. The contractor also requires its staff to be ‘sensitive to the needs of the cultural diversity of the community it serves.’ The contractor produces a programme for approval by the Council setting out how this will be achieved. Actions include translating leaflets into minority languages and instructing operatives to dress and to conduct themselves appropriately.

In addition to a translation service, many local authorities utilise graphic signage on leaflets and at recycling points to help overcome language barriers. This signage allows residents of all backgrounds to quickly understand the materials that can be recycled in their local scheme.

**Incentive schemes**

Lewisham has implemented a monthly prize draw of £500 to encourage residents to recycle. The prize is open to both residents served by the kerbside scheme and residents in flats with mini-recycling centres. All residents have to do is register with the Council and the prize is drawn randomly. Council Recycling Officers then visit the property to check whether the resident is recycling.

Westminster has introduced an incentive prize scheme aimed only at residents of flats. In January 2005, the Council awarded £1,000 to an estate that was considered the best recycling estate for the previous year. The prize money must be used towards facilities or equipment for the entire estate, with the estate residents choosing exactly what it is spent on. Westminster plan to expand the prize next year to include the most improved estate.

Some councils advised that they were in the process of developing schemes to pass on recycling credits to residents’ associations. These credits would then be used for improvements to communal areas, such as landscaping. The credits will be based on the tonnages collected from individual estates or blocks of flats as appropriate. In Birmingham,
Brumcan is planning to use a similar system as the basis for making small donations to residents' associations.
Performance and cost assessment

As summarised earlier, consideration of the comparative costs and performance of different approaches to flats recycling is handicapped by a lack of data.

Tonnage, participation and capture rate monitoring

Increasingly, the use of on-board weighing and chipped containers will mean that the weight of material collected from individual flats recycling sites or individual blocks can be calculated. However, few councils have fully implemented this technology at the time of writing and some councils were experiencing teething troubles with the equipment installed.

Some authorities plan to use the data recorded from the on-board weighing and chip systems to award performance-related credits to residents’ associations or to provide feedback on performance to residents. However, unless the recycling data is combined with data from matching refuse collections, it will not be possible to assess the diversion rate being achieved by flats based schemes.

Most councils in the survey reported that monitoring was limited to recording tonnages of targeted recyclables collected from estates. In some cases, lack of funding was a barrier to more extensive monitoring. However, establishing levels of participation is problematic, except for door-to-door or kerbside schemes where accepted methodologies can be applied. Questionnaire surveys carried out either on a door-to-door basis or at the container location are the only means of assessing participation for central and near-entrance collection schemes. Some limited participation studies have been undertaken, in some cases in conjunction with public communication campaigns, such as doorknocking and targeted at measuring the impact of the campaign.

Whilst some authorities have carried out general waste stream analyses in order to establish a baseline, none to date have undertaken analyses of waste arising from specific estates or blocks of flats prior to the introduction of the new schemes.

Further guidance on establishing monitoring and evaluation schemes for flats-based recycling schemes is provided in the Monitoring and Evaluating Flats Recycling Schemes section.

Costs monitoring

Flats based schemes rarely seem to be accounted for separately from other recycling or waste management operations in the authority. In some cases the provision of flats based recycling is a contractual requirement and is not costed separately. In others, existing equipment is used to service the scheme while others use special funding regimes. All of these approaches are entirely appropriate. However, the comparative assessment of costs is hindered. Even if the true cost in accounting terms of, for example, a door-to-door collection scheme can be established, the critical factor for an authority considering such a programme is the price not the cost.
Recycling for flats: Hard-to-reach residents in hard-to-reach environments?

What is meant by ‘hard-to-reach’ in the context of household waste recycling? There seem to be two understandings of the term.

The first refers to hard-to-reach environments and describes locations which present a logistical challenge to the delivery of a convenient recycling service. This includes dwellings in narrow streets, remote rural locations, high-density housing estates with unorthodox street layouts and blocks of flats. There appears to be a perception that in locations of these types, it is difficult for local authorities to provide a recycling collection service with convenience levels on par with that of existing refuse collections. It is sometimes also suggested that providing recycling services to these hard-to-reach environments are associated with disproportionate expenditure on specialist collection arrangements.

The second use of the term ‘hard-to-reach’ arises from a common perception that specific groups of residents are less readily persuaded to participate in recycling schemes. Here, the argument runs, even with the provision of a dedicated and genuinely convenient recycling collection service, significant groups of people will be less willing than others to segregate targeted recyclables and set them out correctly.

Flat dwellers are often assumed to be ‘hard to reach’ because they appear to represent a combined logistical and communications challenge and there is some evidence, albeit anecdotal, that local authorities have deferred the provision of convenient recycling facilities for flats as a result of this.

This chapter seeks to challenge such preconceptions and argues that the term ‘hard-to-reach’ cannot be used to generalise about the provision of recycling services for blocks of flats. It aims to show that:

- many blocks of flats present no serious challenge to the installation or provision of convenient recycling services and flats should not be regarded as ‘hard-to-reach’ environments per se
- while it is certainly the case that flat dwellers are proportionately less affluent than the population as a whole, the link between socio-economic status and predisposition to participate in recycling schemes is at best unclear

Flat dwellers then, this chapter suggests, should not be regarded as intrinsically any more ‘hard-to-reach’ than the general population. Blocks of flats should only be characterised as ‘hard-to-reach’ for recycling purposes if it is not possible, without excessive expenditure or effort, to augment or adapt existing refuse arrangements to create convenient recycling opportunities.

The correlation between convenience and participation is evident from the recent increases in UK recycling rates following the widespread introduction of kerbside recycling collections for street level housing. The convenience of kerbside schemes rests not on the presence of a kerb as a collection point, but on the householder being asked to do no more than separate and store targeted recyclables and then to take them to the same place as their refuse for collection.

Encouragingly, the results of surveys of blocks of flats undertaken for several local authorities as part of the 2004/05 WIP LASU round indicate that in most areas it is indeed possible to
provide convenient recycling arrangements by augmenting or adapting existing refuse arrangements. Some of the findings from these surveys are outlined below.

**Flats as hard-to-reach recycling environments**

From the surveys conducted, both for the 2004 *Recycling for flats* research and for subsequent WIP LASU consultancy projects, a range of refuse collection arrangements in blocks of flats have identified. Only where existing refuse facilities cannot be easily adapted to recycling collections should the term hard-to-reach be applied. However, in the majority of properties surveyed, this was not the case.

The different types of refuse collection arrangements and options for their integration with recycling services are discussed below.

**Communal refuse facilities**

The surveys revealed that the majority of blocks of flats have communal refuse facilities. Here residents themselves bring their refuse to collection areas, which may be in the block itself, in designated external sheds or compounds or in car parks or on pathways. Sometimes refuse may be brought down and left in these areas in standard black sacks for a timetabled collection. Alternatively, residents may be asked to deposit refuse in containers including traditional ash cans and wheeled bins of various volumes.

As the photographs above indicate in many cases it will be possible to find space for containers for recyclables or for bags of recyclables in or next to these refuse areas. In most instances this can be done without reducing space for residual waste collection capacity, although as was found for flats in Hampshire, it might be necessary to modify the collection methods by replacing individual household bins with larger communal containers to maximise the flexibility of the available space.

It should then be possible for authorities to provide convenient recycling collection services for flat dwellers by using standard recycling collection systems (for example disposable orange bags, wheeled bins or ‘hybrid’ bins, etc.) at an acceptable cost per dwelling served and without the need for prolonged prior consultation with landlords or residents’ groups.

Only where these locations lack space for the installation of additional recycling containers can they be regarded as ‘hard to reach.’ In Brighton, for example, it was found that of 63 blocks with bring refuse facilities, 27 did not have sufficient space in or near to the refuse areas for recycling facilities. In some recycling containers might have been installed by replacing a proportion of refuse capacity with dedicated recycling bins. In others, the refuse capacity itself was inadequate. Flats like these are genuinely hard-to-reach because it will not be possible to install convenient recycling facilities without significant capital expenditure to build combined refuse and recycling areas, and without time commitments in negotiations with landlords and other agencies to secure consents as well as contributions to construction costs.
The surveys found that only a small proportion of communal bring refuse sites have insufficient space for additional bring capacity.

**Refuse chutes**

Typically, residents dispose of refuse using hoppers and chutes on each floor of the block of flats (see photographs). Refuse drops into bulk containers sited below the chute usually in a locked chamber.

![Refuse chute image](image1)

![Refuse chute image](image2)

Only in the case of flats with refuse chutes can the term ‘hard-to-reach’ be genuinely be applied because, while there are options for implementing recycling services, these involve capital or revenue expenditures which go well beyond simply adapting and augmenting existing refuse collection arrangements. The options include:

- Providing revenue funding for contractors to deliver door-to-door recycling collection services
- Negotiating for the use of land or space to install bring recycling facilities, e.g. close to block entrances or in car parks (though these will inevitably be less convenient to use than the refuse chute)
- Investing in changes in the chute system itself to provide chutes both for recycling and general waste. The case studies describe the Westminster experiment with a twin chute system in which residents in a 90 dwelling block have been provided with a disposable bag to deposit commingled recyclables in one chute, the other being used for residual refuse. It will be interesting to consider the performance and costs of the system. A recent review of recycling collection options for multi-occupancy buildings provides an analysis of the technical options for chute recycling and likely associated costs (see Literature Review).
- Replacing chutes altogether with purpose-built communal bring facilities for both refuse and recycling. Chute replacement has taken place in some blocks to tackle fires, blockages and smells sometimes associated with chute systems. For example, planning guidance from Barking and Dagenham prepared with the support of Waste Watch recommends that new and refurbished residential high-rise developments are provided with communal refuse and recycling facilities rather than chutes to ensure equal convenience in the disposal of refuse and recyclables.

---

4 Recycle Western Riverside, *Estates recycling research – Review of programme options*, May 2005
Refuse door-to-door collections

In some serviced blocks of flats, refuse is collected from the doorsteps of individual flats, sometimes on a daily basis, by caretakers, cleaners or porters, for transfer to bulk containers.

Some privately owned and some local authority-owned flats have door-to-door refuse collection services. Cleaners or caretakers usually provide these. Residents set out refuse on a dedicated collection day. Some blocks in Southwark, Westminster, Islington, Brighton and Camden for example are provided with this type of service.

Although negotiation and even some finance might be required to extend services of this type to recycling, flats with door-to-door refuse collections should not be regarded as hard-to-reach environments for recycling purposes. The 2004 edition of this report featured door-to-door recycling collections in Tower Hamlets and Hackney but these were in blocks in which residents continued to use chutes for refuse. Now however, flats based refuse collections are being adapted to provide recycling services as well. For example, Southwark is introducing a recycling collection service to all 20,000 or so of its flats currently served by door-to-door refuse operatives.

Conclusions - The importance of surveys

It should be clear then that blocks of flats cannot reasonably be regarded as uniformly hard-to-reach. Indeed it could be argued that any authority delaying or avoiding the installation of recycling services for flats without having assessed whether facilities can easily be installed is, in essence, excluding groups of residents from the opportunity to recycle conveniently.

Authorities will undoubtedly find that convenient recycling facilities can be extended to the majority of flat blocks. This will usually be possible by integrating them with existing refuse collection arrangements and ensuring that collection contracts are formulated to include flats services in a way convenient for residents rather than convenient for contractors.

As argued elsewhere in this report, it is essential to find out exactly what types of refuse services are provided for flat dwellers and whether they can be readily adapted for recycling purposes. Annex 5 provides a template for authorities to conduct estates surveys or inventories. This can be readily adapted to suit specific local needs.

Flat dwellers and the hard-to-reach

The above discussion showed that only a small proportion of multi-occupancy properties can be regarded as genuinely hard-to-reach. When convenient recycling facilities have been installed, are there still challenges in persuading the flat dwellers to participate?

This part of the chapter will consider some of the socio-economic differences between flat dwellers and the population as a whole. It will then consider whether those differences mean that flat dwellers are less likely to participate in recycling than the population as a whole – in other words whether flat dwellers might be regarded as ‘hard-to-reach’ in terms of predisposition to recycle.

Tenure of flats and Income of flat dwellers

The table below combines the results of a 2004 government survey, which examined the ownership status of the 20.63m households in England with the government’s 2003 General Household Survey examination of Mean Weekly Household Incomes by housing tenure. It highlights that of the 20.63m households in England, 82% (16.95m) were in houses and 17%

---

6 Table S120 Type of accommodation and whether self-contained by tenure in Trends in Tenure and Cross Tenure Topics (General), ODPM, 2005, www.odpm.gov.uk
7 Table 4.9 Usual gross weekly income by tenure in General Household Survey 2003, ONS, 2005, www.statistics.gov.uk
(3.43 m) were in flats. Whereas 79% (13.42m) of houses were owner-occupied, only 29% of flats (1.01m) were owned.

Table 4: Comparison of ownership status of households in England with mean weekly household income

<table>
<thead>
<tr>
<th>Tenure type</th>
<th>Houses (Detached, Semi-detached and terraced)</th>
<th>Flats (Purpose built and converted)</th>
<th>Mean Weekly Household Income by Tenure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner occupied</td>
<td>13.42 m (79% of total houses)</td>
<td>1.01 m (29% of total flats)</td>
<td>£635</td>
</tr>
<tr>
<td>Rented from Social Landlords (Local authorities, Housing Associations)</td>
<td>2.29 m (13.5%)</td>
<td>1.62 m (47.2%)</td>
<td>£239</td>
</tr>
<tr>
<td>Rented from Private Landlords</td>
<td>1.25 m (7.4%)</td>
<td>0.80 m (23.5%)</td>
<td>£481</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16.95 m (82% of households)</td>
<td>3.43 m (29% of households)</td>
<td></td>
</tr>
</tbody>
</table>

As can be seen those renting from social landlords enjoy weekly incomes at only 37% the mean level of those in owner occupied dwellings. Almost half of flats are rented from social landlords (and over 40% of all socially rented dwellings are flats). It is clear then that flat dwellers are disproportionately represented among low income households.

Socio-economic status and participation in recycling

The evidence linking socio-economic status and participation in recycling is however ambiguous. A study of residents in a kerbside recycling scheme in Exeter in 2000 concluded that:

*The predictors of recycling activity are essentially logistical. Having access to a structured kerbside recycling facility, as well as good knowledge of this facility, and perceiving that recycling is easy and convenient is crucial for predicting recycling behaviour.*

The authors also suggest that visible community participation in recycling adds normative reinforcements to logistical convenience to build recycling commitment.

This combination of practical convenience and accepted lifestyle routine as the principle predictor of recycling behaviour is supported in further studies including work carried out by MORI for the Prime Minister’s Strategy Unit. However, the MORI study also asserts, albeit without citing references that:

*...deprived communities appear to consider recycling a peripheral issue in relation to the more immediate concerns facing them. Furthermore, residents on council estates are more likely to suffer disproportionately from a lack of facilities, social deprivation and fly-tipping/car abandonment.*

---

8 *Differences between household waste reduction, reuse and recycling behaviour*, Barr, Gilg and Ford, *Environment & Waste Management* 4 (2) 2001, p.79
9 *Public attitudes towards recycling and waste management*, MORI for Strategy Unit (Cabinet Office), 2002
10 *ibid.*, p.19
This may mean that residents in deprived areas regard the resolution of problems such as poor housing conditions, crime, inadequate service provision and basic waste management deficiencies as a greater priority than the implementation of recycling programmes. Unfortunately it may also have led to assumptions that flat dwellers, over represented among the socially deprived, will not easily be persuaded to join in with recycling schemes even if there is investment in convenient facilities.

The message from Exeter that a convenient, reliable, well publicised service is the most important factor in determining recycling participation was perhaps further obscured by the findings of a study commissioned by the Community Recycling Network into maximising recycling performance. The authors compared the recycling performance in 2001/2 of 10 local authorities across the range of deprivation scores, and each representing comprehensive good practice ‘for recycling of bin waste.’

The authors noted that overall recycling performance declined with increasing social deprivation. Because the schemes were all comprehensive and recognised as ‘good practice’ the authors claimed that:

\[\text{The relationships shown for recycling yields and deprivation should provide a realistic indication of the recycling performance that would be achieved if similar types of recycling service were provided throughout England.} \]

The report contrasted for example the performance of inner city Lambeth’s 330 recycling sites for blocks of flats which produced an average yield of 35.7 kg of recyclables per household per year, with affluent Eastleigh’s alternate week commingled collection which secured nearly 220 kg of recyclables per household per year. The authors conceded that ‘improvements in service … are likely to have an impact upon recycling rate.’

But the impact of this and the MORI study above may have been to create the impression that recycling schemes in areas of social deprivation including flats will not perform well because of the attitudes and pre-occupations of socially deprived people. It is undeniable that the results of recycling schemes in these areas have been poorer in comparison to other areas. It remains unclear, however, whether this is because residents in areas of social deprivation are less prepared to recycle than those living in more affluent areas. Its importance to this particular discussion is the extent to which beliefs about recycling in areas of social deprivation impact upon local authority decisions on whether or not to develop recycling schemes for flats.

**Convenience as a driver for participation**

More recently however, a more sophisticated analysis has begun to be offered. Attitudinal research by Waste Watch in Hampshire included focus group discussions with residents of socially rented flats. It was reported that these residents often considered their accommodation temporary and felt a reduced capacity to influence their local environment. Limited storage space for recyclables and inconvenience of the facilities provided were cited as major barriers to participation. A study commissioned by Waste Watch in 2004 into recycling behaviour and attitudes among residents in the Western Riverside Waste Authority area (which includes Lambeth) found widespread complaints from flat dwellers in socially deprived areas that recycling facilities were inconvenient to use and that their flats were too small to store recyclables, an issue not hitherto considered in waste behaviour studies.

---

12 ibid, p.5
13 Maximising capture, quality and cost effectiveness of recycling schemes for residents of flats and transient populations in Hampshire, Waste Watch, April 2005 (see Annex 6- Literature Review)
14 Public Attitudes and Behaviour in Western Riverside, Dr Christine Thomas, Open University for Waste Watch and Western Riverside, 2004
The notion that far from representing cutting edge good practice, some recycling schemes for blocks of flats fall far short of the levels of convenience and reliability anticipated in the Exeter study, and that this, rather than the flat dwellers’ relegation of recycling to the periphery because of the pressures of deprivation, may be the real reason for under performance in flats based recycling schemes has been lent further weight by SNU’s work in Southwark under the Defra WIP LASU scheme.15

The results of the attitudinal survey of flat dwellers in Southwark echoed some of the points in the Waste Watch and Western Riverside studies. Non-recyclers cited the inconvenience of Estate Recycling Centres, some more than 100 metres from their flats. Improved convenience, better information and a bag for storage of recyclables were all factors likely to improve participation. SNU found also that the Estate Recycling Centres were installed without reference to the number of households they might serve and that in many cases the recycling capacity was well short of that required to secure a proportionate contribution to recycling targets from the blocks of flats covered.

While the Lambeth scheme (now replaced) surveyed by Hogg and Mansell may have been less inconvenient than Southwark’s, it too never presented flat dwellers with the same kind of convenience as that enjoyed by participants of kerbside schemes. As in Southwark it offered a ‘one size fits all’ bin capacity insufficient to secure the targeted recyclables.

Conclusions: towards convenience
Waste Watch’s attitudinal research in Hampshire also showed that local authorities should seek to address the provision of recycling services as part of overall housing improvement and maintenance programmes. If this kind of approach is taken, councils will be able to promote recycling as an activity that will contribute to improving the local environment rather than an end in itself.

The problem then in coming to judgements about whether flat dwellers are hard to reach is that we have yet to study schemes offering flat dwellers the recycling convenience of the kerbside scheme in the suburban area. Evidence presented in this report shows that equivalent convenience recycling schemes, requiring no greater effort on the part of the residents than they already put in to managing their refuse, are perfectly feasible for the majority of blocks of flats. Research has shown that household receptacles for the flat dweller to store and safely carry their recyclables are readily available in a variety of sizes compatible with all types of collection operation. In a small number of flats environments more costly recycling infrastructure might be required but usually only if existing waste management systems are inadequate and in need of replacement.

As to whether flat dwellers are intrinsically resistant to or apathetic about recycling, the evidence found is linked to the non-provision of recycling facilities and to poor delivery and management of waste and other facilities and resources. There seems no reason why flat dwellers should be socially or environmentally excluded from access to convenient recycling facilities. It is to be hoped that these findings and case studies can encourage any authorities resistant to the provision of recycling facilities in flats to reassess their positions.

---

15 Estates recycling research and action in Southwark, Safe Neighbourhoods Unit, April 2005
Communications guidelines

The 2004 Recycling for flats report concluded that there is wide variation between the communication and awareness-raising activities undertaken by local authorities to support their recycling schemes for flat-dwellers. Initiatives included:

- Leaflets
- Poster
- Newspaper advertisement and inserts
- Newsletters
- Recycling calendars
- Estates neighbourhood events
- Doorstepping campaigns

In comparison to standard domestic households it is clear that, in the majority of cases, multi-occupancy properties have been somewhat neglected when it comes to tailored communications materials. In many cases flats have been supplied only with generic information on the recycling services available, rather than specific details on the facilities in their building or nearby. Many of the comments from the attitudinal research undertaken for the 2004/05 WIP LASU consultancy projects highlight the need for locally relevant information if recycling facilities are to be used properly and regularly and confusion avoided amongst residents.

This section of the report provides an overview of communications recommendations and options. The table summarises the key issues for consideration by local authorities and provides a practical reference for future communications work with flats and transient populations.

In the ‘Doorstepping of flats’ section below, guidelines to doorstepping campaigns targeting multi-occupancy properties are presented.

**General communications recommendations**

While clearly many of the lessons from communicating with kerbside properties apply in the context of multi-occupancy housing, residents of flats have several distinct characteristics that could present a communications challenge.

Councils’ communications work with this audience should consider the following factors:

- Flat dwellers may have been excluded from recycling information altogether or may have received leaflets or visited websites containing advice on kerbside recycling only.
- Most recycling services for flats will be different to kerbside schemes. Recycling facilities may be located in very specific locations, which may vary from block to block. A ‘one size fits all’ approach to communications may not prove effective in flats. Materials may need to be tailored to include site-specific information (such as on local recycling facilities or collection arrangements) to ensure they are relevant to the target audience. Website content should reflect the extension of recycling services to flats.
- Flats traditionally house a more transient population than standard properties. Almost half of all flats are socially owned. Socially owned properties contain higher than average levels of deprivation, non-English speaking households, residents with mobility problems etc.
While these factors need not inhibit participation in recycling they should be accounted for in planning communications strategies.

These challenges are considered in the communications options and recommendations below. In addition, some generally applicable communications guidelines are also included.

**Table 5: Communication options and recommendations**

<table>
<thead>
<tr>
<th>Key communications recommendations</th>
<th>Associated practical considerations and options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Be clear on the need to resolve existing service issues above improved communications</td>
<td>In many of the properties researched, improvements in the waste and recycling service must take clear priority over improved communications. Without resolving existing problems in the waste and recycling services provided, additional communications are likely to achieve little, if any, positive impact.</td>
</tr>
<tr>
<td>2. Identify the most effective methods for engaging residents</td>
<td>Where flats have wardens, concierges, building managers or another central contact, research has shown that involving them in delivering the communication strategy invariably strengthens it by providing information on waste issues, location of sites, actual as opposed to contracted collection arrangements etc. as well as better access to residents. Practical, site-specific communications materials such as service guides, prominent signage, and stickers on containers are essential. Consideration should also be given to how communications could support the provision of practical tools designed to assist with sorting materials in the home (for example boxes or bags). Besides offering residents a practical means of storing their recyclables, council supplied reusable or disposable recycling bags offer a visible statement of the authority’s commitment to flats recycling and a reminder to the residents of the targeted materials.</td>
</tr>
</tbody>
</table>
| 3. Concentrate on delivering motivational messages and information | Wherever possible link the action of recycling to the local community and local benefits. Common concerns over the tidiness and appearance of an area could offer an opportunity for recycling to be integrated into a wider drive for an improved local environment/quality of life. Increase capture rates amongst already active recyclers by demonstrating the scope of materials that can be recycled, focusing in particular on materials that can often be overlooked such as glass jars, food tins, junk mail, or aerosols. Demonstrate the Council’s commitment to recycling and their interest in engaging with residents in flats. If there is felt to be a general lack of interest or concern in recycling by the authorities then this is likely to be matched by residents. Develop residents’ understanding of the reasons for recycling by demonstrating the many fascinating end uses for materials. Research undertaken by the national Recycle Now campaign has identified this as a key angle for its communication and has based its first wave of activity around core thought. ‘The possibilities are
<table>
<thead>
<tr>
<th>Key communications recommendations</th>
<th>Associated practical considerations and options</th>
</tr>
</thead>
<tbody>
<tr>
<td>endless’. This approach offers a further angle for both motivating and educating residents in multiple occupancy properties on recycling.</td>
<td></td>
</tr>
</tbody>
</table>
| 4. Carefully consider the design, style and tone of all future materials for multiple occupancy properties | - Establish a consistent brand for waste and recycling that can be used on all consumer-facing communications materials for flats.  
- Develop communications materials that are simple, action focused, and designed to attract attention. Ensure that the tone of communications is positive, friendly, motivational, and supportive.  
- Avoid the use of any technical or unfamiliar language, for example ‘mixed/dry recyclables’, or ‘kerbside’.  
- Use visual examples to explain the service offered and help to overcome potential difficulties with language and literacy.  
- Wherever possible offer residents the opportunity to request translated materials and information in alternative formats (such as large print, audio tape and Braille).  
- Develop any printed materials with longevity and retention in mind, so that they can serve as an ongoing reference point that encourages effective use of the service.  
- Be consistent in the information provided to residents, particularly on what can and cannot be recycled. |
| 5. Make an ongoing commitment to communication with residents | - Provide regular feedback to residents in order to show the impact of their recycling efforts and maintain motivation and participation. Ongoing feedback could be delivered via the point of resident contact or directly through literature and PR.  
- Through ongoing communications seek to improve the perception of recycling as a ‘normal activity’ and one that most other residents are participating in. This can be achieved by identifying ‘recycling champions’ that can serve as ambassadors through promotion in communications materials and PR and through their direct liaison with residents.  
- Offer clear opportunities for residents to contact the council and ensure that helpline numbers and other channels of communication are promoted on all materials, including the containers themselves. Contact should be encouraged in order to assist monitoring of participation and satisfaction with the service provided. |
Doorstepping of flats

Doorstepping is increasingly recognised as an effective means for local authorities to promote recycling and increase participation rates in kerbside collection and estates recycling schemes, within an overall strategy to increase tonnages in pursuit of statutory recycling targets. Through the personal approach of direct, face-to-face contact with residents it is possible to give and obtain much more targeted information than using other communication techniques such as poster or leaflet campaigns. Doorstepping allows one-on-one time with residents, allowing them to dispel the myths about recycling and helps local authorities to communicate positive messages in innovative ways.

The majority of doorstepping campaigns undertaken in the UK to promote recycling have targeted properties which are served by kerbside collections, but doorstepping also has a valuable role to play in developing and sustaining flats recycling.

As with doorstepping of kerbside properties, doorstep questionnaire surveys of flats can be used for a number of purposes including:

- Assessing residents’ awareness of existing services and facilities
- Identifying any barriers to their more widespread usage
- Assessing attitudes to possible scheme improvements
- Provide an opportunity to residents to suggest further scheme improvements

Where flat dwellers are already provided with convenient dedicated recycling facilities, doorstepping can be used in its promotional guise to build participation and encourage recycling of all targeted materials, as with traditional doorstepping in kerbside properties.

The basic scripts and techniques of doorstepping residents of flats remain the same; however, there are a number of additional considerations that should be taken into account in designing a campaign methodology for doorstepping flats. A doorstep survey used by SNU in its Southwark project is attached in Annex 4.

This section aims to firstly summarise how doorstepping campaign methodology should be adapted to enable effective doorstepping targeting residents living in flats. Secondly, this section provides guidance on tailoring doorstepping questionnaires to target the challenges faced by residents of flats.

Planning doorstepping for flats

Access

Some flats have gated perimeters or phone entry systems. Surveying these environments may require the prior permission or co-operation of the landlord, caretaker or concierge with whom access arrangements might need to be negotiated, especially for working outside usual hours. In all other respects, conduct of Recycling Promoters in flats should be the same as that demanded of any good practice doorstepping exercise anywhere. This includes:

- Ensuring the safety of Recycling Promoters by working in pairs and staying in contact and undertaking risk assessments on issues including traffic, injury etc.
- Providing security and reassurance for residents through photographic ID, letters of authorisation, and if possible prior circulation of information about the exercise. Housing managers might provide lists of vulnerable or severely disabled residents with whom it will be necessary to make special consultative arrangements.
• Making the usual arrangements to communicate with residents for whom English is not their first language
• Mapping visits routes and having site maps especially for flats’ complexes
• Taking the opportunity to gather waste and recycling provision information if not already available (see pro forma below)

**Safety**
Doorstepping should always be undertaken in pairs or more. Each pair of Recycling Promoters should be visible to each other at all times. This is especially applicable in estates where levels of crime may be high. Doorstepping should only be undertaken during daylight hours or in well-lit areas.

**Information**
If not already conducted it is useful to collect general inventory information during the first visit to each estate or block of flats to build a database detailing information on the estates or block of flats itself and the existing waste and recycling facilities, as well as options for improving these. This would include numbers of flats, management contacts, blocks, floors and maps of collection locations. This information will greatly assist the productivity of the campaign helping to meet household targets (see table below).

**Table 6: Inventory information to be collected**

<table>
<thead>
<tr>
<th>Information sought</th>
<th>Data to be recorded during site visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of flats</td>
<td>Checklist for Recycling Promoters to ensure all households are visited</td>
</tr>
<tr>
<td>Number of blocks and floors</td>
<td>Useful as above, and for analysis and reporting of residents’ comments</td>
</tr>
<tr>
<td>Access Information</td>
<td>Is there free access to flat doorsteps or must keys be collected from the estates office?</td>
</tr>
<tr>
<td>Management contacts</td>
<td>The names and contact details of the estates manager to pre-arrange doorstepping and to verify identification with residents</td>
</tr>
<tr>
<td>Communications system</td>
<td>Useful for tailoring the delivery of future promotions and communication campaigns (e.g. communal noticeboards, residents/tenants associations)</td>
</tr>
<tr>
<td>Waste and recycling system</td>
<td>What systems are in place within the estate for managing general waste and recyclables prior to collection (e.g. does the caretaker take bags/bins to collection point or is this the responsibility of residents)?</td>
</tr>
</tbody>
</table>
Maps
Maps on two scales should be provided to the Recycling Promoters. Firstly a large map of the district with estates clearly marked should be used by Recycling Promoters for travelling to and from estates while at work. Secondly, large scale GIS maps of each estate are useful to clearly show estate names, blocks, and refuse and recycling bin locations. Using these maps, Recycling Promoters can clearly find their way around the estate, split up the workload between the team members and quickly find recycling bin locations. Residents unaware of the recycling service can also be shown where to take their recycling by using these maps.

Pre-campaign letters or posters
Residents may be informed that doorstepping is about to occur on each estate to promote recycling by sending letters through the post or putting up council posters advertising the campaign. This may serve to increase awareness among residents of the recycling service and make residents far more open to answering their doors to talk to Recycling Promoters if they know the reason for calling in advance. This can be important when doorstepping estates as in perceived areas of high levels of crime, residents will often refuse to open their door unless they clearly know the reason for the Recycling Promoter making the visit.

Language barriers
Often estates contain high proportions of non-English speaking residents. Demographic information should be examined prior to doorstepping for areas with high proportions of different nationalities. For estates with high proportions of non-English speaking residents the Council or Project Officer should produce simple translation scripts for Recycling Promoters to use in conjunction with photocards. Photocards should clearly display what materials can and cannot be recycled and which communal recycling bins to place them inside. In addition Recycling Promoters should be recruited locally and foreign language skills should be a desirable post specification.

Household targets and contacts
As flats are often located close together Recycling Promoters can often visit a large number of properties in a short space of time. More time however may be spent gaining access to properties or looking for flat numbers missed in complex estates. If Recycling Promoters are required to be in pairs within sight of each other at all times for safety considerations some time may be spent waiting for the partner to finish before moving to the next set of flats. Time may also be lost travelling between estates to be surveyed during work as they may be far more dispersed across the borough than most kerbside collection rounds.

Targets should be set at approximately 110 households per day (6 hours doorstepping) for projects involving flats (this is based on spending three minutes on each household and contacting residents at approximately one in three of these households visited). Contact rates on estates vary although from Waste Watch’s experience doorstepping during the afternoon to the early evening on weekdays and all day Saturdays can produce contact rates of between 25% and 35%.

Quality checking
The Project Officer should undertake regular quality checks of the Recycling Promoters to continually monitor their performance on the doorstep. Quality checks should examine the Recycling Promoters ability to introduce who they are and the purpose of the visit, the presentation of the Recycling Promoter, and finally communication skills and service delivery, including literature and data collection.

Doorstepping survey
Generally, doorstepping questionnaires for street-level housing can be used to doorstep blocks of flats or estates. However, the information gathered will be more useful and relevant if
questionnaires are tailored to take into account the specific waste management challenges faced by residents of flats or site-specific conditions.

For example, as discussed previously, flat dwellers tend to have less space available for storing waste and recyclables in their homes than residents of houses. As attitudinal research with flats dwellers shows, communal waste and recycling facilities are often also considered inconvenient, unhygienic or unsafe, which may form barriers to participation in recycling schemes.

The survey template attached in Annex 4 demonstrates an approach to assessing residents' concerns about waste and recycling and priorities for improvements. This survey has been designed for simple analysis using Microsoft Excel and SPSS.

**General information**

Questionnaires should prompt Recycling Promoters or recycling promoters to record the name of the road, date, time and the Recycling Promoter's name on all logsheets.

When doorstepping housing estates, the estate name should be clearly noted at the top of all logsheets. In addition to the house or flat number, the name of the block (if applicable) should also be recorded on all logsheets to avoid confusion if flat numbers are duplicated on the same estate.

Large estates should be summarised by block rather than estate as different blocks will often have their own unique issues relating to recycling. For example, one block of flats on a larger complex estate may be too far from the communal bins, or blocks with refuse chutes may have a much lower recycling rate than blocks without due to the convenience of throwing refuse away.

**Residents' knowledge of waste and recycling service/facilities**

Typically, residents are scored between one and five for their knowledge of recycling whereby one is 'unaware' and five is 'keen knowledgeable recycler'. This is judged by the Recycling Promoter who visits the house after a general conversation to discuss the council's recycling service.

This could be directly transferred to doorstepping of flats, although Recycling Promoters would require training about the existing recycling service and on-site facilities beforehand.

**Residents' satisfaction with the waste and recycling service/facilities**

Typically, residents are scored between one and five for their satisfaction with the recycling service whereby one is 'very dissatisfied' and five is 'very happy' with the service. This would not be applicable for residents who are unaware of the service.

This could be directly transferred to doorstepping of flats, although Recycling Promoters would require training about the existing recycling service and on-site facilities beforehand. In addition, Recycling Promoters should record reasons for residents' dissatisfaction with the recycling service and their suggestions for potential improvements.

**Civic amenity site usage**

Typically, the usage and knowledge of the local civic amenity centre is recorded on a scale of one to three whereby one is 'do not use' and three is 'often use'.

Residents of flats could also be asked if they use civic amenity sites, although the percentage of residents with access to a car living in flats tends to be lower than for houses. Thus, many residents may wish to take waste to a civic amenity site but don’t have access to the
necessary personal transport. The lack of storage space typical of flats will also act to
dissuade residents from storing waste materials before taking them along to a civic amenity
site.

*Recycling banks usage*
Typically, residents’ usage of public recycling banks is recorded on a scale of one to three
whereby one is ‘do not use’ and three is ‘often use’.

If no communal estate recycling facilities are present on the estate being doorstepped, this will
be an important question to ask. It would be useful if recycling promoters were made aware of
the nearest public recycling site to inform residents wishing to begin recycling.

If local public recycling sites accept different materials to that of communal estate recycling
bins it may also be worth including this question in the questionnaire. Many residents of flats
will simply not have the space to store and recycle materials that require further effort to
recycle.

*Composting*
Typically, the knowledge and usage of composting is assessed during the conversation and
recorded on a scale of one to three whereby one is ‘do not compost’ and three is ‘compost
regularly’.

Awareness of composting would normally not be asked to residents of flats unless they had
access to a garden on their property.

*Comments*
Any service-related comments are recorded by the Recycling Promoter on the logsheet.

Expected comments or categories of comments if possible should be listed prior to
doorstepping. Many comments can be grouped together depending upon the level of detail
the council requires. The number of comments provided by residents may be calculated to
examine the issues or needs of residents living on a particular estate or block. Comment
codes may also be developed to be used by Recycling Promoters to make logsheets clearer
and easier to summarise. An example of comment categories and their codes is provided in
the table below:

**Table 7: Comment categories and codes**

<table>
<thead>
<tr>
<th>Category</th>
<th>Comments included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can’t be bothered (CBB)</td>
<td>Too busy to recycle</td>
</tr>
<tr>
<td></td>
<td>Not interested</td>
</tr>
<tr>
<td></td>
<td>Council’s responsibility</td>
</tr>
<tr>
<td>Quality of collection service (QoS)</td>
<td>More frequent collections required</td>
</tr>
<tr>
<td></td>
<td>Crew cause litter</td>
</tr>
<tr>
<td></td>
<td>Problems with crews attitude</td>
</tr>
<tr>
<td></td>
<td>Missed collections</td>
</tr>
</tbody>
</table>
### Additional useful information

In addition to the above criteria will depend on the objectives of the survey. It may be useful to record the number of residents that are aware and unaware of the recycling service. Of the residents aware of the service it may also be asked which claim to recycle and which do not recycle. If residents do not recycle the reasons for this choice should be asked and recorded to feedback to the council or Client Officer so that service improvements may be made.

### Summarising

Typically, after the completion of each street, Recycling Promoters summarise the data for each road for the total number of visits, contacts and general street summary on each logsheet.

It is recommended that Recycling Promoters are given a separate worksheet to summarise each estate or block of flats. Each piece of information to be gathered should be listed on the worksheet so that Recycling Promoters can fill out the summaries swiftly and not omit any important data. This allows summaries to be undertaken in the field at the time of completion of each block or estate.

Summary sheets would include the following:

- Estate Name
- Block Name
- Number of households and contacts
- A total number of each score made for the residents’ knowledge and satisfaction of the service and usage of the civic amenity and micro recycling site usage
- The number of each comment made about the recycling service

In addition, if residents require receptacles for the estate recycling service, Recycling Promoters could either explain how to acquire the appropriate receptacle or record orders for receptacles to feed back to the council or collection crews for delivery. Lastly, any recycling related specific complaints can be recorded on a separate sheet to feed back to the council via the Campaign Officer.
**Reporting**

Survey data should be summarised if possible on a block or estate by estate basis. It is often found that many estates or blocks will have specific issues that can be solved relatively easily, for example repositioning the communal bins to a more central and visible location to increase participation and awareness. If there are any specific estates related comments or complaints these should be summarised for each estate in an appendix, for example of the final doorstepping campaign report.
Monitoring and Evaluating Flats Recycling Schemes

The case for monitoring

There is no obligation on local authorities to gather recycling and refuse collection data from flats in which recycling schemes have been established\(^{16}\). Perhaps unsurprisingly then, WIP LASU case studies of flats recycling schemes indicate that because of operational considerations (e.g. the configuration of collection rounds, weighbridge procedures etc.) and technical practicalities (e.g. the costs and reliability on-board weighing systems), there is little systematic collecting of data on recycling and refuse generated by the same flats over specific periods. Only in the Southwark door-to-door recycling and refuse scheme have tonnages been recorded from both the recycling and the refuse collections for the same flats. Weights data relating to the performance of recycling facilities has been collected by a number of local authorities, however in these locations it is not possible to relate recycling tonnages collected with refuse material collected from the same flats.

Of course, only if this monitoring is done, is it possible to assess the impact of flats recycling schemes in terms of diverting waste from refuse into recycling. Without tonnage data from flats recycling and refuse collections it is not possible to assess whether flats based recycling schemes are making an appropriate contribution to the achievement of recycling targets. Paradoxically councils initiating flats recycling schemes to meet recycling targets cannot know whether flats are meeting overall recycling targets.

The importance of evaluation

More comprehensive evaluation in which monitored weights data is linked to participation studies, waste composition analysis of recycling and refuse streams and visual inspection of refuse and recycling collection arrangements and operations will allow a more diagnostic assessment of flats schemes. Evaluation could be used for example to establish whether recycling schemes offer sufficient householder convenience, whether collection operations are sufficiently robust and reliable and whether household and bulk recycling container capacities and collection frequencies are sufficient to achieve recycling targets from flats.

This chapter explores how routine weight data monitoring of recycling and refuse collections from blocks of flats might be established. It also outlines a waste analysis procedure as an alternative snapshot approach to performance assessment where routine weight data monitoring is not possible. Finally it considers means of measuring the participation in flats recycling schemes. It shows how these elements can be combined to produce an evaluation technique.

Monitoring weight data from collection rounds

Where recycling and refuse collection rounds are identical

Initiating or expanding flats recycling programmes might present opportunities to organise rounds to produce routine data streams for both recycling and refuse containers from flats. It would be helpful if opportunities for monitoring weights data were to be a consideration in the design of or reconfiguration of rounds.

Where refuse and recycling rounds from flats are identical, simple weighbridge procedures will produce monitoring results. For example, should an authority establish recycling and refuse

---

\(^{16}\) There is an obligation on recycling from flats projects funded under the former Defra National Waste Minimisation and Recycling Fund to submit quarterly returns recording ‘Additional tonnage of household waste collected for recycling or composting as a result of the project.’
collection rounds from the same 1,000 flats the following could be established by end of round weighing:

Material collected on flats recycling round per week plus material collected on refuse round per week = Total material generated by flats combined refuse and recycling rounds per week

Total material generated by flats combined refuse and recycling rounds per week/ 1,000 flats households = kg overall waste material generated per flat per week

Material collected as recycling per week (- contaminated rejects) / Total material generated by flats combined refuse and recycling collection rounds per week = Proportion of total flats waste diverted into recycling

Material collected as recycling per week (-contaminated rejects) / 1,000 flats households = kg recyclables recovered per flat per week

Where refuse and recycling rounds from flats are different, it might still be possible to produce weekly aggregate totals provided rounds have been organised to serve only flats-based collection facilities. However, it is understood that this may not be practical or even desirable where this conflicts with the most cost effective utilisation of collection operatives and vehicles etc. which might well require collection from non-flats generators.

**Where weight data is available from flats recycling collections only**

As noted above some authorities have weights data from flats recycling rounds only. This data can be used to estimate recycling collection performance from flats as follows.

(Material collected on flats recycling collection round per annum (– material rejected as contaminated per year))/52) / number of flats served by collection round = kg recyclables recovered per flat per week

The weekly recycling performance per flat calculation can then be compared with an appropriate flats based weekly overall waste profile drawn from the study *Variations in the Composition of Household Waste* 17. This would produce an estimated diversion rate and allow the authority to assess the approximate performance of flats recycling compared with overall recycling targets.

**Visual inspection of recycling containers**

Where there is absolutely no weights data and no prospect of obtaining any which can be related precisely to flats, a visual estimation can be considered. The amount of material collected at flats based recycling sites can in fact be gauged relatively easily either routinely by collection crews or by survey staff as part of an evaluation exercise.

The volume of material in storage containers at the time of collection is simply estimated and recorded. Established formulae are then applied to convert volume estimates into weight values.

This can be calculated according to the following formula:

---

\[ Q = R \times E \times C \text{ where:} \\
Q = \text{quantity in tonnes} \\
R = \text{density for that material in Kg per m}^3 \\
E = \text{estimated fullness of the container} \\
C = \text{volume of container in m}^3 \]

This method can be used for commingled collection, but this will give total weight figures, it will not give weights for individual materials unless a weight profile of the commingled recyclable material is available.

**On-board weighing**

In contrast to estimation, on-board weighing systems are now available which record tonnages for each bin collected. Where chipped bins are used, on-board weight data can be captured electronically. Where bins are not chipped, collection crews will be required to fill in monitoring sheets relating weights recorded to particular locations.

Of course, where authorities can install on-board weighing for both recycling and refuse collection rounds from flats, much more precise comparative assessments will be possible, both of overall performance and for the performance of individual blocks of flats. Systems can be set up to produce calculations on materials generated per flat and recycling performance per flat or per block without the pen and paper calculations outlined above.

Islington has already invested in on-board weighing for their recycling and refuse collection trucks and it is understood that Southwark plan to develop on-board weighing to allow the comprehensive assessment of flats based programmes.

**Monitoring and evaluation through waste composition analysis**

Where no comparative data between flats recycling and refuse can be obtained easily, and where performance data about particular targeted waste streams and contamination levels etc. might be required, waste stream analyses can be used to provide a snapshot of scheme performance.

To do this accurately requires waste stream analysis of the commingled recyclable material to gauge the percentage of recyclable materials captured. It is necessary to identify a suitable method for taking representative samples for analysis and a suitable location (a fully licensed waste site) if it is to be ‘in house’ staff or a specialist sub contractor if out-sourcing the job. However, because waste from blocks of flats will not include significant quantities of garden waste there is less seasonality in waste generation and the need for repeated ‘snap-shots’ is consequently reduced.
Table 8: Summary of advantages and disadvantages of different monitoring approaches

<table>
<thead>
<tr>
<th>Opportunity for monitoring</th>
<th>Advantages</th>
<th>Disadvantages</th>
<th>Cost considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-board weighing</td>
<td>• Very accurate information on the weight of material collected from each site</td>
<td>• Expensive to install on older vehicles and an increased cost for new vehicles</td>
<td>• Some capital expenditure as all vehicles would need to be fitted with the equipment</td>
</tr>
<tr>
<td></td>
<td>• Data recorded electronically</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-board weighing in conjunction with chipped bins</td>
<td>• Very accurate information on the weight of material collected from each site</td>
<td>• Expensive to install on older vehicles and an increased cost for new vehicles</td>
<td>• Some capital expenditure as all vehicles would need to be fitted with the equipment</td>
</tr>
<tr>
<td></td>
<td>• Data recorded electronically</td>
<td>• Existing bins may need to be replaced or retro-fitted with electronic identification chips</td>
<td></td>
</tr>
<tr>
<td>Collection rounds weighing</td>
<td>• Provides accurate weight data</td>
<td>• Vehicle needs to be weighed before and after each collection</td>
<td>• This exercise is probably only practical if councils routinely weigh refuse and recycling rounds which specifically service flats</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Would require special trips to the weighbridge for each additional collection to be accurate unless collection round match flats served precisely</td>
<td></td>
</tr>
<tr>
<td>Estimation of the volume of material collected and conversion to weights</td>
<td>• Can be done as part of the normal collection arrangements, whether the site is serviced as part of a kerbside round or by separate collection</td>
<td>• Some additional information recording required from staff in estimating and recording the volume of material collected</td>
<td>• Few additional costs other than some staff time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Could be part of monitoring and evaluation programme</td>
</tr>
<tr>
<td>Waste stream analysis</td>
<td>• Could be performed by MRF or by outside contractors</td>
<td>• Approach gives only a snap shot</td>
<td>• Use of external contractors would be an additional cost</td>
</tr>
<tr>
<td></td>
<td>• Provides an accurate profile of the sample tested. This is a requirement whichever of the above approaches is taken</td>
<td>• May require the use of outside contractors or students</td>
<td></td>
</tr>
</tbody>
</table>
Participation in recycling collections for flats and residents’ opinions

Conventional participation study methodologies (i.e. household container set-out surveys over collection periods to determine average set-out and overall participation rates) can only apply to flats recycling schemes which offer door-to-door collections (e.g. Southwark, Tower Hamlets etc.) or where flats are served by kerbside schemes.

However, the majority of flats recycling schemes are based on communal rather than door-to-door facilities. Here participation can be established, albeit less precisely, using methodologies evolved for bring site participation studies.

The methods of questionnaire surveys and of site survey monitoring are described in the recent WRAP guide Monitoring and evaluation of recycling communications campaigns which also offers an analytical tool which calculates a participation rate based on the results of the monitoring exercises.

Site survey monitoring, which might be useful for conventional public bring sites is impractical for communal refuse and recycling areas at blocks of flats because even the largest blocks will produce only a small number of visits per day.

The use of questionnaire surveys on the other hand also presents an opportunity to evaluate the quality of the programme and its fitness for purpose as well as to get some idea of participation (although questionnaire surveys are not as accurate a means of determining participation as are counting set-outs). In particular residents’ views on the convenience and security of the recycling programme, the efficiency of the collection operation, the quality of refuse collection services, the suitability of any household storage containers (e.g. reusable bags), or the impact that the addition of a household container might make to householder satisfaction and participation, and their views on any improvements can all be tested. A questionnaire template to assess participation in and opinions for a flats recycling programme in Southwark is presented in Annex 4.

Evaluating flats based recycling schemes

Comprehensive monitoring and evaluation strategies should then encompass the following:

Collection infrastructure

- What bin types and capacities are in use? Do bins have electronic identification chips?
- Do vehicles have on-board weighing?
- Collection vehicle fleet – which types of bin can the different vehicles collect, can they all service all the different bin types?
- Are residents provided with disposable or reusable recycling containers?

Collection rounds

- Do vehicles collect from flats only or as part of kerbside or other collections?
- If not, is it possible to compose a round collecting only from blocks of flats in a specific area for monitoring purposes?
- Where are the recyclables/residual waste taken?

---

• What is the distance to the bulking station/MRF/depot?
• Are maps/information available detailing locations of blocks of flats or estates?

**Staff training and responsibilities**

• Does everybody involved in the operation understand why it is important to collect accurate and consistent information?
• Are monitoring responsibilities included in the relevant posts’ job descriptions?
• Have collection operatives involved in monitoring been provided with appropriate training, e.g. for visual inspections of bins?
• What are the channels of communication between housing management staff (e.g. caretakers), the local authority and the contractor’s collection crew for providing feedback on problems such as contamination?

Understanding the performance of flats recycling schemes requires monitoring of collection performance and calculation of recycling achievement. Backed by the analytical tools outlined here, an evaluation exercise can indicate not only the performance of the scheme but also the suitability of the collection arrangements including the performance of the contractor, the convenience of the scheme, possible operational improvements.

It would clearly be useful for authorities with significant flats’ recycling schemes, the effective functioning of which may be essential towards the accomplishment of recycling targets, to understand the importance of effective monitoring and evaluation programmes and to make provisions to carry it out.
Planning guidance for recycling provision for flats

Guidelines issued by the Office of the Deputy Prime Minister (ODPM) state that future housing growth should be focused on revitalising towns and cities to protect the countryside from unnecessary development. Much new-built housing is therefore expected to be high-density flatted accommodation. As a consequence, there will be an increased need for non-kerbside recycling collection facilities in order to maintain and increase waste diversion rates in the face of future population growth.

Local authorities are encouraged to make use of supplementary planning guidance or site specific development briefs for developers to ensure the appropriate design and layout of new housing units. Waste and recycling facilities are an essential aspect of a building that is often overlooked in the design stage.

The appropriate design of such facilities at the development stage will ensure that residents find them safe and convenient to use throughout the life of the building and that they are capable of adaptation to changes in the waste and recycling collection service. Supplementary planning guidelines, or Good Practice Guides, are a useful tool to ensure that essential points are considered by developers when designing waste management systems for new dwellings.

The role of Supplementary Planning Guidance in the English planning system

The ODPM requires local authorities to produce a variety of plans. County councils and some unitary authorities produce Structure Plans, which set out key strategic policies and provide a framework for local plans. Local Plans are produced by district councils and also by some unitary authorities. These are policies set out to guide development in a particular local authority area. Within metropolitan areas, and in some unitary authorities, the development plan comprises a single Unitary Development Plan (UDP).

As the ODPM’s ‘Planning Policy Guidance 12: Development Plans’ sets out, Supplementary Planning Guidance (SPG) does not form part of the plan. 'It can take the form of design guides or area development briefs, or supplement other specific policies in a plan. SPG must itself be consistent with national and regional planning guidance, as well as the policies set out in the adopted development plan.'

Under the Planning and Compulsory Purchase Act 2004, Local Plans and UDPs will be progressively replaced by Local Development Frameworks which planning authorities are now required to produce. The latter will be comprised of Local Development Documents (LDD), including Development Plan documents, that are part of the statutory development plan, and Supplementary Planning documents, which expand policies set out in a development plan document or provide additional detail.

SPG is required to be clearly cross-referenced to the relevant plan policy or proposal which it supplements. It should be issued separately from the plan and made publicly available. A draft should be made available for consultation with the general public, businesses, and other interested parties prior to the SPG entering into force. Furthermore, the status of the SPG

19 Planning policy guidance 12: Development Plans, Office of the Deputy Prime Minister, Jan 2000
20 Planning policy statement 12: Local Development Frameworks, Office of the Deputy Prime Minister, 2004
should be made clear in the document. It should then be the subject of a council resolution to adopt it as supplementary guidance. On adoption, a statement of the consultation undertaken, the representations received and the local authorities’ response to those representations should be made available with each copy of the SPG (either in an annex or in a separate document).

SPG should be reviewed on a regular basis alongside reviews of the development plan policies or proposals to which it relates. Requirements set out in SPG do not have a legally binding status in deciding planning applications but SPG may be taken into account as a substantial consideration.

Alternatively, local authorities may wish to provide developers with a Good Practice Guide (GPG). This type of guidance document is non-statutory and does not require consultation.

Issues for consideration

The following are the essential issues for good waste and recycling management in new buildings, which should be considered when drafting an SPG or GPG document:

Current regulations and services

- Which regulations apply?
- What are the current waste and recycling collection arrangements provided by the authority?
- Are there any likely changes to these?

Space allocation and infrastructure

- What are the expected waste arisings?
- Which type of collection facility is most suitable for the housing type and the existing/planned collection system?
- How much space must be allowed for the storage of bins and for their transfer to collection points?

Access arrangements

- Collection vehicles must have easy access to the bin collection point with minimum need to reverse.
- What should be the maximum distance between the bin store and the collection point?
- Other Health & Safety requirements, such as the gradient of access roads, the provision of dropped kerbs or ramps.

Amenity and hygiene

- Noise and odour must be minimised.
- Bin storage areas must be able to be washed with waste water discharging into a sewer.
- Security measures should be put in place to prevent the theft of bins and vandalism and to ensure the safe use of bins at night.
- Bin storage areas should be in keeping with the design of the development.
**Management**

- Appropriate signage should be provided.
- Responsibility for maintenance of the bin store should be determined at the outset.
- Responsibility for the transfer of bins to and from the collection point should be determined at the outset.
- Responsibility for the provision of information to residents on the refuse and recycling collection arrangements should be determined from the outset.

**Cost coverage**

- Responsibility for the coverage of the costs involved in providing waste and recycling bins should be determined at the outset.
Examples of planning guidance documents

In Annexes 1, 2 and 3, a range of examples of planning guidance for waste and recycling facilities in new-built residential developments are provided. These documents served as templates which the authorities developed further and amended as appropriate.

The examples provided include both Supplementary Planning Guidance requiring public consultation and good practice guides, developed for a number of local authorities as follows:

- Planning Advice Note: Waste and recycling provisions in new and refurbished high-rise developments, London Borough of Barking and Dagenham, shown in Annex 1
- Supplementary Planning Guidance: The storage and collection of domestic waste and recyclable materials (Consultation Draft), Hampshire County Council, shown in Annex 2
- Climate Change Strategy: Waste and recycling provisions for new residential developments - Good practice guide for developers, Woking Borough Council, shown in Annex 3

**London Borough of Barking and Dagenham**

In the case of London Borough of Barking and Dagenham, planning guidance focuses specifically on high-rise developments. The main issue of concern to the Council was how to ensure that general waste disposal was equally convenient as the recycling collection service. The following options for recycling and waste disposal for high-rise buildings were considered:

- Provision of chutes for general waste and separate communal bring facilities for recyclables
- Provision of chutes for both general waste and recyclables
- Provision of communal bring facilities for both general waste and recyclables

The authority decided to recommend the latter option in its advice to developers, as it was considered the most convenient, safe and cost-effective way of providing waste management services to flat dwellers.

**Hampshire County Council**

Hampshire County Council’s objective was to provide a planning guidance template for the Hampshire authorities. The document considers all types of residential development, including flats and apartments.

**Woking Borough Council**

As part of Woking’s Climate Change Strategy, the Council has developed a range of guidance documents for developers on how to minimise the environmental impact of buildings and the construction process. Taking the form of Good Practice Guides, this includes guidance on water conservation and energy efficiency.

The Good Practice Guide on waste and recycling provisions for residential developments covers both street-level housing and multi-occupancy developments.
Local authority case studies
LONDON BOROUGH OF CAMDEN

Population and housing

Population: 198,020
Total number of dwellings: 94,829
Total number of flats, apartments and maisonettes: 78,875
Percentage of flats as proportion of total dwellings: 83%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat served</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central collection</td>
<td>Low, medium and high rise flats</td>
<td>98 sites across Camden</td>
<td>Outside at suitable locations on streets or at central locations within estates</td>
<td>Sets of five 1,100 or 1,280 litre wheeled recycling bins (1 for each targeted material)</td>
<td>When full</td>
<td>Newspaper &amp; magazines; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans; textiles (at 30 sites)</td>
<td>Veolia Environmental Services</td>
</tr>
<tr>
<td>Near-entrance collection</td>
<td>Low, medium and high rise flats</td>
<td>307 mini-recycling centres servicing estates across Camden</td>
<td>Outside close to entrance of individual blocks</td>
<td>1,280 litre or 360 litre wheeled recycling bins</td>
<td>Twice weekly</td>
<td>Newspaper &amp; magazines; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Veolia Environmental Services</td>
</tr>
<tr>
<td>Collection method</td>
<td>Types of flat served</td>
<td>Number of households served</td>
<td>Location of containers</td>
<td>Type of containers</td>
<td>Collection frequency</td>
<td>Materials collected</td>
<td>Contractor</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------</td>
<td>-----------------------------</td>
<td>------------------------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>--------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Blocks with 6 flats or less</td>
<td>Number of flats served is not available (59,451 households in total)</td>
<td>Not applicable</td>
<td>55 litre box or 30 litre reusable bag</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Cardboard; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Veolia Environmental Services</td>
</tr>
<tr>
<td>Door-to-door collection</td>
<td>Blocks of flats, including high-rise</td>
<td>4,640</td>
<td>Not applicable</td>
<td>55 litre box or 30 litre reusable bag</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Cardboard; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Veolia Environmental Services</td>
</tr>
</tbody>
</table>

**Overview**

With flats making up more than 80% of Camden’s housing stock, the council recognises that it is essential to provide recycling facilities for flats if they are to meet their recycling targets. It is also committed to providing equal access to services for all residents regardless of where they live.

The Council provides a range of different recycling collection services for residents living in flats. A number of estates are served by approximately 307 mini-recycling centres located across Camden. These mini-recycling centres consist of five 1,280 or 360 litre wheeled bins, each collecting different materials.

The near-entrance flats recycling scheme was financed through funding from the London Recycling Fund, which awarded a substantial grant for the introduction of estates recycling to a partnership of the five north London Boroughs of Camden, Islington, Enfield, Haringey and Waltham Forest.

A significant number of flats are included in the kerbside collection scheme, which serves blocks with up to six flats. In addition, the original pilot door-to-door estate recycling collection service was recently expanded to service 4,640 flats, including 22 high-rise blocks.

**Involvement of residents and other stakeholders**

Camden publicised its intention to introduce near-entrance recycling facilities for estates and encouraged residents to request the facilities. A consultation process ensured that residents were involved from an early stage. The consultation process included presentations at residents’ and tenants’ association meetings to inform residents about the proposed service and to seek views on options for container locations. Container locations were agreed in consultation with residents, caretakers and Housing Managers, taking into consideration vehicular access requirements.

Once the service was in place, residents were informed of the location of recycling facilities by leaflets distributed to each household. In addition, a team of Recycling Advisors carried out a doorknocking campaign to raise awareness. The authority has also produced a 10-minute general recycling video, available in five languages, which is distributed to schools and is available to community groups on loan from libraries.

A good working relationship has been developed with the housing department, working towards a formal agreement which includes a number of targets i.e. the number of near-entrance facilities. It also covers the sharing of information such as obtained through surveys and performance monitoring. The agreement aims to ensure that inter-departmental cooperation will continue in a structured way even when there key staff changes. It is also intended to instill the view that the responsibility for meeting recycling targets extends beyond the recycling team.
Overcoming difficulties
The Housing Department raised concerns over the potential for vandalism and increased fly-tipping. To address this, street cleansing targets were included in the waste collection contract. Additionally, Camden selected a pilot location which it anticipated could be difficult to manage in terms of the potential for vandalism – the converse approach to “cherry-picking”. In fact, the Clarence Way estate is now used to demonstrate the potential to replicate the scheme across the Borough.

Camden has a growing and highly transient population with an estimated population turnover rate between 20% and 30%. Therefore frequent updates are required to inform new residents of the service and to encourage their participation. Furthermore, there is great linguistic diversity with an estimated 125 languages spoken in the Borough. To address both these issues, Camden hold recycling workshops in all sectors of the community.

The expansion of the door-to-door collection service has highlighted the difficulty that the layout of certain blocks and estates pose and the need to consider how collection crews can safely collect and carry the potentially heavy bags to their vehicles.

Performance assessment
A general waste stream analysis was carried out to establish a baseline. However, this did not specifically target estates.

In 2004, a questionnaire-based survey of participation rates was carried out as part of the recent doorknocking campaign. This showed that the average participation rate in estates with the near-entrance collection service was 18%.

Recent participation monitoring for the door-to-door recycling collection service indicated an average participation rate of 56%, with participation in different buildings ranging from 41% to 83%. In the six months since the door-to-door program was expanded beyond its initial pilot phase, this service has collected the equivalent of approximately 83kg of recyclables per household per year.

As the door-to-door recyclables are commingled, they must be sent to a materials recycling facility to be sorted. This results in an average cost of £370 per tonne (including collection and sorting).

Contacts
Ann Baker, Assistant Head of Street Environment Services (Recycling), London Borough of Camden
Tel: 020 7974 8998 Email: ann.baker@camden.gov.uk
LONDON BOROUGH OF HACKNEY

Population and housing

Population: 202,824
Total number of dwellings: 88,466
Total number of flats, apartments and maisonettes: 65,075
Percentage of flats as proportion of total dwellings: 73.6%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Blocks of flats with 25 or more dwellings</td>
<td>490 near entry recycling sites across Hackney</td>
<td>Outside, close to entrance of individual blocks</td>
<td>Sets of five 240 litre wheeled bins (3 x mixed glass; 1 x mixed cans and foil; 1 x paper)</td>
<td>weekly</td>
<td>Newspaper &amp; magazines; Other paper; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Foil &amp; foil containers</td>
<td>Ealing Community Recycling Ltd (ECT)</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Blocks of flats with up to 25 dwellings</td>
<td>Not available</td>
<td>Property boundary</td>
<td>55 litre box</td>
<td>weekly</td>
<td>Newspaper &amp; magazines; Other paper; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Foil &amp; foil containers; Textiles; Cardboard; Yellow pages; Household batteries; Car batteries; Engine oil; Shoes</td>
<td>Ealing Community Recycling Ltd (ECT)</td>
</tr>
<tr>
<td>Door-to-door collection</td>
<td>Any including high-rise; (21,000 for dry recyclables and 3,015 for food waste)</td>
<td>Not applicable</td>
<td>No receptacle provided for dry recyclables (residents asked to use plastic carrier bags); Container provided for food waste</td>
<td>Weekly Food waste (including fish and cooked meat); Green waste; Newspaper &amp; magazines; Cardboard; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Foil &amp; foil containers; Textiles</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Other paper; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Foil &amp; foil containers; Textiles</td>
<td>East London Community Recycling Partnership (ELCRP)</td>
</tr>
</tbody>
</table>
Overview
With nearly three-quarters of dwellings being flats, Hackney recognises that it is essential to provide recycling facilities for flats in order to meet its recycling targets. Hackney is also committed to providing equal access to a convenient recycling service for all residents in the Borough.

The flats recycling service was funded with assistance from the London Recycling Fund in addition to other funding sources such as the Equal programme. The service provides near-entrance mini-recycling centres for blocks of flats with more than 25 dwellings. Each facility consists of five 240 litre wheeled bins. Adopting this approach allowed the council to benefit from financial savings associated with the bulk purchasing of the containers.

The scheme is currently being rolled out across the Borough, prioritising sites according to waste arisings. To date, approximately 490 mini-recycling centres have been put in place at estates across Hackney.

In addition, local community organisation East London Community Recycling Partnership (ELCRP) are offering multi-material door-to-door collections to 24,015 households across Hackney. The ELCRP service includes the collection of food waste for 3,015 residents which is composted on site using an automatic in-vessel composting facility known as The Rocket.

Involvement of residents and other stakeholders
At the planning stage the council adopted a consultative approach, which centred on the liaison with residents’ and tenants’ associations and their involvement in decisions relating to the location of containers.

During March 2004, a one-month doorknocking campaign to raise awareness of the near-entrance scheme was carried out on a number of estates in conjunction with a participation rate survey.

As an incentive to take part in the service and to increase capture rates, the authority aims to offer recycling credits to residents’ and tenants’ associations, which can be used for communal improvements to their estates.

ELCRP’s composting facility and a Nightingale Estate high-rise block
An important factor in promoting ELCRP’s composting service is the fact that the door-to-door collection of food waste is shown to play an important role in improving the local environment. As a result of the service, a high proportion of food waste is no longer disposed of in refuse chutes or communal waste containers and the incidence of vermin has reduced significantly.

Overcoming difficulties
There were some difficulties during the planning of the scheme in terms of obtaining data on the number and location of high-rise blocks. The authority commissioned London Community Recycling Network (LCRN) to undertake a mapping exercise of high-rise blocks in the Borough as well as a comprehensive review of existing near-entrance recycling sites, including their current performance.
Some residents were concerned that provision of the new recycling facilities would lead to increased vandalism and fly-tipping and a number of residents’ associations objected to the plans. In these cases it was agreed not to provide the service, on the basis that the containers would be of greater use where residents were more receptive to the new service.

**Performance assessment**
There is currently no cost data available.

The LCRN study provided a useful baseline for future performance assessment. Using the data derived from the mapping exercise, data on the approximate volume of each material collected, obtained from the contractor’s records, was matched with individual near-entrance collection points. From this, the annual tonnage was estimated. The annual quantity per household for each site or cluster of sites was also calculated.

An analysis following the 2004 doorknocking campaign for the near-entrance collection scheme shows that the tonnage of materials collected increased by 35% during the campaign. ELCRP also rely on an intensive doorknocking campaign to maintain participation rates, which have reached 80% in some blocks of flats.

Between April and December 2005, the door-to-door service collected approximately 552 tonnes of dry recyclables. This equates to approximately 35 kg/hh/yr.

Data collected between February and December 2005 indicates that the door-to-door collection of household food waste collected approximately 33 kg/hh/yr.

**Contacts**
Beth Hodge, Recycling Officer, London Borough of Hackney  
Tel: 020 8356 3650    Email: beth.hodge@hackney.gov.uk

Cam Matheson, Manager, East London Community Recycling Partnership  
Tel: 020 8986 5608    Email: sonia@elcrp-recycling.com

**Further information**
Sustainable Tower Blocks Initiative,  

ELCRP, www.elcrp-recycling.com
# Recycling services for flats

**Collection method** | **Types of flat households served** | **Number of households served** | **Location of containers** | **Type of containers** | **Collection frequency** | **Materials collected** | **Contractor**
--- | --- | --- | --- | --- | --- | --- | ---
Near-entrance collection | Blocks of flats of more than 29 properties | 15,326 | Close to refuse bin store or close to block entrance | No container provided for residents to use for storage
"Estates frame": sets of five or six 240 litre wheeled bins, (1 x clear glass, 1 x brown glass, 1 x green glass, 1 x can and foil, 1 or 2 x paper). 1,100 litre bins used on larger estates | Weekly | Newspaper & magazines; Other paper; Clear, green & brown glass; Aluminium & steel cans; Aluminium foil. Introducing cardboard in 2006 | Ealing Community Transport Ltd

Hybrid System | Blocks of flats of usually more than 12 units | 2,934 | Close to refuse bin store or close to block entrance | No container provided for residents to use for storage
Hounslow designed plastic shell supporting sliding 50 litre removable compartments for communal use known as *Hybrid System* | Weekly | Newspaper & magazines; Yellow Pages; Cardboard; Clear, green & brown glass; Aluminium & steel cans; Aerosols, Clothes; Household Batteries | Ealing Community Transport Ltd

---

**Source:** www.neighbourhood.statistics.gov.uk (based on Census 2001)

---

**Population and housing**

Population: 212,341
Total number of dwellings: 86,217
Total number of flats, apartments and maisonettes: 32,172
Percentage of flats as proportion of total dwellings: 37.3%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)
<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerbside collection</td>
<td>Blocks of flats and HMOs of usually less than 12 units</td>
<td>Aprox 10,000 flats</td>
<td>Not applicable</td>
<td>44 litre standard kerbside box</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Yellow Pages; Cardboard; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Aerosols; Clothes; Household and Car Batteries; Engine Oil</td>
<td>Ealing Community Transport</td>
</tr>
</tbody>
</table>

**Overview**

Although the proportion of flats in Hounslow is not as high as in some inner London boroughs, the Council have taken the view that flats must be included in recycling schemes to contribute to achieving recycling targets. The council is also committed to providing recycling services for all residents irrespective of accommodation type.

Collection options for flats are, in general, determined by block size. Small blocks of flats are included in standard kerbside collections. Blocks with between 6 and 29 flats are provided with the hybrid system communal removable compartment sets, serviced by standard kerbside collection vehicles and crews. Whether boxes or hybrid units are provided, depends not so much on the number of flats, but on a number of factors such as access, traffic issues (as the hybrids are quicker to empty than numerous boxes) and the layout of the properties. Blocks of 30 units and more are provided with estate frames of conveniently located 240 litre wheeled bins, in a locking framework.

*Estate frames* were introduced in 2002 and these are serviced by compartmentalised bin lifting vehicles.

The *hybrid system* became fully operational on 19 April 2004. The contents of hybrid system removable compartments are kerbside sorted into standard vehicles just as with flats included in the kerbside collection.

Hounslow’s recycling contract covers all dwellings and therefore the majority of flats are already served by one of the three systems. Planning Officers and Hounslow’s in house refuse service liaise with the recycling team to ensure that developers of new flats in Hounslow make recycling infrastructure provision (so called *D4 provision*).

**Involvement of residents and other stakeholders**

Recycling Officers and the Recycling Contractor, in liaison with landlords, plan the estates frames scheme for flats. For smaller blocks, assessing the most suitable collection options involves identifying flat numbers, suitable container locations, vehicle access arrangements and evidence of any anti-social behaviour problems which might influence the siting of the containers. Larger blocks to be served by kerbside collection are also visited to identify locations for kerbside basket or box set-out.

Before any scheme starts, residents receive a notification leaflet. The leaflet covers the proposed start date, directions on what, how, and where to recycle, and an invitation to comment on the proposal. No response from residents is regarded as acceptance of the proposed scheme.

Several methods are used to maintain communication with residents and promote increased participation once recycling is underway. Recycling features regularly in the Council’s fortnightly newsletter. Quarterly inserts in the Council’s magazine offer information specific to flat dwellers as well
as feedback on recycling performance. All recycling information includes advice on accessing the Council’s central translation service for over-the-phone translation into the borough’s minority languages. Waste Watch has given advice on identifying barriers to participation in recycling. Independent Recycling Action Groups have been set up in by residents in Brentford and Chiswick and Hounslow to encourage participation in recycling although these are not specifically targeted at flat dwellers.

No specific promotion to increase participation in recycling was planned as at February 2006 but new posters are to be produced which will be displayed on the information-boards on estates with established collections. Hounslow plan to re-launch the recycling facilities available for flats and will re-brand the hybrid and estate frames systems. As part of the re-launch, new publicity material will be produced and distributed.

About 15 enquiries are handled by the Council each month from residents requesting recycling facilities at flats and Officers try to provide appropriate recycling services as quickly as possible.

**Overcoming difficulties**
When the schemes were first introduced it was sometimes difficult to identify private landlords. For reasons beyond the Council’s control there was also some delay in identifying the correct number of estate frames required to provide the service to suitable blocks. These issues have been resolved.

Since the schemes have been set up, day-to-day operational difficulties have been minimal. There have been several recorded vandalism incidents and some contamination problems. Some estate frame locks have failed and have been replaced by more robust models. There have been some problems with the pins that lock the hybrid drawers in place going missing. Several sites have experienced problems with the dumping of both residual waste and recyclables near the recycling containers.

**Performance assessment**
Separate collection rounds for properties with the hybrid units and estate frames mean that accurate weighbridge records can be maintained. Data from April 2005 to January 2006 provided estimates that, on average 3.2 tonnes/week of materials were collected from properties with the hybrid units last year. The quantity of recyclables collected from the properties with the estates frames is, on average, of 13.2 tonnes/week. Performance figures in terms of kg/household/year cannot be quoted fairly as the number of households served is increasing all the time.

Recycling services for flat dwellers are provided as part of a comprehensive household waste recycling service worth £1.1m per annum (excluding organic collections). The operating costs of the services specific to flats are not known. Funding has come from the council and from the Waste Minimisation and Recycling Fund.

The hybrid system seems a useful way of containing infrastructure costs in that it permits the use of standard kerbside operations to serve medium sized blocks of flats.

**Contacts**
Claire Howard, Senior Recycling and Operations Officer, London Borough of Hounslow
Tel: 020 8583 5063 Email: claire.howard@hounslow.gov.uk
### London Borough of Islington

#### Population and housing

- **Population:** 175,797
- **Total number of dwellings:** 83,981
- **Total number of flats, apartments and maisonettes:** 66,269
- **Percentage of flats as proportion of total dwellings:** 79%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

#### Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central collection</td>
<td>Purpose-built blocks of flats</td>
<td>130 estates across the Borough</td>
<td>Central location on estate; public highways adjoining estates</td>
<td>1,280 litre wheeled bins for large estates or sets of five 240 litre wheeled bins for private blocks of flats</td>
<td>When full (usually weekly to twice-weekly)</td>
<td>Mixed paper; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Islington Cleansing Services Ltd</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Flats with kerb access (excluding flats above shops)</td>
<td>Approximately 13,250</td>
<td>Not applicable</td>
<td>55 litre box</td>
<td>Weekly</td>
<td>Mixed paper; Plastic bottles; Cardboard; Clear, green &amp; brown glass; Textiles; Aluminium &amp; steel cans; Kitchen waste including cooked and uncooked meat, fruit and vegetable peelings, eggs and eggshells, cut flowers and teabags</td>
<td>Islington Cleansing Services Ltd</td>
</tr>
<tr>
<td>Collection method</td>
<td>Types of flat</td>
<td>Number of households served</td>
<td>Location of containers</td>
<td>Type of containers</td>
<td>Collection frequency</td>
<td>Materials collected</td>
<td>Contractor</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------</td>
<td>-----------------------------</td>
<td>------------------------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Flats above shops</td>
<td>Approximately 3,500 growing to 10,000 by the end of 2006/7</td>
<td>Not applicable</td>
<td>Clear plastic sacks</td>
<td>Daily</td>
<td>Mixed paper; Cardboard; Aluminium &amp; steel cans; Plastic bottles</td>
<td>Islington Cleansing Services Ltd</td>
</tr>
<tr>
<td>Door to door collections</td>
<td>Low, medium and high rise flats</td>
<td>27,900</td>
<td>Not applicable</td>
<td>55 litre box or a reusable bag</td>
<td>Weekly</td>
<td>Mixed paper; Plastic bottles; Cardboard; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Textiles</td>
<td>Islington Cleansing Services Ltd</td>
</tr>
<tr>
<td>Trial commingled central collection</td>
<td>Purpose-built blocks of flats</td>
<td>4 estates across the Borough</td>
<td>Central location on estate</td>
<td>Clear recycling sacks 1,280 litre wheeled bins</td>
<td>When full (usually weekly to twice-weekly)</td>
<td>Commingled paper, glass, aluminium and steel cans</td>
<td>Islington Cleansing Services Ltd</td>
</tr>
</tbody>
</table>

**Overview**

Neighbourhood statistics indicates that 79% of dwellings in Islington are flats. Information provided by Islington indicates that approximately 35% of all housing stock is in blocks of flats and tower blocks, 10% in flats above shops and the remaining stock are on-street properties, many of which have been converted into flats and multi occupancy dwellings. Because of this high proportion of flats, Islington recognises that it is essential to provide recycling facilities for flat dwellers if it is to meet its recycling targets.

The flats recycling scheme was financed with funding from the London Recycling Fund, which awarded a substantial grant for the introduction of recycling for flats to a partnership of the five London Boroughs of Islington, Camden, Enfield, Haringey and Waltham Forest.

130 estates are served by central collection facilities placed either on the grounds of the estate, or on highways near the estate, where no suitable location on the estate could be found. In addition, 4 estates are part of a trial commingled central collection service where residents collect their recyclables within a clear plastic sack, which is then placed in a central commingled bin.

Islington has recently introduced a weekly door to door collection service to more than 27,900 flats across the borough. This service is provided to a number of estates that also have access to central collection facilities.

An estimated 13,250 flats in the Borough are served by the authority’s standard kerbside collection scheme which is also provided to houses. This service is usually provided to flats situated at street level with access to the kerb and HMOs. These flats also have access to a kitchen waste recycling program that collects cooked and uncooked kitchen waste, including meat, from the kerbside once per week.

Approximately 3,500 flats located above shops have recently been provided with a daily recycling collection service utilising clear recycling sacks. This service will be expanded during 2006/7 to service approximately 10,000 flats.
Involvement of residents and other stakeholders

The authority adopted a consultative approach, which focused on involving residents in the choice of location for the recycling containers, whilst taking into consideration vehicle access constraints and health and safety requirements. Residents’ views were sought through residents’ and tenants’ association meetings, public meetings and community events.

A particular effort was made to raise residents’ awareness of the recycling scheme through an estates outreach programme. The programme, funded through the Neighbourhood Renewal Fund, included a doorknocking campaign and provision of a reusable cloth bag to each household for the storage of recyclables. When the bag is delivered, it contains a number of leaflets introducing the service and information on how to sort recyclable materials.

Islington’s extensive and ongoing awareness campaign also aims to ensure the recycling message is ever-present in the daily life of householders outside their homes. Leaflets on recycling are displayed at local GP surgeries, hospitals and community centres. Posters in local cinemas and advertising on shopping trolleys in local supermarkets are also used to promote use of the service.

Overcoming difficulties

A lack of comprehensive data on the housing stock in the Borough was encountered at the planning stage - for example, the number of newly built private properties was not known. In response the Recycling Team instigated the development of an electronic Geographical Information System, the use of which has facilitated the planning of recycling services. The map on the below depicts the status of recycling provision in Islington.

Where space restrictions did not allow the provision of near-entrance collection containers, residents were in many cases resistant to the placing of containers on communal lawns, which were considered vital recreation areas. In these cases, a suitable alternative location allowing adequate vehicle access was identified on a public highway adjoining the estate.

A high population turnover rate (estimated to be 27%) means that there is a need for frequent updates on recycling provision to ensure that new residents are aware of the services and to encourage participation. In order to address this issue, the Council has developed an ongoing education and awareness raising programme, which includes doorknocking campaigns, leaflet drops and articles in area housing or residents’ newsletters.

Performance assessment

The average cost of the recycling service for flats is estimated at £85 per tonne for central collection facilities and £134 per tonne for kerbside provision. As the door to door collection system, the commingled collection and the nightly kerbside collection for flats above shops have only been recently introduced, no cost information is available.
Islington has also invested in an on-board weighing system for their recycling trucks. However, there have been a number of implementation challenges surrounding the technology and no data on the amount of recyclables collected from flats is available at the time of writing. It is anticipated that the on-board weighing system will be up and running by mid-2006, after which the information will become available.

Data collected for the kerbside collection service for flats above shops indicates that between December 2005 and mid-January 2006, an average of 0.49 tonnes of recyclables were collected every day. This equates to approximately 22 kg/hh/yr.

While the door-to-door programme is still being rolled out, preliminary data collected indicates that over 86 tonnes of recyclables were collected from 18,000 flats in December 2005 and almost 92 tonnes were collected up to the 20th of January 2006 under this scheme.

Data collected for the trial commingled recycling service indicates that between October and December 2005, over 52 tonnes of recyclables were collected from the 4 estates.

Contacts
Caroline Brimblecombe, Recycling Strategy and Communications Manager, London Borough of Islington
Tel: 020 7527 4744 Email: caroline.brimblecombe@islington.gov.uk
LONDON BOROUGH OF LAMBETH

Population and housing

Population: 266,169
Total number of dwellings: 121,743
Total number of flats, apartments and maisonettes: 84,826
Percentage of flats as proportion of total dwellings: 69.7%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Blocks of flats unsuitable for kerbside collection</td>
<td>Unknown</td>
<td>Close to block entrance or in other convenient location.</td>
<td>No container provided to residents for storage 1,280 litre wheeled bins for commingled collection- the number provided depends on the number of blocks of flats</td>
<td>Weekly</td>
<td>Current scheme: Newspaper &amp; magazines; Other paper; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Cardboard and Plastic bottles</td>
<td>Cleanaway</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Small blocks of flats and HMOs with street level refuse collection</td>
<td>Unknown</td>
<td>Not applicable</td>
<td>Orange sacks</td>
<td>Weekly</td>
<td>All paper and card/cardboard, including Yellow Pages/directories; Glass bottles and jars; Drinks cans, food tins and aerosols; Plastic bottles</td>
<td>Cleanaway</td>
</tr>
</tbody>
</table>
Overview
Lambeth pioneered large scale recycling from flats in London, introducing near entrance containers extensively in 1998 and 1999 using banks of 240L wheeled bins in a locking framework. In 2004, Lambeth moved from source separated recyclable collections to commingled collection from houses and flats, in line with the other authorities in the Western Riverside Waste Authority.

The number of 1,280 litre commingled bins provided on each estate or for block of flats depends on the number of dwellings. Some of the larger estates have 30 bins at various locations across the estate. The bins are loaded onto modified RCVs with on-board weighing equipment.

Material from the estates, and from Lambeth’s kerbside collection, is taken for bulking at a site in Wandsworth and then transferred to a Kent based MRF for sorting and processing.

Lambeth is running a trial on 2 estates where reusable bags are provided to 1,500 properties to help residents transfer their recyclables from the home to the recycling bins. Officers are keen to know whether this will increase participation and performance figures.

Involvement of residents and other stakeholders
When the authority moved from source separated recyclable collection to commingled collection it produced localised publicity to inform residents about the new bins and the materials being targeted. Leaflets were produced in several minority languages. Some doorstepping activities were also carried out.

A new permanent post of Communications Officer has been funded to deal with all promotion activities relating to the borough’s environment and street care responsibilities. It is intended that packs will be developed to provide to residents that are new to Lambeth to be distributed by Housing Officers and other key contacts. Officers are keen to reinforce recycling messages and have recently printed posters for display in doctors’ surgeries, playgroups and housing offices to encourage participation.

Performance assessment
Lambeth’s target for recycling in 2005/6 was 21%. Officers estimate that the target has been reached and exceeded.

The on-board weighing capabilities of the new collection vehicles are expected to allow performance data to be collected more systematically and in greater detail. However, no data was available at the time of writing.

One of the major benefits of the on-board weighing system is the opportunity to understand where performance is low and to target resources to encourage greater participation through much more systematic publicity, promotion and education.

There are no plans as yet to introduce on-board weighing for residual waste. Lambeth is currently drawing up a new waste strategy but has not yet considered the benefits of monitoring all of the waste stream.

Contacts
John Dyer, London Borough of Lambeth
020 7926 1253  Email: jdyer@lambeth.gov.uk
# Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central collection</td>
<td>Blocks of flats with more than 3 floors or 6 units</td>
<td>37,502</td>
<td>Close to refuse bin store, close to estate entrance or in other convenient location.</td>
<td>No container provided to residents for storage Sets of three wheeled bins (1 x 1,100 litre for paper, 1 x 1,100 litre for mixed glass, 1 x 1,280 litre for mixed cans and plastic bottles)</td>
<td>Mostly fortnightly, some weekly</td>
<td>Newspaper &amp; magazines; Other paper; Card, Clear, green &amp; brown glass; Aluminium &amp; steel cans; Plastic Bottles</td>
<td>Lewisham Council DSO</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Blocks of flats and HMOs with fewer than 6 units or 3 floors</td>
<td>75,000</td>
<td>Not applicable</td>
<td>Either a 55 litre kerbside box or a 240 litre green wheeled bin</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Plastic Bottles</td>
<td>Lewisham Council DSO</td>
</tr>
</tbody>
</table>
Overview
Lewisham has provided central collection facilities for all its large flatted estates. Only non-estate based blocks in inaccessible streets have been excluded. These blocks will receive facilities as they are identified, as will new build schemes.

The principle drivers for offering recycling facilities to all blocks of flats have been the desire to increase tonnage by increasing the availability of convenient facilities, the requirement to meet targets for recycling and for access to recycling facilities, and the desire to promote social inclusion.

The sets of three bins, known as micro recycling centres, are locked to purpose built walled or fenced hard standing bays. Originally the bins targeted particular materials. However, commingled recycling collections have recently been established in Lewisham. As such, while the micro recycling centres are still set up to encourage the sorting of recyclables, the collecting trucks now empty all bins into the one compartment.

Very small blocks of flats and HMOs are included in the borough’s fortnightly commingled box or wheeled bin kerbside collection service. This service was recently expanded to collect glass, aluminium and steel cans and plastic bottles. This expansion has been combined with a promotion campaign and an incentive scheme.

Involvement of residents and other stakeholders
The introduction of the micro recycling centres was planned and implemented by a dedicated Project Manager. The Project Manager visited all estates to identify suitable container locations. Where there were no obvious sites, for example, where space was limited, consultations with caretakers and local residents was undertaken, face-to-face and using a simple questionnaire survey, to obtain local recommendations on where to put the facilities. Photographs and GIS were also used by the Project Manager to plan and record the location of the facilities.

Before the scheme started, a leaflet was distributed borough-wide, backed up by articles in the Council magazine, and information at local conferences and community events. Residents have been kept informed by secondary leafleting, improved signage of bins and by letters.

To promote the expanded recycling service, and to encourage residents to recycle, the Council started a monthly £500 prize draw in October 2005 for any resident that registers with the council and uses either the kerbside recycling scheme or uses their estates mini recycling centres. Entries will be drawn at random once a month. The winner will be visited by a Recycling Officer who will check to make sure that they are recycling – only regular recyclers can win!

Overcoming difficulties
Some operating difficulties have been encountered at some of the facilities, including vandalism to bins, theft of bins, noise from glass containers, fly tipping, and complaints about visual intrusion of bins. Noise and vandalism problems have resulted in a small number of facilities being moved.

The investment in purpose built recycling bays with new bins has ‘tidied up unsightly areas on estates making recycling more appealing’ according to the Project Manager.

Performance assessment
The conversion of the Lewisham recycling service to commingled collection has allowed for the same vehicles to empty both kerbside and mini-recycling centres, reducing capital costs. However, this has limited the ability of the Council to determine the performance of the flats recycling service versus the general kerbside service as each truck collects recyclables from both sources on each collection round.

Overall the impact of the micro recycling centres has been to raise the profile of recycling within the borough, through new sites, new containers and new signage. Generally these have been well received by residents.

Contacts
Paddy Swift, Project Manager, London Borough of Lewisham
Tel: 020 8314 2017 Email: Patrick.Swift@lewisham.gov.uk
LONDON BOROUGH OF REDBRIDGE

Population and housing

Population: 238,635
Total number of dwellings: 94,174
Total number of flats, apartments and maisonettes: 25,369
Percentage of flats as proportion of total dwellings: 26.9%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection, although usually near refuse</td>
<td>Blocks of flats on estates otherwise unsuitable for kerbside collection</td>
<td>5,919 at 180 sites</td>
<td>Adjacent to communal refuse facilities or in closest convenient location to the entrance</td>
<td>Residents are provided with a reusable plastic bag to sort and carry recyclables to the bins Set of two wheeled recycling bins; one for paper and one for cans, glass and plastic bottles (bin capacity supplied in 360, 660 or 1,100 litre)</td>
<td>Mainly fortnightly, some weekly</td>
<td>Newspaper &amp; magazines; Other paper; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Enterprise MRS Environmental</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Small blocks of flats and HMOs with street level refuse collection</td>
<td>Not available</td>
<td>Not applicable</td>
<td>55 litre black or green box</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; Other paper; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Enterprise MRS Environmental</td>
</tr>
</tbody>
</table>
Overview
Redbridge is committed to offering equal access to recycling to all its residents. The Council also considers that the inclusion of flat dwellers in recycling schemes will contribute to the attainment of recycling targets.

The majority of Redbridge flat blocks do not rely on chute systems, so residents are required to bring refuse to individual bins or bulk containers at ground level. The estates recycling scheme has been designed to be compatible with this system. If space permits, recycling containers (one for mixed cans, plastic and glass and one for paper) are located in the refuse area. Container lids openings are shaped to inhibit contamination.

Recycling performance from flats was felt to be low so in December 2004, promotion was sought. Approximately 3,000 households were provided with a reusable plastic bag which they can use to sort and store recyclables in and then carry down to the recycling bin at a convenient time. An additional 2,000 households were provided with bags in December 2005.

The theory is that locating recycling facilities close to refuse containers guarantees convenience for residents and ready access for the contractor. These were the principal factors in determining the recycling collection methods. A two compartment top-loading bin-lifting vehicle services the recycling containers. Material is taken to a MRF located in the borough for sorting and onward transport.

Currently 180 sites are provided with recycling facilities and the authority plans to expand the service following the securing of additional funding in upcoming financial years.

Minority language information is already included in kerbside recycling leaflets may be provided also on flats leaflets as the expansion proceeds. There is clear signage placed next to the bins in flats, using images (rather than words) showing what can be recycled. In addition, the Council provides well illustrated posters for noticeboards that detail the location of the bins and the range of materials that can be recycled.

Redbridge Borough Council organise quarterly Residents Consultation Forum meetings. Residents can raise and discuss waste and recycling issues as part of these meetings.

A satisfaction survey was sent out in December 2005 to 2000 residents. Responses were positive from the 205 residents who replied.

Overcoming difficulties
The biggest challenge faced by the initiative so far has been identifying landlords in privately owned blocks in response to resident requests for the installation of recycling services. Where the resident is sub-letting and may not know the landlord or managing agent, it can be necessary to contact all residents to obtain landlord details.
Minor contamination problems have been experienced, believed to be mainly the result of residents saving untargeted materials such as card and plastic film.

Demand for the service has currently outstripped supply. The Council has a waiting list of flats that wish to be included on the service and has funding from Defra to provide facilities to as many residents in flats expressing an interest flats as possible. This same money will pay for the revenue costs associated with the service until end of 2007/08. After then the Council may have to choose whether to continue to fund the service or to reduce some aspects of the service.

**Performance assessment**

Overall tonnage from flats is recorded at the end of each collection round when the dedicated flats vehicle passes over a weighbridge. Collection operatives estimate individual container volumes. Tonnages recorded recently (Dec’ 05 and Jan ’06) provide an indication on performance rates. Approximately 36kg/household/year of recyclables are collected from the sites. There is a range of performance from flats around the Borough with some sites performing poorly. The Council intends to review some of the existing sites on the scheme to assess what improvements can be made. This may include improving signage, displaying posters and doorknocking, where possible. Establishing an incentives scheme may be considered to stimulate interest from residents and hopefully increase the quantity of recyclables collected.

Redbridge reports that the current operating cost of the flats collection service to 5,919 flats is £40,000 per annum or £6.75 per household per annum.

**Contacts**

Tom Lawrence - Recycling Assistant, London Borough of Redbridge
Tel: 0208 708 5517 Email: tom.lawrence@redbridge.gov.uk

Chris Hillyer - Recycling Team Leader  LB of Redbridge
0208 708 5007 Email: christopher.hillyer@redbridge.gov.uk
LONDON BOROUGH OF SOUTHWARK

Population and housing

Population: 244,866
Total number of dwellings: 107,663
Total number of flats, apartments and maisonettes: 79,036
Percentage of flats as proportion of total dwellings: 73.4%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)
A recent ONS mid-year estimate for population was 254,700
A Valuations Office schedule as of 31/12/05 estimated total dwellings at 119,140

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat for which kerbside collections are impractical</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central collection</td>
<td>Blocks of flats for which kerbside collections are impractical</td>
<td>Approx. 62,250</td>
<td>Close to existing refuse facilities or other areas of heavy footfall.</td>
<td>No container provided to residents for storage</td>
<td>Weekly or when full</td>
<td>Newspaper &amp; magazines; Other paper, card, cardboard; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Plastic bottles (plus some plastic food containers from March 2006)</td>
<td>London Borough of Southwark in house</td>
</tr>
</tbody>
</table>

<p>| Central collection | Blocks of flats on estates | 14 estates | In courtyards | No container provided to residents for storage | Not applicable - material is recycled on site | Material from window boxes and uncooked vegetable scraps | Voluntary activity by residents; originally scheme set up by CRISP |</p>
<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat for which kerbside collections are impractical, in addition to the central collection</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door-to-door collection</td>
<td>Blocks of flats</td>
<td>Approx 11,500 growing to 21,650 by 14 February 2006</td>
<td>Not applicable</td>
<td>Clear plastic sacks</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Other paper; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Plastic bottles</td>
<td>London Borough of Southwark in house</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>HMOs, small blocks of flats in street level areas</td>
<td>Approx 2,500 estate properties</td>
<td>Not applicable</td>
<td>Residents: 58 litre blue box for glass and cans; 60 litre reusable blue bag for paper</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Other Paper; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Plastic bottles (plus some plastic food containers from March-2006)</td>
<td>London Borough of Southwark in house</td>
</tr>
</tbody>
</table>

### Overview
A large proportion of Southwark’s housing stock, in common with other inner London boroughs, is flats. Southwark must therefore offer flat dwellers access to recycling facilities to meet targets and to provide equal access to recycling facilities for its residents.

Southwark has introduced borough wide dedicated recycling service for flat dwellers financed through the Waste Minimisation and Recycling Fund, SRB, Housing Revenue Account and other sources.

A total of 250 sets of three 1,100 litre containers one for glass, one for paper, card and cardboard and one for cans and plastic bottles have been installed on almost all of the authority’s 185 flatted housing estates. Plastic food containers will be also be targeted from March 2006. Materials are taken to Southwark’s in house depot.

Bins are attached to locking posts or sited in new built enclosures. The sets of bins, known as recycling centres, are located in areas of heavy footfall – estate locations where it is known local residents are likely to pass by. Exactly where the bins are located depends on the layout of each estate, for instance, an estate with 8 exits and one bin store would usually have its recycling centre near the bin store. Conversely, an estate with 8 bin stores and one exit would have its recycling containers near the exit. Issues such as limiting noise nuisance and providing adequate parking places are also considered when choosing the precise location of recycling bins, in consultation with residents. The containers are serviced by recently acquired bin lifting RCV type vehicles.

11,850 local authority owned flats on Southwark estates have a door-to-door refuse collection service (in most other Southwark blocks of flats, residents take their refuse to bins stores or chutes on landings). In all of these flats, this service has been adapted to include recycling collections. Residents are provided with survival bags in which to put their recyclables for collection once a week with refuse bags by existing cleaning staff. The
bags are sent to a MRF for processing. As the MRF can only process plastic bottles and not other plastic containers, these are not included in the door-to-door scheme. However, since January 2006, the door-to-door service has also targeted glass.

By March 2006, a further 9,800 flats will be served by door-to-door recycling collections including, for the first time, some which have chutes or bring refuse arrangements. These flats have been selected following consultation with Southwark’s Housing team and careful rounds planning. Surveys of the blocks of flats have been carried out to exclude those from which door-to-door recycling would be a fire risk or present other access problems. The service will be provided by a newly funded four person team of cleaners.

As far as possible, bags are collected from individual doorsteps so that any contamination problems can be linked back to the appropriate residents and information given or other action taken as required.

Once the door-to-door programme is fully established in suitable council owned properties, the feasibility of extending the service to flats owned by other landlords will be considered, if the appropriate permissions are gained.

*Estates recycling centres* have not been removed from those flatted estates now served by door-to-door collections.

Fourteen Southwark estates also have communal compost bins following an initiative by local non-profit recycling organisation CRISP in 1998. In the scheme, window box and vegetable scrap organics are composted in courtyard located composters for use in window boxes.

Southwark also has 46 on-street bring recycling facilities.

**Involvement of residents and other stakeholders**

The door-to-door service is promoted by door knocking and leafleting every flat included in the service. The collection operatives are able to deliver leaflets as they carry out their collections which means local issues (such as contamination, bags being put out on the wrong day or in the wrong place, etc) as well as service improvements (e.g. addition of glass) can quickly and effectively be communicated to residents.

Doorknocking work has also been used to promote the recycling centres and newspaper adverts are used to highlight changes in the materials collected (e.g. the addition of card in October 2004). Pictorial stickers have also been put onto all of the recycling centres so that everyone can see what can and can’t go into each recycling bin.

The *recycling centres* scheme was based on surveys of all 185 council owned flatted- estates in the borough. Carried out by a specially deployed four-person development and implementation team, the surveys included footfall mapping, data on dwelling numbers, landlord, tenant and estate cleaner contacts, information on current refuse collection and vehicle access arrangements were collated by the team and used to prepare estate consultation packs. The packs describing the *recycling centres* concept and showing the proposed locations of containers were presented to meetings of Tenants’ Association representatives and housing managers to secure consent and support for the proposals.

An extensive advance publicity programme was mounted early in 2004. All flats in the programme received publicity describing the scheme and detailing the location of their nearest recycling facility. Leaflets are available in principle minority languages.

Alongside the door-to-door scheme, Southwark is also encouraging higher participation from the *recycling centres*. One plan for which funding is being sought would award prizes to estates securing large recycling yields or showing most improvement in recycling performance. Alternatively performance league tables might be published. Both proposals will involve monitoring the performance of estates recycling centres through the use of chipped bins and on-board weighing as well as participation information from the clear bag scheme.

Officers will also be making a series of visits to the local Tenants’ and Residents’ Associations from April 2006 and will consult with residents on the optimum locations for the recycling containers, which they hope could improve performance.

**Overcoming difficulties**

In 2004, the Council’s intention was to provide a *recycling centre* for every three hundred flats. Emptied weekly, this would have provided each flat with an average of 11 litres of recycling capacity per week. The Council acknowledges that this is significantly less than for residents on both the
kerbside and door-to-door collections whose boxes and bags provide 70 – 80 litres of recycling capacity per dwelling per week. However, the Council has the capability to empty estate recycling centre containers as often as required. In fact generally containers have not required more frequent servicing. This led officers to consider whether the recycling centres might not be attracting high levels of usage and in 2004-2005 residents from 940 flats served by Estates Recycling Centres were interviewed about the scheme. 46% of the 940 respondents said that they used the centres to recycle. In view of the well-known tendency of respondents to surveys on recycling to exaggerate their involvement in recycling, this is likely to be an over-estimate. 54% admitted that they did not use the centres to recycle. 14% of respondents said that they did not know where the centres were. 10% said that the recycling bins were too far away. Interestingly however, only 3% said that they were not interested in recycling.

The survey, under the WIP LASU scheme, confirmed officers’ suppositions, that the Estates Recycling Centre system alone was unlikely to make a sufficient contribution to recycling targets. A more convenient system was needed to encourage greater participation in recycling by flat dwellers. The door-to-door scheme was introduced to tackle some of the convenience issues. Early impressions of the door-to-door scheme are that it appears to be running well. Participation rates have not been surveyed officially but the cleaners figures show at least a 60% set out rate since November 2005 which compares very well with participation in Southwark’s Blue Box kerbside scheme, approximately 60% over a 4 week period.

The Council is now concentrating on encouraging effective involvement in the door-to-door scheme, by providing information and support to flat dwellers identified by the collection team as not sorting their waste and recycling correctly.

**Performance assessment**
Detailed information on the quantities of recyclables from door to door collections is already being collated. Tonnage data, capture rates for targeted materials and other performance information will be available for the estates recycling centres once the on-board weighing system is operational on the collection vehicles (expected by mid 2006).

Initial monitoring data of the door-to-door collection system indicates that prior to the introduction of glass, about 11 tonnes per week was being recycled from the 12,000 flats serviced. This equates to approximately 48 kg/household/year.

Since the addition of the glass collection the quantity of recyclables collected door-to-door has risen to about 16 tonnes per week, or 69 kg/household/year. A WIP LASU funded report in 2005 estimated that total waste generated per flat per week to be 12.44kg suggesting that the scheme is diverting about 10.7% of waste from flats into recycling. Southwark’s target for recycling in 2005/6 is set at 18%.

On-board weighing will enable the performance of both the door-to-door and the Estates Recycling Centre approaches to recycling to be recorded on a more systematic basis. However, because of the wide variety of containers used (black sacks, Palladins, Eurobins, and Roll-on Roll off skips) extending weighing to include residual waste would be expensive and in some cases logistically very difficult. Data on residual waste tonnages are however recorded on a round by round basis.

Some performance data relating to the composting scheme has been collected. In 2005, 23 tonnes of household waste was diverted from the waste stream into to composting system, resulting in the production of 16 tonnes of compost. This compost was then used on gardens within the estates.

The council believe that once performance assessments from the door-to-door collections are available, decisions can be made as to how to improve the recycling facilities for other flats in the borough. The expansion of the door-to-door scheme combined with an awareness raising and promotion campaign, including the incentives scheme, is expected to see increases in both the net amount of recycling and the proportion of waste diverted into recycling from all flats in Southwark.

**Contacts**
Philip Davies, Head of Waste Management and Transport, London Borough of Southwark
Tel: 020 7525 2388  Email: philip.davies@southwark.gov.uk

Ann Baker, Sustainable Waste Officer, London Borough of Southwark
Tel: 0207525 2414  Email: ann.baker@southwark.gov.uk.
LONDON BOROUGH OF TOWER HAMLETS

Population and housing

Population: 196,106
Total number of dwellings: 80,781
Total number of flats, apartments and maisonettes: 66,685
Percentage of flats as proportion of total dwellings: 82.6%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)
According to www.neighbourhood.statistics.gov.uk in mid-2003 Tower Hamlets had an estimated 206,600 residents.

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door-to-door collection</td>
<td>All types of block</td>
<td>Approximately 55,000</td>
<td>Not applicable</td>
<td>44 litre box or a reusable pink bag</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Cardboard &amp; other paper; Mixed glass; Aluminium &amp; steel cans; Aerosols; Foil &amp; foil containers; Textiles</td>
<td>Tower Hamlets Community Recycling Consortium (THCRC)</td>
</tr>
<tr>
<td>Central collection</td>
<td>All types of block not yet served by door-to-door collection</td>
<td>Approximately 10,000</td>
<td>In convenient, secure locations close to blocks of flats</td>
<td>No container provided to residents for storage, mainly single 1,280 litre wheeled bins, 770 litre or 360 litre where blocks are small</td>
<td>Weekly, or more frequently if required</td>
<td>Newspaper &amp; magazines; textiles; Cardboard &amp; other paper; Mixed glass; Aluminium &amp; steel cans; Aerosols; Foil &amp; foil containers</td>
<td>Ealing Community Recycling Ltd (ECT) and THCRC</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Small blocks with good access to kerb</td>
<td>17,000</td>
<td>Not applicable</td>
<td>54 litre box</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; textiles; Cardboard &amp; other paper; Mixed glass; Aluminium &amp; steel cans; Aerosols; Foil &amp; foil containers</td>
<td>THCRC</td>
</tr>
</tbody>
</table>
Overview
More than 80% of dwellings in Tower Hamlets are flats. Furthermore, the number of dwellings is increasing. Council tax records and census estimates (see above) show that the number of households in the borough has increased by 7.6% since the census and almost all of these dwellings are flats.

In these circumstances, the Council acknowledges that recycling services must be offered to flat dwellers if the authority is to meet its recycling targets. The Council is in any case committed to ensuring that flat dwellers are not excluded from recycling schemes simply because they live in flats.

In the Council’s door-to-door scheme, residents are asked to set out recyclable material in boxes or reusable pink bags at their door on the collection day. Operatives empty the box contents into durable woven bags. The bags are transferred to street level by lift or, where necessary, by stairs. Care is taken to ensure compliance with manual handling regulations. The bags are emptied into wheeled bins that are then emptied into a refuse collection vehicle for sorting at a materials recycling facility.

The door-to-door service has been partially funded through the London Recycling Fund and partially from council tax and SSA resources. Blocks of flats not yet served by the door-to-door recycling service are provided with central commingled recycling bins.

Involvement of Residents and other stakeholders
The Council did not seek to involve residents in the initial planning of the door-to-door recycling service. Having determined to offer the service, Tower Hamlets commissioned consultants to mount a GIS survey of every block, mapping block layouts, current refuse arrangements, household totals, phone entry systems, vehicle access points, incidents of anti-social behaviour and to identify housing and care-taking contacts.

When the service was about to start, leaflets were delivered to all residents included in the scheme. A second leaflet was delivered with the recycling container.

Quarterly newsletters covering progress and holiday collection arrangements are delivered to all flat dwellers in the door-to-door scheme.

The contractor, Tower Hamlets Community Recycling Consortium, also organises estate and block meetings with tenants’ associations, tenant management organisations and housing associations. These services are part of the contractor’s outreach programme.

The contractor is also required to be ‘sensitive to the needs of the cultural diversity of the community it serves.’ To show how this will be achieved the contractor produces a programme for council approval. Actions include translating leaflets into minority languages, obliging operatives to dress and to conduct themselves appropriately and recruiting operatives locally from the communities actually served by the scheme.

Residents have been very enthusiastic about the service. Other benefits resulting from its introduction have included reductions in the number of overflowing bulk refuse containers and in blockages of refuse chutes.

Overcoming difficulties
There have been a small number of fires in boxes and acts of vandalism. An assessment of the risks of fire, and obstruction of exit routes by boxes, is underway.

Performance assessment
A system is in place to record the weight of materials collected by the door-to-door service and pass readers over bar-coded boxes to record set out rates and to allow participation to be calculated.

Results from Bethnal Green, where the initial door-to-door pilot took place, indicate that an average of 67 kg of recyclable material per household per annum is being collected from flats- equivalent to a recycling rate of 7%. Participation monitoring showed that 65% of Bethnal Green flat dwellers participated at least once over a four-week period. There have been measurable reductions in the amount of waste for disposal.

There are on going discussions between the authority and the contractor on means of improving participation and capture rates through the outreach programme. The contract cost of the door-to-door service is the equivalent of £29.44 per household per annum.

Contacts
Kevin Maple, Recycling Manager, London Borough of Tower Hamlets
Tel: 020 7364 6699 Email: kevin.maple@towerhamlets.gov.uk
CITY OF WESTMINSTER

Population and housing

Population: 181,286
Total number of dwellings: 102,593
Total number of flats, apartments and maisonettes: 89,434
Percentage of flats as proportion of total dwellings: 87.2%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)
(In mid-2003 Westminster had an estimated 222,000 residents according to http://neighbourhood.statistics.gov.uk (Westminster))

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Blocks of flats on estates; Mansion Blocks (mainly low rise purpose built private blocks)</td>
<td>15,901 council owned; Unknown number of flats in private mansion blocks</td>
<td>Close to block entrance or close to refuse facilities (ground floor or basement)</td>
<td>Durable reusable woven bag provided to residents for storage 1,280 litre wheeled bins for commingled material (660 litre where space is limited)</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Cardboard; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Veolia</td>
</tr>
<tr>
<td>Door-to-door collection</td>
<td>Low rise, high density flats (Amberley Estate only)</td>
<td>352</td>
<td>Not applicable</td>
<td>35 litre basket Material transferred to bulk commingled container</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Cardboard; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Cleaning Contractor</td>
</tr>
</tbody>
</table>
### Table: Recycling Schemes for Flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling chute</td>
<td>Estates with twin chute system</td>
<td>90 (Pilot program)</td>
<td>Within bin store, serviced by a chute</td>
<td>Special transparent blue plastic bags, sized to fit within the chute</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Cardboard; Plastic bottles; Aluminium &amp; steel cans; Clear, green &amp; brown glass</td>
<td>Veolia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Bulk container beneath refuse chute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>HMOs</td>
<td>Unknown</td>
<td>Not applicable</td>
<td>35 litre basket or non returnable blue bag for mixed recyclables</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Cardboard; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Veolia</td>
</tr>
<tr>
<td>Street bring sites</td>
<td>HMOs and blocks of flats on streets</td>
<td>Not applicable</td>
<td>118 sites mainly on highway land</td>
<td>No container provided to residents for storage</td>
<td>At least weekly</td>
<td>Newspaper &amp; magazines; Other paper; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Veolia</td>
</tr>
</tbody>
</table>

### Overview

Nearly 90% of Westminster dwellings are flats, a high proportion even by inner London standards. City of Westminster must offer recycling services to flats if it is to meet its recycling targets. The authority is also committed to offering convenient recycling services to residents, including residents living in blocks of flats, as far as resources allow.

For flats on estates inaccessible to the kerbside scheme, the strategy is to provide residents with durable reusable woven bags for storing their recyclables. Residents take their recyclables to large capacity containers in convenient locations close to their blocks. Material is commingled. This approach is known as *Housing Estate Recycling*. Almost all flats owned by City of Westminster are served by this system.

Approximately 23,000 flats in mansion blocks and HMOs are provided with recycling services through either the *Housing Estate Recycling* scheme or Westminster’s kerbside recycling scheme (known as the *Doorstep Recycling Service*). The Council is continuing to roll-out recycling services to the remaining 22,000 mansion block flats which currently do not have access to recycling. Recycling bins are placed on the estates as densely as possible and where feasible, near to residual waste containers. Where
recycling bins cannot be placed near to the residual waste bins, then they are sited near to the flats’ entrance.

Additionally, a door-to-door recycling service has been introduced at Amberley Estate in the deprived Westbourne ward. A diverse community, nearly 20% of Amberley dwellings are sheltered warden-assisted accommodation for elderly people. The estate cleaners sort material set out by residents in 35 litre baskets into bulk recycling containers located on the estate.

Westminster is also trialling a chute recycling system on an estate equipped with twin chutes. One chute has been converted to collect recyclable materials and residents have been provided with specially sized plastic bags that will not block the chutes. To evaluate the effectiveness of the trial, which is due to start March 2006, Officers plan to monitor the:

- quantity and quality of recyclables placed in the chutes bins by visual inspection during emptying to estimate volumes (and then tonnages assuming 1 x 1,280 litre bin contains 100kg of commingled materials);
- quantity of recyclables placed in the existing bring bins on the estate, again using visual inspection during emptying to record the volume (and then the weight); and
- quantity of residual waste in bins on the estate, probably by visual inspection and estimation of volume.

This three-way monitoring will help Officers to understand whether additional tonnages of recyclables are being collected via the chute system or whether materials which would normally be taken to the bring bins are simply being diverted to the new chute system.

Before the trial starts, Officers plan to run a door knocking campaign to help residents understand what is required to participate. A number of languages are spoken by people living on the estate and Officers are preparing for all residents’ needs as best they can.

Residents in blocks of flats not yet provided with dedicated recycling facilities have access to Westminster’s network of street bring sites known as Micro Recycling Centres many of which are close to estates and to residential blocks. The precise locations of these centres are determined by considering space, noise, visual amenity, security, access and resident demand. There is some use of GIS, although 70-80 of the sites are at least seven years old.

Material from both the Housing Estate Recycling collections, and from the Doorstep Recycling Service, is collected commingled on dedicated RCV type vehicles, some equipped with bin-lifters, bulked at a nearby transfer station and transported to a MRF in Kent for separation.

Involvement of residents and other stakeholders
Estate visits by Recycling Officers have been used to identify suitable recycling container locations. Housing managers are the principle planning contacts although there is consultation with the residents prior to the installation of the facilities.

Once the scheme is ready to start an introductory leaflet is delivered to all dwellings via housing management. A reusable bag issued to flat dwellers features an information panel on what to recycle and where to get further information. Leaflets are available in eight minority languages although demand for them has apparently been limited.

On council owned estates, any performance information available (see below), based on weight records maintained for each commingled container, is fed back to residents through estate newsletters. Newsletters are also used to promote the scheme, as are social events such as Good Neighbour Days. The Council also publishes a quarterly Recycling News leaflet and offer detailed recycling information on the Council website.

The Council have also introduced an incentive prize scheme. The best performing estate in terms of recycling tonnages (see below) can win £1,000 for use on estate improvements selected by the residents themselves. This award will be expanded in the future to include the most improved estate.

Finally, the Council has undertaken a number of doorstep awareness raising programs in recent year to help educate residents on the correct use of the recycling facilities and to collect feedback on the services provided.
Overcoming difficulties
With a view to preventing operational problems, issues such as the potential for anti-social behaviour, noise, visual intrusion, ease and safety of use for residents and for operatives are all assessed in determining the location of containers at the planning stage. Current refuse collection and vehicle access are also taken into account.

Some problems relating to vandalism, contamination and littering have been encountered with the estates scheme. Communication is the principle means of addressing contamination and littering problems. Damaged containers may be repaired, replaced or, if possible, moved to a location offering improved surveillance.

The need to increase participation rates and improve the quantity and quality of material collected is acknowledged. More intensive communication and promotional strategies are being prepared.

Performance assessment
While a load cell and GPS system was introduced over the past 18 months to record the weights of commingled material collected, some technical challenges have limited the data available to date. As such, collection crews continue to visually estimate the amount of material in each central collection container and check for contamination.

The data available from the Council, recorded at 37 estates across Westminster, indicates that the average amount of recyclables collected by the near-entrance scheme is 67 kg/household/year. However, there is some variation in performance between estates with some achieving performance levels as high as 115 kg/household/year while other estates only achieving 18 kg/household/year. In general, the lower performance levels are recorded at estates with the chute system for residual waste and in particular, at estates with high rise blocks. It may not be possible to change the chute system to accommodate recyclables at many estates, so finding more convenient ways for residents to recycle need to be identified. The higher performance levels tend to be recorded at estates with communities where the population is more stable and often elderly, together with the presence of estates officers who are keen to promote recycling.

The collection system for flats uses the same bulking and transfer route as the kerbside system with obvious cost advantages. As such, it is not possible easily to disaggregate the costs of the recycling services for housing estates.

Contacts
Phil Robson, Recycling Officer, City of Westminster
Tel: 020 7641 7026 Email: probson@westminster.gov.uk
BIRMINGHAM CITY COUNCIL

Population and housing

Population: 977,087
Total number of dwellings: 404,302
Total number of flats, apartments and maisonettes: 90,531
Percentage of flats as proportion of total dwellings: 22.4%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Tower blocks</td>
<td>about 2,600</td>
<td>Close to refuse bin store or close to block entrance as appropriate</td>
<td>Residents on pilot scheme: 25 litre container with lid and carrying handle; Residents in expanded scheme: reusable woven bag Sets of five 240 litre wheeled bins (1 x clear glass, 1 x brown glass, 1 x green glass, 1 x can and foil, 1 x paper. 1 location also has a textile container)</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Other paper; Clear, green &amp; brown glass; Aluminium &amp; steel cans, aluminium Foil and aerosols (Textiles collected wherever feasible)</td>
<td>Brumcan</td>
</tr>
</tbody>
</table>
Overview

City of Birmingham is the largest English local authority and has more dwellings and more flats within its boundaries than any other council. However, Birmingham is so large that its 90,000 flats represent less than a quarter of its total housing stock, a much lower proportion of flats than in the inner London boroughs for example.

The City Council takes the view that it can meet its immediate recycling and landfill targets within its current range of waste management and recycling initiatives. These initiatives, though kept under review, do not as yet include any major council provision of dedicated recycling facilities for flat dwellers. Most Birmingham flat dwellers wanting to recycle their household waste are obliged to use the city’s network of 320 recycling sites in retail and civic locations. One new bring facility has been landscaped and well signed and is apparently performing well, although tonnage data is not available.

HMOs are however served by Kerbside collections where possible.

Meanwhile two bring recycling schemes have been established in small blocks of flat in Brandwood and Billesley following residents’ requests for facilities. Mini bring facilities have been provided in former drying rooms for the collection of three colours of glass and low-grade paper. Newspapers and magazines are already collected in the kerbside collections. One resident has taken responsibility to oversee the facilities and to encourage neighbours to participate. The Council has now contacted other small blocks of flats to see if there is demand for similar initiatives elsewhere.

The main scheme for recycling from flats is through a collaboration between the Council and Brumcan, a local not-for-profit operator. Brumcan has developed an Estates Recycling Scheme covering about 2,600 dwellings in 41 blocks.

Residents are provided with a reusable woven bag to save recyclables and take them to sets of five 240 litre wheeled bins in locking frames close to block entrances. Currently 43 sites are provided.

Each wheeled bin is lined with a removable, reusable woven sack which are winched from the bins on collection day by a HIAB crane equipped flat bed truck. Emptied bins are relined with empty sacks and the material is transported to Brumcan’s sorting and bulking depot.

Brumcan’s HIAB vehicle also transports woven sacks of recyclable material collected on a separate Brumcan kerbside-recycling scheme elsewhere in the city. Using the same vehicle to lift woven sacks from the sets of bins in the Estates Recycling Scheme provides obvious economies of scale.

The Brumcan scheme has hitherto been financed through the Neighbourhood Renewal Fund rather than by the council. Current funding will end shortly. Brumcan, the Council and the Optima housing association (managing many of the blocks served by the scheme) are considering new funding possibilities.

Involvement of residents and other stakeholders

Brumcan’s Estate Recycling Scheme has fully involved local residents at all stages. The collection methods and possible bin locations are discussed at meetings with residents’ associations. Advice is also taken from Housing Managers. Brumcan has used site maps, data on numbers of flats per block and information about existing refuse facilities and vehicle access arrangements in the planning process. The flexibility of the system is stressed to residents and landlords. Wheeled bins can be moved if they have been sited incorrectly. Indeed, recycling bins have been re-located after residents groups or collection operatives have found the sites to be performing less well than expected. Site locations have not usually been controversial although locations where children can use the bins to climb onto buildings etc are always avoided.

Launch events are prepared with residents’ associations. Leaflets, displays, and door-to-door deliveries of household containers have all been used to initiate the Estates Recycling Scheme.

Once recycling bins are installed, estate based newsletters provide updates on tonnages recycled and reminders on good recycling practice. Brumcan shares 50% of the revenue it makes from sale of the recyclable materials with each residents’ association to support environmental projects.
Brumcan’s principal kerbside recycling leaflet, distributed quarterly, is multi-lingual. Brumcan also makes use of well illustrated leaflets with appropriate photos and diagrams.

**Overcoming difficulties**
Brumcan report no difficulties in planning the Estates Recycling Scheme.

From time to time there are problems with access to bin sites (parked cars, locked storage areas etc.) and sometimes bins overflow, but these are too infrequent to require remedial action.

There have been some minor problems of vandalism and littering. Good contact arrangements with local housing managers and caretakers minimise these difficulties.

**Performance assessment**
Each woven bag from each recycling site is weighed, so continuous data by material and by blocks served is available. It is on this basis that the revenues are distributed between residents’ associations. No waste stream analysis has been conducted so the precise impact of the scheme on diverting waste and capturing targeted materials by block and by estate cannot be calculated.

Brumcan report that the weight records show a close correlation between the convenience of facilities, as defined by closeness to block entrances or to other locations frequently passed by residents, and the quantity of material collected for recycling.

Brumcan report that contamination levels do not exceed the standards set by their end-users.

Service quality is subject to regular scrutiny by City of Birmingham with which Brumcan has a Service Level Agreement, required under the terms of Neighbourhood Renewal Funding for the Estates Recycling Scheme.

During 2005, 72 tonnes of materials have been collected from 2,718 households, equivalent to 27kg/household/year.

Brumcan estimate that the cost of running the 43 mini recycling centres on 41 sites is approximately £90k per year. This cost includes emptying the containers and general servicing plus liaison and education. However the city council considers unit costs per tonne to be somewhat high and has been dissuaded so far from funding similar schemes on high-rise flats (although it has launched schemes in two small blocks of flats, see above). Nonetheless the Council is pleased with the performance of the scheme.

Meanwhile residents have expressed strong enthusiasm for the scheme in feedback to Brumcan. Textile collections have been particularly well received.

**Contacts**
Jeremy Shields, Birmingham City Council
Tel: 0121 303 6190 Email: jeremy.shields@birmingham.gov.uk

Magda Hindson, Brumcan
Tel: 0121 328 2020 Email: magda@brumcan.co.uk
BRISTOL CITY COUNCIL

Population and housing

Population: 380,615
Total number of dwellings: 167,123
Total number of flats, apartments and maisonettes: 45,550
Percentage of flats as proportion of total dwellings: 27%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat on estates</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Blocks of flats</td>
<td>12,000 flats</td>
<td>Close to block entrance, close to refuse facilities or in other convenient location</td>
<td>Residents are provided with a Reusable woven polypropylene bag available in two sizes Sets of six 240 or 340 litre wheeled bins (1 x clear, 1 x brown and 1 x green glass, 1 x cans, 2 x paper)</td>
<td>Varies from weekly to monthly depending on demand</td>
<td>Newspaper &amp; magazines; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Foil</td>
<td>SITA sub-contracted to ECT Recycling</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Small blocks of flats, HMOs</td>
<td>Approximately 18,000</td>
<td>Not applicable</td>
<td>44 litre black box</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; 3 colour glass; Aluminium &amp; steel cans; Foil; Textiles; Batteries; Engine Oil; Shoes; Spectacles, Household and car batteries; Yellow pages and Aerosols</td>
<td>SITA sub-contracted to ECT Recycling</td>
</tr>
</tbody>
</table>
Overview
Bristol has a large number of flats and was a pioneer in providing dedicated recycling services for flat dwellers through the *Mini Recycling Centre* system, the first examples of which were installed in the mid-1990s.

As with several authorities, Bristol has taken the view that recycling facilities must be offered to flat dwellers to improve the prospects of meeting recycling targets. Bristol is also committed to providing equal access to recycling facilities for all residents.

In the *Mini Recycling Centre* system, residents take recyclable material to labelled sets of 240 or 340 litre wheeled bins. The bins are located as conveniently as possible, either in refuse storage areas, close to the entrances to the blocks, in car parks or on walkways, depending on the space available. If possible, Officers attempt to locate the recycling bins in the refuse storage areas.

Depending on the site, bins are in a locking framework or left loose in bins stores. Compartmentalised bin lifting vehicles are used for servicing the bins. There are currently more than 185 *Mini Recycling Centres*. Bristol’s current waste management contract specifies the addition of a minimum of ten new sites every year until 2011 when the contract expires. Contract variations are being drawn up to increase this contractual number. A waiting list of potential sites based on residents’ requests is maintained.

Where residents of flats in HMOs and in small blocks are able to keep a black box inside and are able to present the box for collection at the kerbside they can be included in Bristol’s kerbside recycling scheme known as *The Black Box Recycling Scheme*.

It is estimated that in 2008 there may be around 5-10,000 flats still not served by central facilities. Residents in these flats will need to use one of Bristol’s 40 bring sites at supermarkets and other locations.

Involvement of residents and other stakeholders
Residents are not generally involved in the planning of recycling services for flats, but do request the facilities. Sometimes residents committees may be consulted on the location of the recycling facilities.

Recycling Officers have planned the location of the containers following site surveys, data gathering, reviews of current refuse arrangements and consultations with housing managers or landlords.

When the system was first introduced, only limited resources were available to promote the scheme and raise awareness. In some cases, it is said, facilities were installed, bins were labelled and locations were signed but no other publicity was provided. In these circumstances, residents would be aware of the facility only if they passed it.

In order to improve awareness and participation, Bristol City Council and The Recycling Consortium have implemented the ‘Recycling in Flats Everyday’ (RIFE) project. As part of this project, during 2005 RIFE workers visited the majority of flats serviced by a mini recycling centre to discuss the scheme and raise awareness.

As part of their visits, the RIFE workers presented each flat with a reusable polypropylene bag that could be used to sort and store recyclables and then carry them to the recycling point at a convenient time. In addition, the side of the bag was printed with information on what materials residents can recycle and contact information for the Council.

Overcoming difficulties
There have been minor incidences of vandalism and littering, but not sufficiently serious to disrupt operations.

Contamination has not been a significant problem to date and the distribution of the reusable bags with the materials information printed on the side is expected to further reduce the already minor issue.

Performance assessment
The overall weight of materials collected from the *Mini Recycling Centres* is collated from the weighbridge returns of the dedicated service vehicle. The volume of material in each bin is estimated and recorded on a daily log by the driver of the vehicle.
In 2005, the Mini Recycling Centres directly servicing flats across Bristol collected 453,069 kg of recyclable material. This works out to approximately 38kg per flat per annum (based on 11,886 flats served).

The best performing site is in an area with a more mature population from mixed socio-economic backgrounds. The recycling containers are located in the car park which is in a central area and visible from a number of blocks of flats.

There is strong anecdotal evidence of reductions in overflows from communal residual refuse containers in blocks where residents have access to Mini Recycling Centres. However, the weight of material collected in the residual refuse containers in 2005, which would allow the recycling performance of the MRCs to be calculated precisely, is not known. Residual waste is collected by a different contractor, twice a week at some sites and different rounds are used.

So far, it has not been possible to extract costs data relating exclusively to the costs of Mini Recycling Centre scheme. The cost of the scheme is contained within the waste management contract.

Contacts
Bristol City Council Recycling Helpline
Tel: 0117 903 1221    Email: recycling@bristol-city.gov.uk
EASTLEIGH BOROUGH COUNCIL

Population and housing

Population: 116,169
Total number of dwellings: 47,851
Total number of flats, apartments and maisonettes: 5,732
Percentage of flats as proportion of total dwellings: 12%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat served</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Low and medium rise flats</td>
<td>Unknown</td>
<td>In convenient locations, close to the block entrance</td>
<td>1,280 litre wheeled bins Clear sacks to sort and store recyclables within flats</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; aluminium &amp; steel cans; cardboard; plastic bottles</td>
<td>In house</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Flats with kerb access,</td>
<td>Unknown</td>
<td>Not applicable</td>
<td>Green 140 or 240 litre wheeled bin 38 litre black box for glass</td>
<td>Fortnightly, on alternate weeks to domestic refuse</td>
<td>Newspaper &amp; magazines; aluminium &amp; steel cans; cardboard; plastic bottles Glass (limited pilot program)</td>
<td>In house</td>
</tr>
</tbody>
</table>

Overview

Eastleigh Borough Council operates a kerbside recycling collection scheme which incorporates flats with kerb access. This scheme uses a green wheeled bin that is emptied every fortnight, on alternate weeks to the fortnightly collection of domestic refuse.

Prior to the introduction of the alternate weekly collection scheme, the Council surveyed all roads and flats to determine their suitability to store both the recycling and refuse wheeled bins. In flats with limited storage and poor access to the kerb, the Council provided twin 1,280 litre wheeled bins.
communal bins, one for recyclables and the other for residual waste. Residents of those flats were then issued with black sacks for residual waste and clear sacks for recyclables. It was then the responsibility of individuals to put the right sack in the correct bin.

Eastleigh Borough Council is a member of ‘Project Integra’, Hampshire’s partnership between the eleven district councils, Portsmouth, Southampton and Hampshire County Council. This partnership allows for the development of an integrated approach to recycling across Hampshire, including provision of recycling facilities. Eastleigh Borough Council is also closely involved in the ‘Recycle for Hampshire’ campaign, launched in March 2005, which provides recycling information and runs recycling awareness raising and promotion campaigns for the entire County.

**Involvement of residents and other stakeholders**
If a flat does not have a communal recycling service, residents can contact the Council and request a visit by a recycling officer. If facilities are not suitable for the entire flat, individual residents will be provided with clear recycling bags which they can place out on the kerb on the collection day.

The Council has set up a Citizens Panel which is made up of 1,000 residents of different backgrounds, age and sex who are regularly asked to comment on different themes put forward by Service Units. The results are published and used as a sounding board to help shape and react to changes required to services. The Citizen Panel has been asked to comment on Waste, Recycling and StreetCare issues, and this has helped formulate the way in which the strategy and waste collection service has developed.

Eastleigh Borough Council is developing a promotion campaign for flats recycling with the local housing associations, letting agents, private landlords and estate agent.

**Overcoming difficulties**
Eastleigh Borough Council experienced significant levels of contamination in some flats that had been provided with the communal recycling bins. Flats owned by housing associations and those with high resident turnovers were particularly problematic. Where possible, the Council worked with the housing managers, used letter drops and other publicity, to educate residents about the correct use of the recycling facilities. Despite this work, there continued to be issues in some properties and the Council took the decision to remove these problem flats from the recycling system. The Council has recently conducted a survey of the properties which are currently excluded from the kerbside recycling arrangements, and sought advice on how to minimise contamination when they are re-introduced. The survey has indicated that many of the householders in these excluded properties are keen to recycle and the Council hopes to include all properties in the recycling collection by the end of 2005/06.

In addition, the Council has recently implemented a cost recovery charge if a property has regular contamination problems, resulting in recycling loads being rejected. If a recycling bin cannot be collected due to contamination, and the Council needs to send out a refuse truck to empty the bin, the building management will be charged for the service. This system is expected to encourage building managers at problem sites to work with their residents to improve the use of the recycling facilities.

**Performance assessment**
The recycling vehicles in Eastleigh can service both the kerbside box scheme and the near-entrance facilities in flats. As such, the collection of recycling from flats is incorporated into normal recycling rounds. As a result, no flats specific performance data is available at this time.

**Contacts**
Angela Taylor, Recycling & Development Officer, Eastleigh Borough Council
Tel: 02380 688318 Email: angela.taylor@eastleigh.gov.uk
ELLESMERE PORT AND NESTON BOROUGH COUNCIL

Population and housing

Population: 81,672
Total number of dwellings: 34,093
Total number of flats, apartments and maisonettes: 3,318
Percentage of flats as proportion of total dwellings: 10%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat served</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formerly kerbside boxes and bags now wheeled bins</td>
<td>Ground floor of small blocks and HMOs</td>
<td>All (number not known)</td>
<td>By refuse bins</td>
<td>4 Wheeled bins (240 litre for card, 240 litre for paper, 240 litre for cans and plastic and 140 litre for glass)</td>
<td>Fortnightly</td>
<td>Paper, cardboard, tins/ cans, plastic and glass</td>
<td>In house contractor</td>
</tr>
<tr>
<td>Central collection</td>
<td>Low rise blocks</td>
<td>1,800 to 2,400</td>
<td>By refuse bins</td>
<td>Wheeled bins (as above)</td>
<td>Fortnightly</td>
<td>Paper, cardboard, tins/ cans, plastic and glass</td>
<td>In house contractor</td>
</tr>
</tbody>
</table>

Overview

All HMOs and most low-rise flat blocks in EP&NBC are now served by sets of 240 litre wheeled bins located alongside refuse bins.

Involvement of residents and other stakeholders

A questionnaire survey of flat dwellers covered by the scheme undertaken under the WIP LASU initiative in 2005 found the new scheme using wheeled bins to be popular with residents and this is confirmed by anecdotal observation from council officers and operatives.

Overcoming difficulties

There have been some contamination problems. This is particularly noticeable in HMOs and small flats blocks previously served by individual
boxes and bags. However, it is difficult to identify the source of contamination, especially since the bins serve several properties and access to some bin sites is unrestricted. Council staff visit blocks where contamination is found and issue warning letters. No penalties have yet been issued to flat dwellers.

An experiment with restricted aperture bins, clearly labelled for recycling, has been successful in reducing contamination at a site with communal yards which is open to passers-by. This approach will now be further trialled in the Council’s small number of high-rise blocks. Here residents will also be provided with reusable bags for in-dwelling storage of recyclables. If the trial is successful (i.e. good participation rates are achieved and there are few problems with contamination) then the authority plans to provide re-usable bags to all residents in flats across the borough. In low rise blocks and HMOs residents are asked to use their own shopping bags.

Performance assessment
Tonnage data specific to flats recycling schemes is not available.

Contacts
Ian Mealer
Tel: 0151 356 6599  ian.mealer@epnbc.gov.uk
ELMBRIDGE BOROUGH COUNCIL

Population and housing

Population: 121,926
Total number of dwellings: 52,619
Total number of flats, apartments and maisonettes: 11,250
Percentage of flats as proportion of total dwellings: 21%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Overview
In 2004, a WIP LASU funded study was undertaken for Elmbridge Borough Council to develop a strategy to deliver a kerbside wheeled bin recycling service to communal and high density residential developments.

Involvement of residents and other stakeholders
Following the study, which identified locations for the installation of recycling facilities at most blocks of flats, officers have identified the landlords and residents' associations of about 4,000 of the 5,722 flats in the borough. They have then contacted many of them to inform them that additional bins for recycling will soon be provided. Blocks where storage is extremely limited or where access is very difficult, have not so far been included in this review so that officers can gain experience in rolling out the recycling schemes in easier to manage locations. Another review will be carried out later to ensure that as many properties as possible have access to recycling facilities. In addition at about 1,500 properties on 100 or so sites, no landlord or local contact has so far been identified. Efforts to identify contacts at these sites and to enter details onto the contacts' database continue.

The plan is to provide adequate recycling capacity for residents living in flats by tailoring recycling installations according to storage facilities. This may mean some flats have individual boxes for kerbside collection, while others will use communal 1,100 litre bins. On the whole, residents will use re-usable bags to collect recyclables in the home and then transfer the materials to 1,100 litre wheeled bins. It is hoped that the use of compatible collection vehicles and containers will allow the full integration of kerbside and flats based collections of commingled paper, card, cans and plastic bottles as the scheme develops.

So far, 347 sites serving 5,722 properties have been identified for inclusion in the collection scheme.

Contacts
Environmental Care Hotline
01372 474775
envcare@elmbridge.gov.uk
FAREHAM BOROUGH COUNCIL

Population and housing

Population: 107,977
Total number of dwellings: 44,403
Total number of flats, apartments and maisonettes: 4,321
Percentage of flats as proportion of total dwellings: 10%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Medium and high rise flats</td>
<td>Not available</td>
<td>In refuse storage area</td>
<td>1,100 litre wheeled bin</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; aluminium and steel cans; plastic bottles; cardboard</td>
<td>In house</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Flats with kerb access and individual bin storage sheds</td>
<td>Approximately 1,000</td>
<td>Not applicable</td>
<td>Blue lidded wheeled bin, either 140 litre or 240 litre</td>
<td>Fortnightly, on alternate weeks to the household refuse collection</td>
<td>Newspaper &amp; magazines; aluminium and steel cans; plastic bottles; cardboard</td>
<td>In house</td>
</tr>
</tbody>
</table>

Overview

Fareham provide blue lidded wheeled bins to the majority of properties in the Borough, including flats. These bins collect commingled recyclables including newspapers and magazines, cardboard, aluminium and steel cans and plastic bottles. Since September 2005, the recycling and general refuse bins have been emptied fortnightly, on alternate weeks.

Fareham Borough Council is a member of ‘Project Integra’, Hampshire’s partnership between the eleven district councils as well as Portsmouth, Southampton and Hampshire County Council. This partnership allows for the development of an integrated approach to recycling across Hampshire, including provision of recycling facilities.
Over recent years, Fareham Borough Council has developed and run a comprehensive recycling strategy and communications plan known as ‘Project 40’, which is designed to achieve a target of recycling 40% of household waste by 2005/6. In order to achieve this target, Fareham Borough Council has committed to providing well managed recycling facilities and services throughout the Borough, providing information and support to residents and providing regular updates on progress toward the targets.

Since the launch of the county wide ‘Recycle for Hampshire’ campaign in March 2005, the Project 40 program has been scaled back. However, while Recycle for Hampshire focusses on the provision of general recycling information and promotion, the Project 40 is still used to provide welcome packs to all residents who move to Fareham or move within Fareham. This welcome pack includes information about the available recycling services at their new home.

Involvement of residents and other stakeholders
‘networkfareham’ is Fareham's local community strategic partnership which aims, amongst other things, to enhance the environment and encourage sustainable development. This network is made up of local businesses, community groups and organisations and meets regularly. Members of the public are welcome to attend the board meetings, but have no direct input into the meetings.

Residents are welcome to contact the recycling department at the Council at any time to discuss recycling issues. Residents can request an assessment of their flats for suitability to introduce recycling facilities, if they have not already been installed.

Overcoming difficulties
Contamination of recycling bins is one of the major problems facing the flats recycling scheme in Fareham. A particular concern is plastic bags, which are often used by residents to collect and store their recyclables. Fareham Borough Council has undertaken a number of education and awareness campaigns and contacts residents in flats where contamination has been identified as a problem, to help encourage the correct use of the facilities.

In a small number of cases, the Council has withdrawn recycling service from blocks of flats that have had ongoing problems. The service has been re-introduced to some of these flats following additional education and awareness raising effort by the Council.

While many block of flats in Fareham have access to individual bin storage sheds, these were often built prior to the implementation of the twin bin refuse and recycling system. As a result, some residents have noted that there is insufficient space within the shed to store both the recycling and refuse wheeled bins. Fareham Borough Council is exploring options to install larger bin stores in some properties to address this issue.

Performance assessment
Fareham Borough Council has collected data on the performance of the twin-bin collection service as a whole. However, no information has been collected on the participation and performance of the flats recycling service within Fareham.

Contacts
Mark Harrison-Jones, Recycling Officer
Tel: 01329 236100 Email mharrison-jones@fareham.gov.uk

Sue Hand, Recycling Officer
Tel: 01329 236100 Email: shand@fareham.gov.uk
HAVANT BOROUGH COUNCIL

Population and housing

Population: 116,849
Total number of dwellings: 50,324
Total number of flats, apartments and maisonettes: 8,372
Percentage of flats as proportion of total dwellings: 17%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance</td>
<td>Medium rise flats</td>
<td>Unknown</td>
<td>In refuse bin storage area</td>
<td>Green 240, 660 or 1,280 litre wheeled bins</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; aluminium and steel cans; plastic bottles; cardboard</td>
<td>In house</td>
</tr>
<tr>
<td>collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Near-entrance</td>
<td>Medium and high rise flats</td>
<td>Unknown</td>
<td>In refuse bin storage area</td>
<td>Green lidded wheeled bin, either 140 litre or 240 litre</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; aluminium and steel cans; plastic bottles; cardboard</td>
<td>In house</td>
</tr>
<tr>
<td>collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Flats with kerb access, including HMOs</td>
<td>Unknown</td>
<td>Not applicable</td>
<td>Green lidded wheeled bin, either 140 litre or 240 litre</td>
<td>Fortnightly, on alternate weeks to the household refuse collection</td>
<td>Newspaper &amp; magazines; aluminium and steel cans; plastic bottles; cardboard</td>
<td>In house</td>
</tr>
</tbody>
</table>

Overview

Havant provide their green lidded wheeled recycling bins to the majority of properties in the Borough, including flats with kerb access. These bins collect commingled recyclables including newspapers and magazines, cardboard, aluminium and steel cans and plastic bottles.
Since September 2005, the Council has been rolling out a system where the recycling and general refuse bins are emptied fortnightly, on alternate weeks. This system will be in place at all locations across the Borough by October 2006.

In over 200 blocks of flats with central refuse collection systems, Havant provide communal recycling bins within the existing refuse bin store wherever possible. These bins collect the same commingled recyclables as the kerbside recycling system. These communal bins are provided with locked lids and limited apertures to help limit contamination.

Havant Borough Council is a member of ‘Project Integra’, Hampshire’s partnership between the eleven district councils, Portsmouth, Southampton and Hampshire County Council. This partnership allows for the development of an integrated approach to recycling across Hampshire, including provision of recycling facilities.

Havant Borough Council is also closely involved in the ‘Recycle for Hampshire’ campaign, launched in March 2005, which provides recycling information and runs recycling awareness raising and promotion campaigns for the entire County.

Involvement of residents and other stakeholders
Education material produced for the Recycle for Hampshire campaign has been used to communicate with residents of flats in Havant. This communication work forms part of a Hampshire wide behavioural change strategy which aims to get more residents recycling more of their refuse.

Residents are able to call Havant Borough Council if they have any questions or concerns regarding the recycling system and a Recycling Officer will discuss the issues with them and provide any information and support they can.

Overcoming difficulties
Contamination of communal recycling bins with general refuse has been a problem at some locations. When the bins are introduced at a site, all flats are provided with information on how to use the service correctly. Collection crews monitor the bins when they are emptied and if regular contamination problem is reported, the Council will send letters to residents at the site, reminding them of the materials that can be recycled in an attempt to minimise this problem.

Performance assessment
No performance data is available for the flats recycling service provided by Havant Borough Council.

Contacts
Sally Smith, Waste Recycling Officer
Tel: 023 9244 6445  Email: sally.smith@havant.gov.uk
LEEDS CITY COUNCIL
Population and housing

Population: 715,402
Total number of dwellings: 312,541
Total number of flats, apartments and maisonettes: 54,195
Percentage of flats as proportion of total dwellings: 17.3%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance</td>
<td>Multi-storey flats and maisonette blocks, both high and low rise</td>
<td>Approx 6,500 flats (5,000 council owned; 1,000 owned by RSL) <em>Not all have glass facilities</em> Some student Halls of Residence</td>
<td>Close to block entrance, close to refuse facilities or in other convenient location.</td>
<td>No container provided to residents for storage 2 x 1,100 litre wheeled bins (1 for commingled packaging and paper and 1 for mixed glass)</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; Other paper, Cardboard, Clear, green &amp; brown glass; Plastic bottles; Aluminium &amp; steel cans</td>
<td>Leeds City Council in house</td>
</tr>
<tr>
<td>Kerbside</td>
<td>HMOs and low rise flats</td>
<td>3,522</td>
<td>Door step</td>
<td>Green bags or wheeled bins</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; Other paper, Cardboard, Plastic bottles; Aluminium &amp; steel cans</td>
<td>Leeds City Council in house</td>
</tr>
</tbody>
</table>
Overview

Only twelve local authorities in England have more flats in their area than the 54,195 in Leeds. However, Leeds has more households overall than any other English local council except Birmingham, and flats in Leeds therefore represent only 17.3% of its total housing stock.

The City Council had been conscious for some time that its pioneering recycling facilities, some dating back to the late 1980s, were not generally available to those living in multi-storey flats. Leeds Integrated Waste Management Strategy 2001 committed the authority to examining how to include blocks of flats in recycling collection operations. In 2003, following a successful bid to the Waste Minimisation and Recycling Fund, a dedicated recycling service for flat dwellers was initiated.

Leeds City Council determined that a two-container collection approach would be most appropriate for flatted estates. Residents are asked to take their recyclable material to the ground floor for sorting into two 1,100 litre containers, a green container for commingled packaging and paper, and a white container for mixed glass. A split compartment vehicle is used to service the containers. Currently, 198 sites on council and housing association estates and University campuses of multi-storey blocks and maisonettes are provided with the commingled facilities and 141 of these have glass recycling containers. This equates to 6,524 and 4,692 properties respectively. Funding is to be provided in Spring 2006 to introduce more facilities for University owned flats. The new bins will be chipped and the authority hopes to provide positive data to the University so that even more facilities can be installed.

The service allows the contents of the mixed paper and lightweight packaging container to be collected commingled for processing alongside materials from the city’s extensive and well established SORT kerbside collection. There are obvious economies of scale in this approach. By using a split compartment vehicle the Council can also offer a mixed glass collection, segregated from the paper and packaging, but transported together. The glass collections give flat dwellers a service not offered to residents in the kerbside area.

Involvement of residents and other stakeholders

Consultation focussed on whether the proposed recycling system could be provided without unacceptable problems relating to vandalism, noise, loss of car parking space etc.

Leeds City Council has a well-developed system of resident consultation and the development manager overseeing the planning of the service made extensive use of this to outline the proposed scheme and to arrange site visits to particular estate locations. Housing managers and caretakers were also involved in identifying safe and convenient sites for the containers.

All flats to be served by the scheme are leafleted, some by caretakers, and other publicity about the recycling scheme is displayed in block entrances. A revised leaflet has been produced for new users of the scheme. Information has not so far been provided in minority languages, the Council has taken the view that diagrams and photographs illustrate recycling activities well.

Overcoming difficulties

The lengthy consultation process described above was designed to minimise opposition through any misunderstandings and to find acceptable and convenient locations for the containers. The principle objectives were to find sites that were passed by residents on their way out of the block,
did not absorb parking spaces, were on a hard standing and were not close to the wall of a residential building.

Some blocks of flats have so far been excluded from the scheme because it has not been possible to identify container locations which address residents’ concerns over the loss of car parking spaces or the close proximity of containers to dwellings in locations where space is restricted.

Officers are still surveying blocks and estates to find new sites for recycling facilities and are keen to establish as many as possible.

**Performance assessment**
When the scheme first started, it was intended to gather data on the quantities of materials collected using the collection vehicle’s on-board weighing facility. However the system has been very faulty and very little data was gathered. Additional funding has been allocated to resolve this issue. As at February 2006, the authority had not considered collecting “matching” data on the residual waste collected from the flats where recyclable materials are weighed and recorded.

No cost data is available.

**Contacts**
Roger Foyle, Customer Services & Development Manager, City Services Department, City of Leeds
Tel: 0113 247 8495    Email: roger.foyle@leeds.gov.uk
LEWES DISTRICT COUNCIL

Population and housing

Population: 92,177
Total number of dwellings: 41,055
Total number of flats, apartments and maisonettes: 6,934
Percentage of flats as proportion of total dwellings: 16.9%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Blocks of flats above two floors</td>
<td>Approximately 900 with another 500 to be added in 2006</td>
<td>Outside, near entrance to individual blocks or near refuse containers</td>
<td>Sets of 240 litre wheeled bins for glass and paper, and two 1000 litre wheeled bins (1 x plastic; 1 x mixed cans) OR Sets of ten to twelve 240 litre wheeled bins</td>
<td>when full (at least weekly)</td>
<td>Newspaper &amp; magazines; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Foil &amp; foil containers; books; plastic bags</td>
<td>Lewes District Council</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Blocks of flats up to two floors</td>
<td>Approximately 5,000</td>
<td>Not applicable</td>
<td>38 litre box (paper); 59 litre box (plastic bottles and mixed cans)</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; Other paper; Plastic bottles &amp; film; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Foil &amp; foil containers; Textiles; scrap metal</td>
<td>Lewes District Council</td>
</tr>
</tbody>
</table>

Overview
The proportion of flats in the area covered by Lewes District Council is approximately 17%. The primary driver for providing flats recycling is the Council's strong commitment to providing equal access to recycling services for all its residents.
In areas where the kerbside scheme operates, residents living in blocks of flats with up to two floors are offered this service. The service is an ‘opt-in’ system, whereby residents are required to request the recycling boxes via telephone or the Council’s website. Dedicated near-entrance recycling facilities are available to blocks of flats with more than two floors.

Between 2002 and 2004, the Council received funding from the Waste Minimisation and Recycling Fund to extend the kerbside scheme to all rural areas, introduce glass recycling and to fund ten additional mini recycling centres at newly built high-rise flats. Any additional recycling sites for flats not covered by the funding are created by moving some resources from bring sites to flats.

The mini recycling centres at flats consist of ten to twelve 240 litre wheeled bins for different materials. Currently, in total there are approximately 20 of these near-entrance collection facilities serving flats.

**Involvement of residents and other stakeholders**

At a number of sites, the recycling facilities were put in place in response to residents’ demand for the service and in these instances, residents, as well as caretakers, were involved in deciding the location of recycling bins.

More generally, the authority has developed a comprehensive communication strategy with regard not only to recycling, but also waste prevention. Recycling is seen within the broader context of resource management and the authority has adopted a ‘Zero Waste Charter’ which aims to reduce the amount of waste produced by 50% by 2015.

The Council raises awareness of resource issues and keeps residents informed of recycling services via its ‘District Link’ newsletter, a bi-yearly recycling newsletter and a ‘Letter Box’ scheme, whereby leaflets are placed in recycling boxes. Presentations are also made to residents and community group meetings.

The Council is also developing a new Sustainable Waste Management Strategy, which was open for public consultation up until mid-March 2006. Copies of the draft document is available on the Council website.

**Overcoming difficulties**

In an effort to meet housing targets, a number of new housing sites have been allocated in the District. As a result, the District is expected to see significant house-building throughout the next decade. It is expected that the provision of additional recycling facilities for the new developments will have major cost implications, particularly in terms of new infrastructure investment.

To address this issue, Lewes now requires developers who are proposing the construction of six or more new residential units to contribute to the cost of providing additional recycling facilities. This is intended to cover the cost of infrastructure, such as recycling bins or boxes or additional vehicles, as well as promotional material to raise new residents’ awareness of the service.

**Performance assessment**

The performance of the mini recycling centres is not assessed separately from the kerbside system, as they are often emptied on the same round. However, overall monitoring of the service indicates that 65% of all recyclables are collected through the kerbside service and 35% through ‘Bring’ sites.

In addition, the total amount of household waste produced per head is approximately 345kg/yr, with the recycling rate running at about 20% (dry recycling). In April 2006, Lewes District Council will be launching a five year waste reduction programme which is hoped to increase the amount of recycling.

**Contacts**

Trevor Watson, Assistant Head of Waste & Recycling Services, Lewes District Council
Tel: 01273 486 423 Email: trevor.watson@lewes.gov.uk

**Further information**

MANCHESTER CITY COUNCIL

Population and housing

Population: 392,819
Total number of dwellings: 186,285
Total number of flats, apartments and maisonettes: 49,475
Percentage of flats as proportion of total dwellings: 26.6%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central / near-entrance collection</td>
<td>High-rise blocks within the city centre</td>
<td>500 flats across 5 blocks (pilot)</td>
<td>In refuse storage area</td>
<td>1,100 litre wheeled bin</td>
<td>Fortnightly</td>
<td>Paper</td>
<td>Greater Manchester Waste Ltd</td>
</tr>
<tr>
<td>Near-entrance collection</td>
<td>High-rise blocks</td>
<td>1,200 flats across 15 blocks (pilot)</td>
<td>Within underground car parks and bin stores</td>
<td>240 litre wheeled bins</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Greater Manchester Waste Ltd</td>
</tr>
<tr>
<td>Near-entrance collection</td>
<td>High- and low-rise blocks; student hall of residence</td>
<td>3,674 flats across 47 blocks</td>
<td>Outside individual blocks, close to entrance</td>
<td>Set of five 240 litre wheeled bins in lockable frame</td>
<td>once a week (or when full)</td>
<td>Newspaper &amp; magazines; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Formerly EMERGE Recycling, now Greater Manchester Waste Ltd</td>
</tr>
</tbody>
</table>
### Overview
Manchester City Council is committed to providing equal access to recycling services for all residents in the city. It currently operates a kerbside collection scheme which includes flats with kerb access, for example in converted houses. It has also recently introduced two pilot schemes for flats-based recycling.

The pilot schemes have been running for nearly 3 years and the first provides 5 high-rise apartment blocks in the city-centre with 1,100 litre wheeled recycling bins in which residents can recycle paper. The second pilot provides 15 apartment blocks with a multi-material recycling collection for paper, glass and mixed cans which are collected in 240 litre wheeled bins placed outside close to block entrances. Both schemes are financed though the authority’s budget. If sufficient funding is secured, the authority plans to roll out a city-wide multi-material recycling service for flats, based on this model, in 2006-7.

In addition, in 2003, local community enterprise EMERGE Recycling introduced a multi-material collection service for 3,764 flats in the Hulme, Moss Side, Longsight and Levenshulme areas of Manchester. EMERGE’s near-entrance facilities consist of five 240 litre wheeled bins locked into a metal frame and serve both high-rise and low-rise buildings, including student halls of residence. This scheme collects paper, glass and mixed cans and collected textiles up until September 2005, when it was phased out.

This scheme was financed through funding from a number of sources, including Neighbourhood Renewal Fund, New Opportunities Fund, Landfill Tax Credits Scheme and donations from local sponsors. This scheme was taken over by Greater Manchester Waste Ltd in March 2005.

### Involvement of residents and other stakeholders
Manchester City Council’s trial recycling scheme for city-centre apartments was developed in response to residents’ demand. Residents’ groups and management companies, as well as Greater Manchester Waste Ltd, were consulted on the location of the recycling bins.

### Near-entrance collection facilities in Hulme
As part of the roll-out of the near-entrance scheme in Hulme, Moss Side, Longsight and Levenshulme EMERGE undertook extensive consultation with residents, landlords, housing officers at the City Council and caretakers. With assistance from the Council’s Tenant Participation Unit, EMERGE identified residents’ and tenants associations so that they could be involved in deciding the location of the recycling bins.

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerbside collection</td>
<td>Flats with kerb access, including HMOs</td>
<td>Not available</td>
<td>Not applicable</td>
<td>55 litre box or two 140 litre wheeled bins (1 x paper and 1 x glass) and sack (for cans)</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Greater Manchester Waste Ltd</td>
</tr>
</tbody>
</table>
In addition, EMERGE recruited more than twenty volunteer recycling champions predominantly from the Hulme community. The volunteers were trained by EMERGE and monitor the bins, maintain recycling noticeboards in blocks, liaise with residents’ groups and undertake doorknocking to encourage residents to support the scheme. The support for these recycling champions has been maintained since the Greater Manchester Waste Ltd takeover of the service.

Overcoming difficulties
In the case of the original EMERGE near-entrance scheme, residents were particularly concerned about the risk of vandalism to bin areas and EMERGE gave careful consideration to the design of the bin sets, all of which are locked into a custom-made metal frame. The bin frame was also designed in such a way that it only allows the bin lids to be opened sufficiently wide for targeted materials to be deposited. This prevents bin bags or other large items being placed in the bins and also reduces the risk of arson attacks. None of the sites have experienced any vandalism to date.

Manchester has one of the country’s largest full-time student population (estimated to be 57,500 in 2000). Securing the support of students for recycling is a particular challenge. EMERGE sought to tackle this by recruiting recycling champions from the universities. Although several students have volunteered to be involved, estimated capture and participation rates suggest that the approach has had limited success. This is thought to be a consequence of the large number of students living in individual halls of residence.

Performance assessment
The initial start-up costs of EMERGE’s flats-recycling scheme were relatively high (largely due to the use of custom-made locking frames for the bins sets). The annual operating cost of the service, including promotional work, was estimated to be £6 per household. It is believed that the inclusion of further flats in the scheme has since reduced this further.

As Manchester City Council’s flats-based recycling service has not yet been rolled out city-wide, performance data is currently not available for all services. However, data from the near entrance scheme that was set up by EMERGE and taken over by Greater Manchester Waste Ltd indicates that in 2004/5:

- 76 tonnes of paper was collected
- 57 tonnes of glass was collected
- 6 tonnes of cans were collected
- 1 tonne of textiles were collected

This equates to 139 tonnes of recyclables collected for 3,674 households, or 37.8 kg/hh/yr.

A recent strategy document has been prepared outlining the cost and service needs for a district wide service for high-rise and low-rise multi-occupancy residences. Manchester City Council look forward to implementing this strategy in the near future.

Contacts
Gary Donoghue, Principal Waste Strategy Officer, Manchester City Council
Tel: 0161 957 8326 Email: g.donoghue@manchester.gov.uk

Sean Sweeney, Recycling Officer, Manchester City Council
Tel: 0161 234 1383 Email: s.sweeney@manchester.gov.uk
Population and housing

<table>
<thead>
<tr>
<th>Population:</th>
<th>259,536</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of dwellings:</td>
<td>117,695</td>
</tr>
<tr>
<td>Total number of flats, apartments and maisonettes:</td>
<td>35,442</td>
</tr>
<tr>
<td>Percentage of flats as proportion of total dwellings:</td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Any purpose-built blocks of flats, including high-rises</td>
<td>Approx 6,400</td>
<td>Inside or outside, close to entrance of individual blocks</td>
<td>Sets of six 660 litre or 1,100 litre steel-bodied wheeled bins (3 x glass; 1 x cans; 1 x paper; 1 x plastic bottles)</td>
<td>when full</td>
<td>Paper; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans</td>
<td>Newcastle City Council</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Predominantly flats in HMOs</td>
<td>Unknown</td>
<td>not applicable</td>
<td>55 litre box</td>
<td>Fortnightly</td>
<td>Paper; Plastic bottles; Clear, green &amp; brown glass; Aluminium &amp; steel cans; Foil &amp; foil containers; Textiles</td>
<td>SITA (UK) Ltd</td>
</tr>
</tbody>
</table>

Overview

Newcastle City Council is committed to providing equal access to convenient recycling facilities for all its residents. Between September 2002 and March 2003, the authority trialled recycling facilities for high-rise blocks in the city to demonstrate that safe recycling systems could be provided even in more challenging circumstances. The trial was partially funded through the Waste Minimisation and Recycling Fund, the funds being used for the purchase of collection vehicles and steel-bodied bins. Currently approximately 6,400 households are served with near-entrance recycling facilities consisting of a set of six bins for different materials. For a number of high-rise blocks, where vandalism is a known problem, the Recycling Project Team did consider the option of modifying existing
refuse chutes to accommodate the separate collection of recyclables, but the cost precluded the work being undertaken.

A number of flats, predominantly in HMOs, are served by the authority’s kerbside collection. The kerbside collection serves 103,000 households across Newcastle, however the proportion of flats that makes up this number is unknown.

The Council aims to continue to expand the flats recycling service across the city and eventually hopes to bring recycling facilities to the remaining 11,600 flats which are currently not serviced by near entrance or kerbside services.

Involvement of residents and other stakeholders
There has been extensive involvement of residents and other stakeholders planning and implementing the scheme.

The case-by-case consultative approach adopted by the authority ensured that site-specific logistics as well as the wishes of residents, landlords, housing managers and maintenance staff were taken into account from the outset. Seeking residents’ views after the trial period ensured that effective communication between the authority and residents was maintained, and was considered a vital means of demonstrating to residents that their opinions were being taken into account.

Suitable bin locations were identified with residents’ and tenants’ associations, caretakers and cleaners as well as in consultation with the Tyne & Wear Fire Brigade to ensure health and safety concerns were taken into consideration. In blocks without a residents’ association, residents were consulted in writing on three possible container locations. In general, bins were installed in the locations preferred by the majority of residents and residents did not raise objections to the scheme’s implementation.

Gaining the commitment of caretakers to the scheme was viewed as a key element in winning residents’ support. Caretakers also monitor the recycling bins and contact the collection contractor when they require emptying. Side-loading vehicles exchange full bins for empty ones, and therefore the system of emptying the bins on request ensures that only full bins are picked up, making collection rounds more efficient.

Overcoming difficulties
During the planning stage it was found that although the housing department held comprehensive records, the data was not in a form suitable for planning a recycling scheme. Similarly, refuse collection records existed in hard copy format only and were therefore difficult to use. To address the data gathering needs, a database was developed by the recycling officers, in which to record relevant information obtained through site visits, telephone and face-to-face interviews.

Performance assessment
At each estate or block, the recycling service was trialled for three months following which a questionnaire-based survey was carried out. On average, 43% of residents responded to the surveys, with 95% in favour of keeping the containers in place. The surveys also gave residents the opportunity to suggest improvements to the facilities. As a result, a number of improvements were made, including the provision of screens and locks, retrofitting of noise-reduction equipment and the installation of signage advising of appropriate times for using the containers.

Since the introduction of near-entrance collection of recycling in flats in September 2002, 438 tonnes of recyclables have been collected including 350 tonnes of paper and 88 tonnes of glass. During the October - December 2005 quarter, the near entrance system collected the equivalent of 40 kg/hh/yr. While this recycling rate is lower than the rate achieved in the kerbside collection service, it may reflect that the blocks which have received the service to date predominately house elderly residents or singles. The Council anticipates that the expansion of the service to blocks that house families will result in higher recycling rates.

Contacts
Gearoid Henry, Recycling Officer, Newcastle City Council
Tel: 0191 277 3567 Email: gearoid.henry@newcastle.gov.uk

Further information
‘High Level Challenges’, The Loop, Winter 2003, pp.10 - 11
PORTSMOUTH CITY COUNCIL

Population and housing

Population: 186,701
Total number of dwellings: 81,698
Total number of flats, apartments and maisonettes: 24,915
Percentage of flats as proportion of total dwellings: 31%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Low, medium and high rise flats</td>
<td>Approximately 12,500</td>
<td>Near the entrance to the building.</td>
<td>360, 660, 1,100 and 1,280 litre green wheeled recycling bin</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; aluminium and steel cans; plastic bottles; cardboard</td>
<td>Veolia</td>
</tr>
<tr>
<td>Near-entrance collection</td>
<td>High rise flats</td>
<td>Unknown</td>
<td>In the building foyer</td>
<td>240 litre wheeled bin for glass</td>
<td>Weekly</td>
<td>Glass</td>
<td>Veolia</td>
</tr>
<tr>
<td>Kerbside collection</td>
<td>Flats with kerb access, including HMOs</td>
<td>Approximately 3,500</td>
<td>Not applicable</td>
<td>Green 140, 180 or 240 360 litre wheeled bin Green 55 litre recycling box to store and sort recyclables within the flat</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; aluminium and steel cans; plastic bottles; cardboard</td>
<td>Veolia</td>
</tr>
</tbody>
</table>

Overview

Portsmouth City Council has an aim of providing recycling services to everyone in the city, regardless of where they live. As a result, the majority of flats in Portsmouth have access to a commingled recycling scheme that collects newspaper and magazines, cardboard, aluminium and steel cans and plastic bottles. A small number of flats also have access to a mixed glass recycling service that is separate to the commingled recycling scheme. The commingled recycling bins are
generally placed at a location near the entrance to the building, to allow residents to use the facilities as they enter or leave the premises.

Flats with good access to the kerb can participate in the household kerbside scheme operating within Portsmouth. This scheme allows for the fortnightly collection of commingled recyclables from the boundary of the property in green wheeled bins of various sizes.

Portsmouth City Council is a member of ‘Project Integra’, Hampshire’s partnership between the eleven district councils as well as Southampton and Hampshire County Council. This partnership allows for the development of an integrated approach to recycling across Hampshire, including provision of recycling facilities.

Portsmouth City Council is also closely involved in the ‘Recycle for Hampshire’ campaign, launched in March 2005, which provides recycling information and runs awareness raising and promotion campaigns across the entire County.

**Involvement of residents and other stakeholders**

If a flat does not have a communal recycling service, residents can contact the council and request a visit by a recycling officer. The officer will visit the property and assess the building for access, storage and need and install facilities wherever possible.

In mid 2005, through their involvement with Recycle for Hampshire, Portsmouth City Council took part in a ‘door stepping’ project where recycling advisors visited households across the city to raise awareness about recycling in the city. This project was part of a broader Hampshire wide behavioural change strategy which aims to get more residents recycling more of their refuse.

Portsmouth City Council provides ‘recycling roadshows’ where residents can come and talk to recycling advisors to help them order a recycling container and answer questions about the recycling scheme. The Council also plans to run an awareness raising program aimed at flats across the city from mid 2006. This will involve two dedicated staff visiting each flat in the city to talk about recycling. Each flat will receive a reusable bag in which residents can store recyclables and carry them down to the communal facilities, an updated information leaflet and a fridge magnet to help remind them about the service. In addition, the Council will work with residents panels and wardens at each block to help improve participation and reduce contamination.

**Overcoming difficulties**

Due to high population density of Portsmouth, finding suitable places to place recycling points has been difficult. To help address this issue, the majority of communal recycling bins were originally placed within existing bin rooms or immediately adjacent to them. However, Portsmouth City Council noted that this often resulted in significant contamination issues when residents placed general refuse in the recycling bins. As a result, the council has favoured near-entrance recycling facilities recently, retaining convenience, but helping to reduce the contamination issues.

Where contamination has been an ongoing issue, the Council uses stickers on bins, leaflets and letters to residents to remind them of the correct materials to recycle. If this communication has no affect on contamination rates, the Council will remove the recycling bins from the poorly performing flats.

**Performance assessment**

The flats recycling service collects approximately 78 kg/hh/yr. This is significantly less than the 208kg/hh/yr collected through the general kerbside scheme.

Portsmouth City Council believe that the difference in the two programs is partly due to different levels of participation between the kerbside and flats recycling scheme. It is hoped that the planned flats recycling promotion and communication campaign will help raise the amount of recyclables collected through this scheme.

**Contacts**

Rose Timlett, Service Development Assistant
Tel: 023 926 88255   Email: rose.timlett@portsmouthcc.gov.uk
SOUTHAMPTON CITY COUNCIL

Population and housing

Population: 217,445
Total number of dwellings: 93,513
Total number of flats, apartments and maisonettes: 32,138
Percentage of flats as proportion of total dwellings: 35%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance collection</td>
<td>Medium and high rise</td>
<td>Unknown proportion of 866 blocks of flats</td>
<td>In locked bin store, serviced by hatches</td>
<td>660, 720 or 1,100 litre wheeled recycling bins</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; aluminium &amp; steel cans; cardboard; plastic bottles</td>
<td>In house</td>
</tr>
<tr>
<td>Near-entrance collection</td>
<td>Medium and high rise</td>
<td>Unknown proportion of 866 blocks of flats</td>
<td>In refuse bin storage area</td>
<td>360, 660, 720 or 1,100 litre wheeled recycling bins Some flats are provided with bins or bags for storage and carrying</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; aluminium &amp; steel cans; cardboard; plastic bottles</td>
<td>In house</td>
</tr>
<tr>
<td>Mini-recycling centres</td>
<td>Low and medium rise flats</td>
<td>180 blocks and estates</td>
<td>In an central location servicing a number of properties</td>
<td>1,100 litre wheeled recycling bins</td>
<td>Weekly</td>
<td>Newspaper &amp; magazines; aluminium &amp; steel cans; cardboard; plastic bottles</td>
<td>In house</td>
</tr>
</tbody>
</table>
Overview
Southampton City Council provide communal commingled recycling bins to 866 blocks of flats within the city. These bins accept newspapers and magazines, cardboard, plastic bottle and aluminium and steel cans. Wherever possible, the communal recycling bins are located within existing bin stores. If there is insufficient space, bins will be placed as close as possible to the existing bin store, in a convenient location for both resident and service crews to access.

Some clusters of flats with limited storage capacity have been provided with mini-recycling centres in a nearby location. These mini-recycling centres accept the same materials that are placed in the communal flats recycling bins and are separate from the household waste recycling centres and ‘bring banks’ that exist across the Borough.

An additional 112 blocks of flats are expected to be incorporated into the Southampton flats recycling scheme in 2006, bringing the total number of flats to 1,178.

Flats with good access to the kerb are integrated into the existing household recycling scheme which collects commingled recyclables every fortnight in blue lidded wheeled bins.

Southampton City Council is a member of ‘Project Integra’, Hampshire’s partnership between the eleven district councils, Portsmouth and Hampshire County Council. This partnership allows for the development of an integrated approach to recycling across Hampshire, including provision of recycling facilities.

Southampton City Council is also closely involved in the ‘Recycle for Hampshire’ campaign, launched in March 2005, which provides recycling information and run awareness raising and promotion campaigns for the entire County.

Involvement of residents and other stakeholders
If a block of flats does not have a communal recycling service, residents can contact the Council and request a visit by a recycling officer. If there is insufficient room within the site is available, options for a mini-recycling site which can serve a number of flats nearby are investigated. If this is not suitable, the block of flats is recorded on a ‘holding list’ until a resolution can be found.

Southampton City Council plan to undertake a pilot ‘door stepping’ campaign in 2006 aimed at improving recycling awareness amongst residents of flats in the city, and reduce contamination.

Southampton City Council has a special ‘Community Involvement Service’ which aims to improve communication between the Council and the local community. This service allows members of the community to influence decisions that affect their quality of life, including issues surrounding recycling and sustainability.

Overcoming difficulties
Contamination has been an issue at many properties since the introduction of the flats recycling service in 2004. The disposal of recyclables in black bin bags is one of the key problems identified by council officers, as the contents of these bags cannot be easily determined. The presence of too many black bin bags can lead to a recycling load being rejected.

While most flats have responded well to letters and reminder information regarding contamination issues, a small handful of properties have had their recycling bins removed from the premises. This action only occurs

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat served</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerbside collection</td>
<td>Flats with kerb access, including HMOs</td>
<td>Unknown</td>
<td>Not applicable</td>
<td>Blue lidded 240 litre wheeled bin</td>
<td>Fortnightly</td>
<td>Newspaper &amp; magazines; aluminium &amp; steel cans; cardboard; plastic bottles</td>
<td>In house</td>
</tr>
</tbody>
</table>
after at least 3 reminder letters are sent to residents to help encourage them to recycle correct materials.

Performance assessment
Analysis of recycling diversion rates for the Southampton flats and schools recycling scheme indicates that between November 2005 and February 2006, an average of 7.7% of the waste stream was diverted to recycling.

Data received from the council indicates that across this period, there is a small increase in the proportion of waste being diverted to recycling.

Contacts
Trish Ivers, Customer Liaison officer, Waste Management and Recycling
Tel: 02380 832554 Email: patricia.ivers@southampton.gov.uk
VALE ROYAL BOROUGH COUNCIL

Population and housing

Population: 122,089
Total number of dwellings: 51,120
Total number of flats, apartments and maisonettes: 3,253
Percentage of flats as proportion of total dwellings: 6%

Source: www.neighbourhood.statistics.gov.uk (based on Census 2001)

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerbside</td>
<td>Two storey blocks and HMOs</td>
<td>15 to 20 blocks plus HMOs</td>
<td>Not applicable</td>
<td>Boxes and bags</td>
<td>Fortnightly</td>
<td>Cans, glass, textiles in the box. Paper in reusable bag</td>
<td>SITA</td>
</tr>
<tr>
<td>Central collection</td>
<td>3 to 5 storey blocks</td>
<td>Approx 400</td>
<td>Mainly away from refuse storage areas</td>
<td>Blik &quot;Hybrid&quot; units</td>
<td>Fortnightly</td>
<td>Paper, cans, glass, textiles</td>
<td>SITA</td>
</tr>
<tr>
<td>Door to door</td>
<td>Where Blik units were not practical</td>
<td>Not known, not yet fully rolled out</td>
<td>Door step or central point as appropriate</td>
<td>Minimax baskets plus reusable bag for paper</td>
<td>Fortnightly</td>
<td>Cans, glass, textiles in the basket, paper in reusable bag</td>
<td>SITA</td>
</tr>
</tbody>
</table>

Overview

Until 2004, recycling from flats was confined to 15 to 20 2 storey blocks as well as HMOs served by the authority’s kerbside collection scheme. Since 2004, the Council has installed 100 Blik "Hybrid" units in its 4 to 5 storey blocks of flats. Approximately 80% of the flats in Vale Royal now have recycling facilities. This will rise to 100% by April 2006.
Involvement of residents and other stakeholders

Blocks of flats in the borough are not of uniform design and many blocks have inadequate storage for refuse. It was not possible therefore to install recycling facilities in all refuse areas. Officers consulted with residents, residents’ committees, Housing Associations and management companies to find the most suitable sites for recycling facilities. A number of residents thought that locating the facilities in public view would encourage more people to use them as residents would notice the Hybrid units. So far the strategy has been successful. Nor has vandalism been a problem. The Council’s contractor will collect materials from central recycling facilities or from outside bin storages areas as required.

Overcoming difficulties

In order to provide door to door service from those flats where the Blik units are unsuitable and where carrying boxes would be dangerous on flights of stairs, the authority has provided Minimax baskets with handles to some residents. This is a very new scheme but has been well received.

One Blik unit of 3 drawers serves approximately 4 properties. Residents are encouraged to leave out any extra materials they cannot fit into the drawers, in carrier bags. If they regularly have many items for recycling, then residents can request their own box or Minimix basket. The collection crews made visual observations of the “overflow” materials. From this information the configuration of drawers in each Hybrid unit was adapted, on a trial and error basis, to reflect different levels of material presented by different groups of residents served. For example:

- Flats with elderly populations have a waste composition of approximately 60% paper, 10% glass, 20% cans and 10% textiles;
- flats in affluent areas have a waste composition of approximately 30% paper, 30% cans, 30% glass and 10% textiles;
- flats in more deprived areas have a waste composition of approximately 10% paper, 60% cans, 20% glass and 10% textiles

Performance assessment

It has not been possible to assess the performance of the recycling facilities as the collection rounds include houses and flats. There is no onboard weighing facility on the vehicles. It is therefore unclear as to whether locating the recycling bins away from the refuse areas reduces the potential diversion of material into recycling. However, anecdotal evidence from the residual waste collection crews indicates that residents now dispose of bulkier items of waste in the residual bins as there is now additional space in these bins.

Contacts

Peter Wright 01606 867576 Email: pwright@valeroyal.gov.uk
BERLIN, GERMANY
Population and housing

Population: 3,390,291*
Total number of dwellings: 1,874,313
Total number of flats: 1,686,881
Percentage of flats as proportion of total dwellings: 90%


Berlin - Number of dwellings per building

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central or near-entrance collection</td>
<td>Any including high-rise blocks</td>
<td>not available</td>
<td>Near block entrance; in communal yards</td>
<td>60 – 1,100 litre wheeled bin</td>
<td>weekly</td>
<td>Paper and cardboard; Glass</td>
<td>Berliner Stadtreinigungsbetriebe &amp; Berlin Recycling</td>
</tr>
<tr>
<td>Central or near-entrance collection</td>
<td>Any including high-rise blocks</td>
<td>not available</td>
<td>Near block entrance; in communal yards</td>
<td>60 – 240 litre wheeled bin</td>
<td>weekly</td>
<td>Food and green garden waste</td>
<td>Berliner Stadtreinigungsbetriebe &amp; Berlin Recycling</td>
</tr>
<tr>
<td>Central or near-entrance collection</td>
<td>Any including high-rise blocks</td>
<td>160,000</td>
<td>Near block entrance; in communal yards</td>
<td>Yellow wheeled bin (240, 660 or 1,100 litre) or yellow sack</td>
<td>fortnightly</td>
<td>Non-returnable packaging marked with ‘Green Dot’</td>
<td>DASS mBH</td>
</tr>
</tbody>
</table>
Overview
Ninety percent of dwellings in Berlin are in multi-storey – often high-rise – blocks. Many of these have communal Hinterhoefe, or backyards, where waste collection containers are typically located.

The vast majority of flats in Berlin (over 85%) are classified as rented accommodation and only a small proportion are owner-occupied.

Currently, all Berlin boroughs are served by a statutory body responsible for waste management, the Berliner Stadtwerke (BSR). BSR, and its subsidiary company Berlin Recycling, are responsible for the collection of residual household waste and the provision near-entrance recycling collection facilities for all materials other than packaging (i.e., glass, paper and cardboard, food and garden waste). The companies provide colour-coded wheeled recycling containers (or various volumes) for each material.

Non-returnable, light packaging items marked with the ‘Green Dot’ (such as yogurt pots, margarine tubs and tetra-pack drink cartons) are collected separately via the ‘yellow bag’ or the ‘yellow bin’. This is carried out by DASS mbH, formerly a subsidiary of BSR, but since January 2004 a subsidiary of ALBA AG.

For buildings with more than four residences, a yellow bin is typically provided by DASS. In addition, residents can obtain yellow bags for the separate collection of light packaging at source, which are then deposited into the yellow bin for collection. Buildings with less than four residences are not provided with a yellow bin, but householders set out their yellow bags for collection.

Variable charging
Householders in Germany pay a direct charge for the cost of waste collection and disposal. In Berlin, tenants typically pay a monthly flat rate charge for waste management services, collected in conjunction with rent, but itemised separately on rent and services statements. BSR’s charges vary according to the volume of the waste bins provided. Caretakers, on behalf of the housing management company, are responsible for the provision of waste collection facilities and will decide on the appropriate size of collection containers.

The collection of ‘Green Dot’ packaging materials is financed via the packaging disposal regime and there are no direct charges to residents for this service.

Performance assessment
In 2002, approximately 33.5% of household waste (excluding bulky waste) was collected separately for recycling and composting. This is made up of 17% ‘Green dot’ packaging, 45% paper and cardboard, 21% mixed glass, 16% food waste and 1% textiles.
The use of yellow bags for the collection of ‘Green dot’ packaging by individual households in part resulted from the findings of a pilot trials carried out for DASS mBH in 1996 and 1998 to find ways to increase capture rates. The 1998 trial showed a significant increase in participation and capture rates following improvements to the communal bin storage area in conjunction with the provision of yellow bags to individual households in a 30-storey high rise building. However, the study concluded that the potential for reducing their waste management charges was a major motivating factor for householders to increase their recycling activity.

The study also demonstrated a need for continued information provision on material sorting and assurances that separately collected materials would in fact be recycled.

In addition, the study recommended early consultation with residents on the introduction of services, the proposed container locations and any impacts on service costs.

**Further information**
City of Berlin government, www.berlin.de
Berliner Stadtreiningsbetriebe, www.bsr-online.de
Berlin Recycling, www.berlin-recycling.de
DASS mbH, www.dass-online.de
IRIS e.V. on behalf of DASS mbH, *Modellversuch Neue Sammelformen im Hochhaus*, 1998
**CINISELLO BALSAMO, ITALY**

**Population and housing**

<table>
<thead>
<tr>
<th>Population:</th>
<th>80,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of dwellings:</td>
<td>Not available</td>
</tr>
<tr>
<td>Total number of flats:</td>
<td>Not available</td>
</tr>
<tr>
<td>Percentage of flats as proportion of total dwellings:</td>
<td>Approx. 80%*</td>
</tr>
</tbody>
</table>

Source: www.comune.cinisello-balsamo.mi.it/ *Enzo Favoino (personal communication)

**Recycling services for flats**

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central or near-entrance collection</td>
<td>High-rise blocks</td>
<td>Not available</td>
<td>In communal waste storage area (inside or outside)</td>
<td>120 litre wheeled bin for food waste; 240 litre wheeled bin for paper and cardboard; 110 litre yellow bag for plastics; 240 litre wheeled bin for glass and mixed cans</td>
<td>Twice weekly; Twice weekly; Twice weekly; Once a week</td>
<td>Food waste; Paper &amp; cardboard; Plastics; Glass and mixed cans</td>
<td>Sangalli (private contractor)</td>
</tr>
<tr>
<td>Central or near-entrance collection</td>
<td>Low-rise blocks – less than 4 units</td>
<td>Not available</td>
<td>In communal waste storage area (inside or outside)</td>
<td>30 litre buckets for food waste; No container provided for paper - residents tie paper into bundles or put into cardboard boxes; 110 litre yellow bag for plastics; 30 litre bucket for glass and mixed cans</td>
<td>Twice weekly; Twice weekly; Twice weekly; Once a week</td>
<td>Food waste; Paper; Plastics; Glass and mixed cans</td>
<td>Sangalli (private contractor)</td>
</tr>
</tbody>
</table>
Overview
Cinisello Balsamo is a densely populated town bordering the north of Milan. Its population of 80,000 occupies only 10 square kilometres and over 80% of Cinisello’s residents live in high-rise blocks with 10 or more storeys.

A private contractor, Sangalli, currently manages waste collection and disposal. Household waste, including food waste, is source-separated and the different materials are collected with varying frequency. Food waste and residual waste are collected twice weekly, as are paper and cardboard and plastics. Mixed glass and cans are collected once a week.

High-rise blocks are provided with 120 litre wheeled bins for food waste (with one bin serving 10 to 12 households), a 240 litre wheeled bin for paper and cardboard and a 240 litre wheeled bin for glass and cans. Residents are provided with a 110 litre bag for plastics which they place in the container storage area for collection. Residual waste is collected in transparent 110 litre bags, which are stored in individual households until they are full. In blocks where there is space and vehicular access, residual waste bags can be placed in 1,700 litre containers.

Low-rise blocks (with four households or less) are provided with communal 30 litre lidded buckets for food waste and for glass and cans. Usually no containers are provided for paper and cardboard and residents are asked to place these in a cardboard box or to tie paper into bundles for collection. As is the case for high-rises, plastics and residual waste are collected in 110 litre bags.

Communal containers are kept in a common waste storage room and are placed outside for collection by caretakers or a resident, who takes on this responsibility. Larger collection containers in high-rises are located outside, but within the perimeter of the building to ensure they are accessed by residents only.

Variable charging
A law introduced in 1997 requires Italian municipalities to move to variable charging systems by 2008. However, Cinisello has not yet introduced a variable charging regime and currently residents pay a ‘waste tax’, which is based on the size of the property they live in.

In addition, residents are required to purchase the bags for the collection of plastics. The proceeds of this are also used to fund recycling and waste management services.

Performance assessment
In 2002, approximately 48% of total household waste was separately collected. The cost of collection (including via door-to-door and Civic Amenity sites) is approximately €31 (approx. £20) per inhabitant per year.

Contacts
Enzo Favoino, Working Group on Composting and Integrated Waste Management, Scuola Agraria del Parco di Monza
Tel: 0039 039 2302660 Email: favoinomail@tin.it

Further information
Municipality of Cinisello Balsamo, www.comune.cinisello-balsamo.mi.it
**PARIS, FRANCE**

**Population and housing**

<table>
<thead>
<tr>
<th>Population</th>
<th>2,125,800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of dwellings (Résidences principales)</td>
<td>1,110,912</td>
</tr>
<tr>
<td>Total number of flats and apartments</td>
<td>1,054,682</td>
</tr>
<tr>
<td>Percentage of flats as proportion of total dwellings</td>
<td>94.9%</td>
</tr>
<tr>
<td>Percentage of flats currently with recycling service</td>
<td>100%</td>
</tr>
</tbody>
</table>


**Recycling services for flats**

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection Frequency</th>
<th>Materials Collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near-entrance or courtyard containers</td>
<td>All types - most Paris flats are in six to ten storey blocks</td>
<td>1,054,682 of which approx 185,000 are logements sociaux (managed by RSLs)</td>
<td>Adjacent to refuse containers on ground floor courtyards or close to block entrances</td>
<td>240, 360 and 1,100 litre wheeled bins (bacs); White tops (bac a couvercle blanc) for mixed glass bottles and jars; Yellow tops (bac a couvercle jaune) for all other targeted materials; Green tops (bac a couvercle vert) for non targeted household waste (ordures ménagères)</td>
<td>Weekly (twice weekly in the 3rd and 4th arrondissements)</td>
<td>Newspaper, magazines; Other paper; cardboard; Tetrapak; Plastic bottles; Plastic bags; Food and drinks cans; Aerosols; Small electrical items; Glass bottles and jars</td>
<td>SITA, Nicollin, Cgea-Onyx, Polyurbaine, Sepur (Glass only), Dragui Transports (Glass Only)</td>
</tr>
</tbody>
</table>

**Overview**

In Paris 95% of the city’s 1.1m dwellings are flats, almost all of them in apartment blocks. In inner London, comparable in population, only 69% of the area’s 1.27m dwelling are flats.

In the early 1970s, household waste collections from apartments were converted to wheeled bin systems. In most apartment blocks the residents bring their household waste down to a ground floor container area. The
block concierge or gardienne wheels out the bins to the street for collection (which is daily in many arrondissements).

In the early 1990s, in response to the Eco Emballage packaging recovery scheme, Paris began to develop source separated collection systems for apartments, based on the wheeled bin system (bacs). The Eco Emballage scheme allows packaging producers to meet their obligation to recover packing waste in accordance with the Packaging and Packaging Waste Directive. Other packaging recovery schemes operate in France, however, the Eco Emballage scheme is by far the most popular. Producers participating in the scheme mark their packaging with a green dot and 95% of France’s packaging waste is marked this way. Collection of packaging waste is organised through France’s local authorities, in negotiation with Eco Emballage.

As early as 1993, wheeled bins specifically for newspaper and magazines were rolled out to apartment blocks across the city. From 1997 there were pilot trials for the separate collection of packaging waste and in 2002, the collecte sélective system was introduced throughout the city. In this system, the wheeled bins allocated to each apartment block have been modified. Yellow topped bins (bacs a couvercle jaune) have been introduced for cans, plastic bottles and containers, plastic bags, paper, card and cardboard, tetrapak and small electrical goods; white topped bins (bacs a couvercle blanc) are for mixed glass bottles and jars; green topped bins (bacs a couvercle vert) are for residual household waste. The daily emptying of the residual waste bins is supplemented by weekly collections from the yellow and white topped bins. At the same time, methods of handling bulky household waste (encombrants ménagers) have been improved.

Material is taken on dedicated RCVs either to one of four MRFs in the Paris conurbation owned by SYCTOM, the waste disposal authority for the greater Paris region, or to private sorting plants with which SYCTOM has contracts. Four more MRFs are under construction within the Paris city boundaries to reduce transport times and to increase capacity. Sorting is by a mixture of electronic, electromechanical and hand methods.

Performance assessment
In 2004 the Mairie de Paris reported the following household waste collection performance

<table>
<thead>
<tr>
<th>Category</th>
<th>Tonnages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual household refuse (green bin, bac a couvercle vert)</td>
<td>921,042</td>
</tr>
<tr>
<td>Commingled cans, plastic, paper, cardboard, small electricals (yellow topped bins, bacs a couvercle jaune)</td>
<td>54,960</td>
</tr>
<tr>
<td>Glass (white topped bins AND glass banks, bac a couvercle blanc, collonnes)</td>
<td>51,396</td>
</tr>
<tr>
<td>Total material collected in wheeled bins and glass banks</td>
<td>1,027,398</td>
</tr>
<tr>
<td>Proportion collected in recycling containers</td>
<td>10.35%</td>
</tr>
</tbody>
</table>

Analysis of the contents of the yellow topped commingled recycling bin revealed that 45% of the contents of the bin was waste paper, 14% cardboard, 15% plastics, 1% cans and 1% small electricals. However a third of the material was non-requested household waste (refus de tri – refusal to sort). And indicating some of the limitations of the scheme, over 20% of the contents of the green residual waste bin was found to be paper, 11% cardboard and 7% glass. Even so, the collection of non-glass recyclables per resident in Paris has risen threefold from 10kg per person per annum in 2001 to 30 kg per person per annum in 2004. In the same period glass waste
recycling has also increased but less spectacularly from 14 kg per person per annum in 2001 to 24 kg per person per annum in 2004.

It is also possible to calculate the provision of waste containers per person:

<table>
<thead>
<tr>
<th>Material</th>
<th>Number of containers provided</th>
<th>Volume in litres</th>
<th>Collections per week</th>
<th>Litres per household per week (@ 1,110,912 households)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual household refuse</td>
<td>253,100</td>
<td>67,960,680</td>
<td>7</td>
<td>428</td>
</tr>
<tr>
<td>Commingled (yellow top) bins</td>
<td>93,140</td>
<td>24,321,510</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>Glass (white top) bins</td>
<td>52,225</td>
<td>8,209,290</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

As in England, the problem of providing sufficient recycling capacity with limited space in bin areas and with limited collection resources for recycling mean that capacity remains weighted towards residual refuse.

However by 2004, the increase in recycling in Paris, which with bulky waste recycling (encombrants) and green waste collections amounted to about 15%, together with Energy from Waste treatment of 82% of Parisian waste, meant that only 3% of Parisian waste went to landfill (centres de stockage de dechets ultimes – CSDU).

The costs of waste management in Paris in 2004 were 201 euros/tonne for residual refuse, 167.5 euros/tonne for commingled recyclables, and 166 euros /tonne for glass recycling collections.

**Further information**

www.paris.fr (Mairie de Paris website – see the Environnement section)
www.syctom-paris.fr (SYCTOM, Paris regional waste authority website)
Halls of residence case studies
## UNIVERSITY OF BRISTOL, MANOR HALL

<table>
<thead>
<tr>
<th>Address:</th>
<th>Manor Hall, Bristol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of property:</td>
<td>Halls of residence, two blocks</td>
</tr>
<tr>
<td>Age of property:</td>
<td>100 years</td>
</tr>
<tr>
<td>Number of flats per block:</td>
<td>175</td>
</tr>
<tr>
<td>Number of floors per block:</td>
<td>4</td>
</tr>
<tr>
<td>Ownership:</td>
<td>University of Bristol</td>
</tr>
<tr>
<td>Management:</td>
<td>University of Bristol</td>
</tr>
<tr>
<td>Waste and recycling contractor:</td>
<td>Bristol City Council</td>
</tr>
</tbody>
</table>

### Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat share</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door-to-door collection</td>
<td>Student flat, 12-14 students sharing a kitchen</td>
<td>350</td>
<td>Inside kitchen and at two central recycling points</td>
<td>Reusable cloth bag to collect paper in each room 3 x 55 litre boxes within each kitchen to collect glass, cans and paper 5 x 240 litre wheeled recycling bins at two central collection points, each bin collects a different material</td>
<td>Weekly</td>
<td>Mixed paper; aluminium and steel cans; green glass; brown glass; clear glass</td>
<td>City of Bristol</td>
</tr>
</tbody>
</table>
Overview
Recycling at halls of residences at the University of Bristol was first introduced in 2002 and is now available at most University-owned halls. The scheme is run by the University through the Energy and Environmental Management Unit and source-separated recyclables are collected by Bristol City Council.

Manor Hall is a self-catering residence. Each flat is shared by 12 to 14 students, who share one kitchen. Students are asked to sort their recyclables into plastic boxes, which are provided in each kitchen. In addition, students are each provided with a cloth bag for storing recyclable paper in their rooms.

The porters empty both the residual waste and the recyclables into five material-specific wheeled bins. These are located at 2 recycling centres on site. The five recycling bins are locked into a frame and are equipped with apertures for different materials. The recycling centres are located in close proximity to the blocks and are on the students' paths to university, so serving as a visible reminder.

Involvement of residents and other stakeholders
The recycling scheme is extensively publicised. New students are informed about the scheme by the hall administration when they first arrive. The Environmental Department also has a stall at the ‘Freshers’ Fair’ and gives away promotional material made from recycled materials.

Information posters are displayed in each kitchen and leaflets highlighting the location of the nearest recycling facilities to each hall are distributed to students. In addition, general information about recycling is available on the University website.

Overcoming difficulties
The implementation of the recycling scheme has not posed any major problems. The door to door collection (from communal kitchen areas within each flat) by porters allows any contamination to be removed from the recyclable materials prior to depositing in the central collection bins.

Performance assessment
Participation rates are high and when the boxes were introduced to the kitchens capture rate increased by 50% compared with the previous central collection system. Current recycling rates stand at 12.86 kg per student at Manor Hall (figure extrapolated from data provided by Bristol City Council for five months: Aug 04 – Jan 05).

Contacts
Kath Lindsay, Hall Bursar
Tel: 0117 9035520 Email: manor-hall@bristol.ac.uk
**UNIVERSITY OF BRISTOL, UNIVERSITY HALL**

**Address:**
University Hall, Bristol

**Type of property:**
Halls of residence, 8 blocks

**Age of property:**
20 years

**Number of flats:**
320

**Number of floors per block:**
3

**Ownership:**
University of Bristol

**Management:**
University of Bristol

**Waste and recycling contractor:**
Bristol City Council

---

### Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central collection</td>
<td>Student flat, 5 students sharing one kitchen</td>
<td>320</td>
<td>Inside kitchen and at four central waste and recycling points on site</td>
<td>Reusable cloth bag to collect paper in each room; 3 x 55 litre boxes within each kitchen to collect glass, cans and paper; Banks of 240 litre wheeled recycling bins at three central collection points, each bin collects a different material</td>
<td>Weekly</td>
<td>Mixed paper; aluminium and steel cans; green glass; brown glass; clear glass; battery recycling (central area only)</td>
<td>City of Bristol</td>
</tr>
</tbody>
</table>
Overview
University Hall is a self-catering residence. Each flat is shared by five students, who share one kitchen. Students are asked to sort their recyclables into plastic boxes, which are provided in each kitchen. In addition, students are each provided with a cloth bag to store recyclable paper in their rooms.

At University Hall the students are responsible for emptying the recycling boxes into five material-specific wheeled bins. These are located at three waste and recycling centres on site. The five recycling bins are locked into a frame and are equipped with apertures for different materials.

Involvement of residents and other stakeholders
The recycling scheme is extensively publicised. New students are told about the scheme by the hall administration when they first arrive. The University’s Environmental Department also has a stall at the ‘Freshers’ Fair’ and gives away promotional material made from recycled materials.

Information posters are displayed in each hall kitchen and leaflets highlighting the location of the nearest recycling facilities to each hall are distributed to students. In addition, general information about recycling is available on the University website.

Overcoming difficulties
The implantation of the recycling scheme has been relatively trouble free. Some contamination issues have been encountered when students empty the recycling boxes at the central bins, but these are relatively minor.

Performance assessment
Participation rates are perceived to be high. Tonnages collected increased when the external recycling bins were moved closer to the properties thereby making their use more convenient. In addition, the number of residual bins was reduced and the frequency of collection was increased. Current recycling rates stand at 53.6kg per student at University Hall (figure extrapolated from data provided by Bristol City Council for five months: Aug 04 – Jan 05).

Contacts
Ann Tan, Hall Bursar
Tel: 0117 9033730 Email: university-hall@bristol.ac.uk
OXFORD BROOKES UNIVERSITY, CLIVE BOOTH HALL

Address: Clive Booth Hall, Headington Campus, Oxford
Type of property: Halls of residence
Age of property: 2003
Number of flats per block: 3
Ownership: Oxford Brookes University
Management: Oxford Brookes University
Waste and recycling contractor: Oxford City Council

Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
</table>
| Central collection    | Student halls, with between 3 and 6 students sharing a kitchen | 614                        | Inside kitchen and at a central recycling location                                                      | Commingled recycling box within kitchen  
Large material specific collection containers at a central recycling location | When full             | Mixed paper; aluminium and steel cans; green glass; brown glass; clear glass                           | Oxford City Council                                     |

Overview
There has been a recycling scheme on the campus of Oxford Brookes University for several years and since spring 2004 all students living in halls of residence have had access to the recycling service. Students can recycle paper, glass and cans if they request a recycling box for their kitchen, which is shared by six students.

When requesting the recycling box, students must agree to take responsibility for the box, ensuring that there is no contamination with incorrect materials and that it is emptied regularly.
The scheme is run by the Directorate of Estates and Facilities Management. Oxford City Council collects the recyclables.

Involvement of residents and other stakeholders
New students to Clive Booth Hall are informed about the recycling collection service at the beginning of the academic year through in-hall communication. Residential assistants, who live in the halls, have initial training which includes recycling and are able to direct students wanting to recycle. There are also signs in the hall kitchens (which are different for each hall).

Overcoming difficulties
When the scheme was first introduced, each kitchen was supplied with a recycling box and porters emptied them every two weeks. However, under this system, there were high levels of contamination. The modified system ensures that the boxes are only distributed to kitchens where a student is willing to take responsibility to ensure the box is used correctly.

Performance assessment
From the figures provided by Oxford City Council for Clive Booth and Morrell Hall it is estimated that 34.25 tonnes were recycled in total between May 2003 and July 2004 at these sites. There are 614 students living at Clive Booth and 557 at Morrell (total 1,171). Average recycling capture per student is therefore 29kg per student for that period. The composition of recyclable materials is as follows:

<table>
<thead>
<tr>
<th>Material</th>
<th>Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cans</td>
<td>1.35</td>
</tr>
<tr>
<td>Paper</td>
<td>9.95</td>
</tr>
<tr>
<td>Green glass</td>
<td>9.06</td>
</tr>
<tr>
<td>Clear glass</td>
<td>11.98</td>
</tr>
<tr>
<td>Brown glass</td>
<td>1.91</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34.25</strong></td>
</tr>
</tbody>
</table>

Contacts
Tel: 01865 485013   Email: accomm@brookes.ac.uk
### UNIVERSITY OF PORTSMOUTH, REES HALL

<table>
<thead>
<tr>
<th>Address:</th>
<th>Rees Hall, Southsea Terrace, Portsmouth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of property</td>
<td>Catered halls of residence</td>
</tr>
<tr>
<td>Age of property:</td>
<td>1910s – converted to halls in 1996</td>
</tr>
<tr>
<td>Number of rooms per block:</td>
<td>269 rooms</td>
</tr>
<tr>
<td>Number of floors per block:</td>
<td>7</td>
</tr>
<tr>
<td>Ownership:</td>
<td>University of Portsmouth</td>
</tr>
<tr>
<td>Management:</td>
<td>University of Portsmouth</td>
</tr>
<tr>
<td>Waste and recycling contractor:</td>
<td>Portsmouth City Council (private contract)</td>
</tr>
</tbody>
</table>

#### Recycling services for flats

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat households served</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door-to-door collection</td>
<td>Student halls, with kitchenettes shared by 45 students</td>
<td>269</td>
<td>Inside kitchenette, at the end of the hall and within a bin store</td>
<td>Inside kitchenette- green 50 litre box 240 litre wheeled recycling bin near the lifts on each floor Within bin store- 1,100 litre wheeled bin</td>
<td>Weekly</td>
<td>Paper, card, plastic and cans</td>
<td>Portsmouth City Council</td>
</tr>
</tbody>
</table>
Overview
Students living at Rees Hall are provided with a commingled recycling collection, which is run by Portsmouth City Council. This scheme has been in operation since 1996. As Rees House is a catered hall of residence, there are kitchenettes (rather than full kitchens), which are each shared by approximately 45 students. Each of these has a green 50 litre box for recycling. Students are asked to place their unsorted recyclables into the kitchen boxes and, when full, empty them into the 240 litre wheeled bins located next to the lift on each floor. Porters then empty these 240 litre bins into the external recycling bins.

The bins for residual waste and recyclables are kept in a secure area outside the hall kitchen. Kitchen staff use these recycling bins for their recyclable waste. In addition, there are public glass recycling bins across the road from the hall which are publicised within the hall and which the students are encouraged to use.

Involvement of residents and other stakeholders
Students receive a welcome pack when they arrive at the hall which tells them about the recycling services available and there are posters throughout the hall and the kitchenettes. During ‘Freshers’ Week’ there is a stand in the hall foyer which gives information about waste and recycling and encourages students to use the facilities available.

In addition, Recycling Officers from the Council visit the halls at least once per year to talk to students and remind them of the recycling facilities. Finally, the hall’s student executive council promotes the recycling amongst the students.

Overcoming difficulties
Until recently there was a problem with inadequate capacity of recycling bins but the frequency of collection has been increased and an extra recycling bin has been provided by Portsmouth City Council.

The hall would like to introduce glass recycling facilities on site rather than asking students to use the public glass bins across the road, but there are currently no funds available for this.

Performance assessment
The hall manager reported that there is high participation in the recycling scheme by students at Rees Hall. Evidence of this is the recent need to order an additional 1,100 litre wheeled recycling bin for the bin store area, as the capacity of the original bin is regularly exceeded.

Contacts
George Heir, Hall Manager
Tel: 023 9284 3885 Email: george.heir@port.ac.uk
**LONDON SOUTH BANK UNIVERSITY, McLAREN HALL**

<table>
<thead>
<tr>
<th>Address:</th>
<th>St George’s Circus, London</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of property:</td>
<td>Halls of residence</td>
</tr>
<tr>
<td>Age of property:</td>
<td>Nine years</td>
</tr>
<tr>
<td>Number of flats per block:</td>
<td>620</td>
</tr>
<tr>
<td>Number of floors per block:</td>
<td>8</td>
</tr>
<tr>
<td>Ownership:</td>
<td>South Bank University</td>
</tr>
<tr>
<td>Management:</td>
<td>South Bank University</td>
</tr>
</tbody>
</table>

**Recycling services for flats**

<table>
<thead>
<tr>
<th>Collection method</th>
<th>Types of flat</th>
<th>Number of households served</th>
<th>Location of containers</th>
<th>Type of containers</th>
<th>Collection frequency</th>
<th>Materials collected</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central collection</td>
<td>Student flats with 8 students sharing a kitchen</td>
<td>620</td>
<td>Inside kitchen and in 2 external recycling points across the site</td>
<td>Kitchens- two recycling boxes, one for glass and one for cans 1,100 litre wheeled bins</td>
<td>When full</td>
<td>Aluminium and steel cans; glass</td>
<td>London Borough of Southwark</td>
</tr>
</tbody>
</table>

**Overview**

McLaren Hall is a self-catering residence. On average, eight students share one kitchen. In June 1999, McLaren House, assisted by local community organisation CRISP piloted an end-of-term reuse scheme and the existing recycling facilities at McLaren Hall were also improved with the installation of two boxes in student kitchens to ‘encourage sorting at source and self-management.’ However, as the boxes were not emptied...
regularly enough by the students, the recycling box scheme has now been restricted due to health and safety concerns. Keen students are still provided with recycling boxes for their kitchens if requested; however, uptake is low.

Currently, the hall is served by two communal recycling bins for glass and cans at the rear of the complex. Paper is not collected for recycling on site as there is a concern that bins might be vandalised or set alight. Students are responsible for emptying their residual waste into the communal bins in the external bin area.

In addition, there is a public recycling centre on route to the university about 500 metres from McLaren Hall.

**Involvement of residents and other stakeholders**
Students are informed about the waste and recycling facilities during their induction. A poster explaining the recycling scheme is displayed in each shared kitchen.

**Overcoming difficulties**
Access to the communal recycling bins is not easy as the residual waste bins are placed in front of the recycling bins. Contamination is also a problem.

**Performance assessment**
It was reported by the accommodation manager that current participation rates in recycling are relatively low. Some students do not empty their residual waste and so it is thought to be even less likely that these students would empty their recycling bins. Recycling capture rates are not available.

**Contacts**
Tel: 0870 036 3690    Email: mclaren@lsbu.ac.uk
Annex 1- Example Planning Advice Note from the London Borough of Barking and Dagenham

London Borough of Barking and Dagenham

Planning Advice Note 3
Refuse and Recycling Provisions in New and Refurbished Residential Developments

For consultation and advice on any scheme, please contact:

Sustainable Development Group
Planning and Transportation Division
Department of Regeneration and Environment
London Borough of Barking and Dagenham

Town Hall
Barking
IG117LU

Tel: 0208 227 3812
Fax: 020 8227 3774
Website: [www.barking-dagenham.gov.uk](http://www.barking-dagenham.gov.uk)

The Sustainable Development Group will pass enquiries to relevant colleagues in Environmental Management Services who can provide more specific advice on developments and are available for site visits.
Chapter 1 — Introduction
The purpose of the PAN
The status of the PAN
Planning applications and this PAN
Focus on New and refurbished high-rise residential developments

Chapter 2 — Policy Context
Environmental Protection Act 1990
Building Regulations 2002
National policy
Regional policy
Local policy context

Chapter 3 — Calculation of Storage Capacity Required
Houses
Flatted accommodation: low, medium and high-rise developments

Chapter 4 — Location of Communal Bin Compound in Flatted Developments
General Guidelines
Easy Access for Residents
Easy Access for Waste Collection Operatives

Chapter 5 — Design Considerations
Internal Layout
Visual Impact
Noise Control
Odour/ Vermin Control
Security

Chapter 6 — Management Considerations
Keeping Residents Informed
Dealing with Fly-tipping
Washing Bins and Keeping the Bin Compound Clean

Chapter 7 — Coverage of Costs of Recycling Collection Infrastructure

Appendix A
Explanation of Barking and Dagenham's Unitary Development Plan Policies

Appendix B
Orange Bag Scheme

Appendix C
Further Sources of Reference
CHAPTER 1
INTRODUCTION

The purpose of the Planning Advice Note (PAN)

1.1 The aim of this PAN is to provide guidance for planners, developers, architects and facility managers, and to steer and assist them on the provision of waste and recycling facilities in new and refurbished residential developments. This PAN will help achieve policies set out in the Council’s adopted Unitary Development Plan (UDP) and will be used when considering new Local Development Plan (LDF) policies (see paragraph 2.8)

The status of the PAN

1.2 The PAN provides guidance on the implementation of UDP policy. Whilst it is not an essential requirement for planning permission, it provides important guidance as to how certain UDP policies can be applied and therefore constitutes an important material consideration in the determination of planning applications.

Planning applications and this PAN

1.3 Developers and architects should ensure that the requirements for storing waste and recyclable materials set out in this PAN are taken into account at the outset of designs of all new and refurbished residential developments. Once the guidance in this PAN has been followed, developers should discuss waste and recycling issues at an early stage with the Council to ensure compatibility of proposed systems with the Council’s requirements and collection arrangements.

1.4 Planning applications should clearly identify the proposed refuse and recycling storage points and the access routes for collection vehicles. They should also state how the development addresses the other requirements set out in this PAN, such as location, design and management considerations.

Focus on new and refurbished high-rise residential developments

1.5 While houses and low to medium-rise residential developments can be more easily integrated into the Council’s refuse and recycling collections, high-rise developments — above 18 metres in height — represent more of a challenge in waste management terms.

1.6 The Council’s preferred waste storage method for high-rise developments is a communal bin compound at ground level for both refuse and recycling bins. The Council no longer requires waste chutes in high-rise blocks. Instead, it asks for a minimum of two lifts and places great emphasis on post-occupancy management of the building for waste storage and collection purposes.

1.7 The Council is continuously looking for innovative and effective ways of dealing with waste and increasing recycling rates from high-rise buildings and developers are welcomed to propose their own schemes.
CHAPTER 2  
POLICY CONTEXT

2.1 The Environmental Protection Act 1990 and Building Regulations 2002 represent the principle legislation governing the provision of waste storage and collection from residential developments.

2.2 As a waste collection authority, Barking and Dagenham is required under Part II of the Environmental Protection Act 1990 to collect household waste from all residential properties in the borough. The Council may also, under section 46 (Receptacles for Household Waste), specify the type and number of receptacles to be used and the location where the waste should be placed in order to ensure compatibility with the Council’s collection methods. Furthermore in relation to recycling, under section 46, the local authority may require:
- Waste of certain types to be stored separately so that it can be recycled;
- Occupiers of dwellings to provide containers of a specified type for storage of waste;
- Additional containers to be provided for separate storage of recyclable waste;
- Specific locations to be established where containers should be placed for emptying.

2.3 Approved Document HB of the Building Regulations 2002 issued by the Office of the Deputy Prime Minister (ODPM) require adequate provision to be made for the storage of solid waste and adequate means of access to be made for residents to the place of storage and for collection operatives. Although the Building Regulations do not cover the recycling of household waste, accompanying guidance is provided for arrangements for separate storage of waste for recycling should it be necessary. This is to support requirements which may be made under Section 46 of the Environmental Protection Act 1990 and to support national policy on recycling and waste reduction.

2.4 In addition to the legislation outlined above, there are a number of other legislation and policy documents which actively encourage recycling and which support the Council's request for recycling facilities to be provided in all new or refurbished high-rise developments.

National policy

2.5 Incorporating adequate and accessible recycling facilities is consistent with a number of national policy documents:
- **Waste and Emissions Trading Act (2003)** — requires waste authorities to reduce the amount of biodegradable municipal waste they landfill by increasing their recycling, composting and energy recovery activities. The national target is to reduce the amount of biodegradable waste landfilled to 35 percent of that produced in 1995 by 2020.
- **Household Waste Recycling Act (2003)** — requires English waste collection authorities to collect at least two recyclable materials from all households separate from residual waste by 31st December 2010. The exception to this is where the cost of collection is unreasonably high, and where comparable alternative arrangements are in place.
- **Planning Policy Statement 10 (PPS10): Planning for Sustainable Waste Management (2005)** — recognises that good design and layout in new development can help secure opportunities for sustainable waste management,
including for kerbside collection and community recycling as well as for larger waste facilities. It states that planning authorities should ensure that new development makes sufficient provision for waste management.

Regional policy

2.6 The provision of adequate and easily accessible refuse and recycling facilities in high-rise developments is consistent with the following regional policy document:

- **The Mayor’s Municipal Waste Management Strategy ‘Rethinking Rubbish in London’ (2003)** — Proposal 16 states ‘The waste authorities must provide all households with recycling collections of at least three materials, one of which should be paper, by September 2004, except where impracticable. Consideration must be given to include access to the service for disabled people, children and the elderly’.

Local policy context

2.7 Encouraging new and refurbished high-rise developments to incorporate appropriate refuse and recycling facilities is consistent with a number of local policy documents:

- **The Barking and Dagenham Partnership’s Community Strategy ‘Building Communities Transforming Lives’ (2004)** sets out a framework that aims to make the borough a better place to live, work and spend leisure time. Under the Local Government Act 2001, all the plans and programmes prepared by the Council must conform to policies and priorities set out in the Community Strategy. Adequate refuse and recycling facilities in new and refurbished high-rise developments can assist in meeting the Community Priority of making the borough Cleaner, Greener and Safer by reducing fly-tipping within blocks, reducing unpleasant smells, increasing recycling and improving the street scene around blocks.

- **Barking and Dagenham’s Unitary Development Plan, 1995** includes a number of policies which seek to provide facilities for sustainable waste management. These include:
  - G31 Waste Re-use and Recycling
  - H13 New Residential Developments
  - Appendix 4 Refuse Collection and Storage Standards

2.8 This planning advice note continues in force as long as the Unitary Development Plan (UDP) that it supplements is in force. For more information on these policies and their links to waste and recycling storage and collection please see Appendix A. The Council is in the process of replacing its UDP with a new style development plan called a Local Development Framework (LDF). The LDF will be developed over the next three years and adopted in 2008.
CHAPTER 3:  
CALCULATION OF STORAGE CAPACITY REQUIRED 

Houses 

Internal storage capacity 

3.1 Enough storage capacity needs to be provided inside the kitchen or another convenient location for the storage of refuse and recyclable materials. Space will be required for two bins with a capacity of 60L each for general waste and the Orange Bag (see Appendix B for information on Orange Bag recycling scheme). 

3.2 Internal storage also needs to be provided for a smaller bin where residents can collect compostable organic waste and a box/ bag for the collection of glass. 

External storage capacity 

3.3 In houses with gardens, an area should be provided for composting bins. Ideal composting areas are located away from the house and are (relatively cool). Bins should normally sit directly onto the soil to allow access for worms, soil and microbes and drainage. 

3.4 A small paved area should be provided at the pavement-end of front gardens for potentially storing wheelie bin(s). Although the Council does not operate a wheelie bin system and there are no plans to introduce one, this option can not be ruled out in the future. The paved area should not be enclosed. 

Flatted accommodation: low, medium and high-rise developments 

Internal storage capacity 

3.5 As with houses, consideration needs to be given to providing sufficient space within each flat for the storage of recyclables and residual waste. Space will be required for storing household refuse, the Orange Bag for dry recyclables and a separate box or bag for storing glass. 

3.6 Additional space for a compost bin may be provided on the balcony or within the unit to allow residents to compost their kitchen waste. 

External storage capacity for refuse and recyclable materials 

3.7 Flatted developments (low, medium and high-rise) are expected to incorporate into their design a specially designated compound for the storage of communal refuse and recycling bins. The compound should be situated at ground level within the footprint of the development. 

3.8 The Council will provide residents with Orange Bags for the separation and storage of their recyclable waste. Residents will be expected to bring both refuse and Orange Bags to the communal bin compound themselves. The development’s Housing Management organisation will be primarily responsible for ensuring waste management in the building is successful. 

3.9 Multi-occupancy buildings will be provided with the following containers from the Council at an annual charge (see Chapter 7):
Refuse
660, 1,100 or 1,280 litres metal containers (Eurobins) with lids and central locking castors.

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Height (h)</th>
<th>Depth (d)</th>
<th>Width (w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>660 litres</td>
<td>1320mm</td>
<td>740mm</td>
<td>1265mm</td>
</tr>
<tr>
<td>1,100 litres</td>
<td>1475mm</td>
<td>980mm</td>
<td>1250mm</td>
</tr>
<tr>
<td>1,280 litres</td>
<td>1430mm</td>
<td>990mm</td>
<td>1260mm</td>
</tr>
</tbody>
</table>

Recycling
1,280 litres Orange colour metal containers (Eurobins) for recyclable materials. These containers have a special orange double flap lid with diamond key lock, polyester powder body coating, central locking castors, with the letters B&D.

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Height (h)</th>
<th>Depth (d)</th>
<th>Width (w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,100 litres</td>
<td>1475mm</td>
<td>980mm</td>
<td>1250 mm</td>
</tr>
<tr>
<td>1,280 litres</td>
<td>1470mm</td>
<td>990mm</td>
<td>1260mm</td>
</tr>
</tbody>
</table>

**Orange Recycling Eurobins**

3.10 The formula the Council uses to determine the number of Eurobins needed for a particular development is **1 refuse Eurobin of 1,100/1,280 litres per every 6 flats**, based on a two bedroom flat. The number of bins required may vary based on the number of bedrooms and type of development.

3.11 Based on an approximate 50% participation rate by residents in recycling scheme, the Council estimates that the number of recycling Eurobins needed will be half the number of refuse Eurobins. Developers’ Housing Management organizations will need to consider that if recycling rates in a particular development are higher than 50%, additional recycling Eurobins may be required.

3.12 Collection frequency will also influence the amount of bins required. Usually, the Council collects both refuse and recyclable materials once a week from low rise flats and twice to three times from high-rise developments. Frequency of collection will be established on a case-by-case basis in consultation with the Council.
Recycling provisions for glass

3.13 Glass is not currently collected in the Orange Bag recycling scheme nor does the Council run a separate collection for glass at the present time. However, this situation may change and developers are strongly advised to make provision in bin compounds for space to accommodate an extra 1,280 Eurobin for mixed glass.

3.14 Developers are also asked to provide mixed glass recycling bring banks for their developments on nearby adopted public highways. The density of the banks should be in accordance with the Mayor’s Municipal Waste Management Strategy requirement of one site per 500 households where recycling collections from homes are not provided and one site per 1,000 households where recycling collection from homes exist. Bring banks can only be serviced from sites on adopted public highway and their location should maximise use, for example be placed at thoroughfares. A site consists of four bring banks (metal or plastic Modular banks of 2.5 cubic metres capacity): three banks for transparent, green and brown glass and one for paper.

3.15 The table below provides an indication on the number of both communal refuse and recycling Eurobins required in flatted accommodation for different collection frequencies. Space for an extra 1,280L Eurobin for mixed glass should be provided as per paragraph 3.13.

<table>
<thead>
<tr>
<th>No of flats:</th>
<th>6</th>
<th>12</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
<th>42</th>
<th>48</th>
<th>54</th>
<th>60</th>
<th>66</th>
<th>72</th>
<th>78</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Once weekly collection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refuse 1,100/1,280 litre Eurobin</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Recycling 1,100/1,280 litre Eurobin</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td><strong>Twice weekly collection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refuse 1,100/1,280 litre Eurobin</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Recycling 1,100/1,280 litre Eurobin</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Thrice weekly collection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refuse 1,100/1,280 litre Eurobin</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Recycling 1,100/1,280 litre Eurobin</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Provision for bulky waste storage

3.16 An additional dry storage room needs to be provided for the storage of bulky waste such as furniture, large electrical items and mattresses. This may be a designated section of the waste and recycling compound, if this is enclosed, or a separate room or enclosure. Storage capacity must be a minimum of 10m² for every 50 housing units.
3.17 Location considerations listed in chapters 5 for communal bin compounds apply to the bulky waste storage room also as the Council’s bulky waste collection operatives will need access to the dry storage room.

**Underground banks for refuse and recycling**

3.18 Developers are encouraged to consider installing underground banks for refuse and recycling. The Council is seeking to enter into a partnership with developers for the widespread introduction of underground banks in the borough. For more information, please contact the Environmental Sustainability Team on 0208 227 3812.
CHAPTER 4
LOCATION OF COMMUNAL BIN COMPOUND IN FLATTED DEVELOPMENTS

General guidelines

4.1 Communal bin compounds should be located at ground level within the development’s footprint. The Council’s preference is for compounds to be located internally rather than externally.

4.2 Wherever possible, bin compounds should house both the communal refuse bins and the communal recycling bins.

Easy access for residents

4.3 The refuse and recycling facilities should encourage residents living in flats to dispose of their refuse responsibly and to recycle as much of their household waste as possible. Bin compound must therefore be conveniently located for residents.

4.4 Internal bin rooms should be located near lifts or stairs providing that the requirements for ease of access for waste collection operatives listed below.

4.5 Residential high-rise development (18 metres and above in height) are required to have two lifts providing access to each floor and not alternate floors. The Council does no longer require chutes in high-rise development but does require two lifts instead.

4.6 The internal bin compound should be sited so that Eurobins can be taken to the collection point without being taken through a building.

4.7 Where external bin compounds are to be provided, these must be located close to the main building entrance without interfering with pedestrian access to buildings. External storage areas for waste containers should be away from windows and ventilators.

4.8 Eurobins should have stairs or ramps to ensure ease of access for elderly or disabled persons to avoid the need to lift bags into the bins.

Easy access for waste collection operatives

4.9 The Council’s waste collection operatives will move the communal refuse and recycling bins from their permanent storage compound to the collection point. Access points for refuse vehicles should not normally be more than 25m from waste compounds (see Annex A).

4.10 The access road must be capable of safely accommodating a RCV 26 tonnes vehicle of the following dimensions: 9.8 metres length x 4 metres high x 2.5 metres wide. Developers should also ensure that manhole covers are strong enough to withstand the weight of the vehicle.

---

21 Building Regulations 2002 Approved Document B — Fire Safety (2000 Edition Consolidated with 2000 and 2002), Section 18 states that buildings with a floor at more than 18m above vehicle access level with lifts. As the Council is no longer requiring chutes, buildings of 18 metres and above must have two lifts to easily enable residents to bring their waste down to ground level at all times.
4.11 The site layout must allow for the collection vehicle to manoeuvre in a Hammerhead T-Form as illustrated below. Other possible turning manoeuvres can be discussed with Environmental Management Services during the planning application process.

4.12 Doors/gates to any waste compound are not permitted to open out over a public highway.

4.13 There should be no need to wheel bins over steps and drop kerbs must be provided where necessary. Furthermore, access between the bin compound and the collection point should be a minimum of 2m wide and have a reasonably smooth, durable surface.

4.14 If it is proposed to locate waste and recycling containers in compounds in a basement area inaccessible to a standard waste collection vehicle, a suitable ground floor collection area must be indicated on drawings submitted for approval. In addition, a written statement must be attached describing the proposed method of transporting the containers to ground floor level, including parking arrangement.

4.15 If the waste containers are to be transported to ground level by a goods lift, it must be large enough to accommodate the waste container as well as the porter. In large schemes more than one waste container will need to be accommodated. The lift doors must be sized to allow free access for the waste containers. In addition, a written statement must be attached describing the transporting of the containers to ground floor level, including parking arrangement.
CHAPTER 5
DESIGN CONSIDERATIONS

Internal layout

5.1 Within the bin compound, the disposal of general waste and recyclables should be equally convenient. Where there are to be disparities, disposing of general refuse should be marginally easier than the disposal of recyclables to avoid contamination. If possible, the refuse disposal point should be the first encountered when residents enter the refuse disposal area.

5.2 Any enclosure, compound or storage area should allow for filling and emptying and provide clear space of 15cm between and around containers.

5.3 A rubber buffer should be affixed to the surrounding wall and placed at the appropriate height to prevent damage to the storage area walls and unnecessary noise.

5.4 All doors should open outwards and should be fitted with a hook back facility to prevent damage from bins colliding into doors upon entry and exit.

Visual impact

5.5 External compounds should be constructed of materials in keeping with the surroundings and screened by planting with adequate provision of soil if appropriate.

Noise control

5.6 Communal bin compounds should be far enough away from housing units so as to reduce the impact of noise during bin use and collection. Eliminating the need for collection vehicles to reverse will also assist in keeping noise to a minimum.

Odour/vermin control

5.7 Internal bin compounds should be well ventilated and have a smooth easily cleanable floor, like a concrete float finish. Air fresheners and vermin boxes may be installed. External compounds should be open (no roof) and also have a concrete floor.

5.9 Suitable drainage, with water discharging into a sewered drain, should be installed to allow the washing of bins. Nearby access to the water mains should also be provided.

Security

5.10 The design of communal bin compounds should allow easy access to residents but not to non-residents. Internal bin store rooms should only be accessed from outside to prevent the room being used as an access point to the building. External bin compounds should be located out of sight of the main road as far as possible.

5.11 Developers may consider an open rail gate with a welded mesh on the back of it for internal bin rooms so that residents can see inside the bin room before entering it from the outside. Similarly, external compounds should only be slightly higher than the bins themselves (approx. 6 inches higher) and have no roof so that residents can see who is inside the compounds before entering.
5.12 The gate or door on both internal and external bin storage rooms should have a heavy duty closer with suitable locking system.

5.13 Adequate lighting needs to be provided to allow the usage of the bin store after dark.

5.14 CCTV should be installed in new and refurbished blocks to deter fly-tipping, especially in places that are particularly vulnerable to fly-tipping such as under stair cases. CCTV should also be fitted inside the bin room.

5.15 New and refurbished high-rise developments should have a concierge system with a staffed reception desk at all times.
CHAPTER 6
MANAGEMENT CONSIDERATIONS

6.1 It is important to establish and delegate the responsibility for the tasks involved in ensuring an effective waste management system in high-rise developments. All new and refurbished high-rise developments will be required to have a Housing Management arrangement in place. The key waste management responsibilities of the Housing Management organisation are:

- Keeping residents informed of waste facilities;
- Dealing with fly-tipping; and
- Washing the bins and keeping the bin compound clean;

Keeping residents informed

6.2 Communal bin compounds should have a notice showing which properties are entitled to use the facilities.

6.3 Additional signage to indicate the materials collected as part of the recycling collection scheme will be required. Alternatively, if the erection of posters within the bin store is not possible due to space or other restrictions, bin stickers may be used.

6.4 Where the Housing Management organisation holds tenants’ induction schemes, these should include the use of waste and recycling facilities.

6.5 The Council will issue a leaflet on the correct use of the waste and recycling facilities and the materials recycled. Tenants’ handbooks should include a section on the correct us of refuse and recycling facilities.

6.6 Housing Management organisations should encourage Tenants’ Association to take on responsibility for enforcing residents’ compliance with the waste management arrangements.

Dealing with fly-tipping

6.7 A key task of the Housing Management organisation will be to promptly remove any fly-tipped waste and keep communal spaces neat and tidy.

6.8 Housing Management organisations will be expected to investigate incidences of fly-tipping within the block and write to residents who are found to be responsible either through bag searches or CCTV footage.

6.9 It is also strongly recommended that lease agreements and residents’ handbooks are used to set out tenants’ responsibilities with regard to the storage of waste and recyclables and consequences of non-compliance with these responsibilities.

Washing bins and keeping the bin compound clean

6.10 This will be the responsibility of the Housing Management organisations.
CHAPTER 7
COVERAGE OF COSTS OF REFUSE AND RECYCLING INFRASTRUCTURE

7.1 Developers are expected to contribute towards the costs of communal infrastructure where the need for those facilities arises directly from the development. Developers will be required to cover the costs of providing new bins required by the residential development.

7.2 Developers and their Housing Management organisations are expected to hire both communal refuse and communal recycling Eurobins from the Council at an annual rate of £45 per bin. This rate is based on 2005/06 prices and may be subject to increases. If a bin becomes damaged or needs maintenance, the Council will replace it or repair it at no extra charge.

7.3 The Council is interested in introducing underground infrastructure for storing refuse and recyclable materials and contributions from interested developers towards this will be collected via a legal agreement (otherwise known as a Section 106 agreement).
Appendix A
Explanation of Barking and Dagenham’s Unitary Development Plan Policies

1. The London Borough of Barking and Dagenham’s Unitary Development Plan, adopted in 1995, includes policies which set out the borough’s commitment to providing adequate refuse and recycling facilities in residential developments through the planning process. These are set out below.

UDP Policy G31 Waste Re-use and Recycling

2. This policy states:

‘The Council will encourage the re-use of materials and the recovery of resources from wastes and will:

i) Encourage the provision of installations for the deposition of materials for recycling in locations where they are convenient and accessible both to members of the public and the operator;

Justification paragraph 31.2 elaborates further:

‘The Council will therefore encourage the re-use of materials by giving residents an opportunity to recycle domestic waste by providing, and encouraging others to provide, deposit style collection banks in convenient and appropriate locations.’

Accessible and easy-to-use refuse and recycling facilities in new developments can help deliver this policy as it will encourage residents in flats to recycle.

UDP Policy H13 New Residential Developments

3 Policy H13 states:

‘Proposals for all new residential developments shall be of a high quality of design and layout. In considering proposals, the Council will take into account the character of the residential area in which the development site is located and seek to ensure that the proposal:

vi) Provides adequate refuse storage as outlined in Appendix 4;
vii) Should normally make provision for recycling facilities, particularly bottle banks that are easily accessible to both local residents and the operator, in developments of 20 units or more.’

Accessible and easy-to-use refuse and recycling facilities in new and refurbished developments will deliver this policy.

Appendix 4 Refuse Collection and Storage Standards

Appendix 4 states:

‘In developments where refuse facilities are required, the following standards should be met:

1. If refuse is to be collected by the Council, stands and enclosures must be located conveniently to the nearest access point for the collection vehicle and, in any case,
must not be more than 25 metres away from the vehicle point. Paladin refuse containers must not be more than 9 metres away from the vehicle point.

2. Where refuse collection cannot be undertaken from the rear or side of a property, refuse enclosures should be provided in the forecourt or front garden, and should be well located to each dwelling. These should be kept as low as possible; constructed in materials to match the front elevation of the property; provided with a watertight roof and doors; and screened by planting with adequate provision of soil if appropriate.

3. The provision of refuse enclosures should be included in the design of buildings or boundary walls where possible.’
Appendix B
Orange Bag Recycling Scheme

The Orange Bag Recycling Scheme accepts the following materials. Please note that the scheme does not accept glass.
Appendix C
References and Sources of Further Information

Below is a list of reference documents relating to the provision of waste and recycling facilities in residential developments. In addition there are also a number of websites and organisations, which may prove to be useful when considering the installation of refuse and recycling facilities. Please note LB. Barking and Dagenham is not responsible for the external web links and addresses outlined below and that there are other organisations that can give advice on refuse and recycling facilities.

<table>
<thead>
<tr>
<th>Reference Documents</th>
<th>Web links</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Useful Websites and Contacts</strong></td>
<td><strong>Comment</strong></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong><a href="http://www.bre.co.uk">www.bre.co.uk</a></strong></td>
<td>Building Research Establishment’s Eco Homes Assessment includes the provision of recycling storage facilities.</td>
</tr>
<tr>
<td><strong><a href="http://www.wasteonline.org.uk/resources/WasteWatch/RecyclingFromFlats_files/page1.html">http://www.wasteonline.org.uk/resources/WasteWatch/RecyclingFromFlats_files/page1.html</a></strong></td>
<td>Waste Watch produced a paper on recycling in flatted developments entitled ‘Recycling for flats: case studies of recycling schemes for housing estates, high-rise blocks and other areas of high-density housing’</td>
</tr>
<tr>
<td><strong><a href="http://www.westernriverside.org.uk/downloads/RWR_Estates_Reycling_Research_Ellen_changes.pdf">http://www.westernriverside.org.uk/downloads/RWR_Estates_Reycling_Research_Ellen_changes.pdf</a></strong></td>
<td>The Recycle Western Riverside campaign undertook a study of different methods of recycling on estates and high-rise blocks to provide the four constituent boroughs of the Western Riverside Waste Authority with information about the costs, performance and issues surrounding different estates recycling schemes.</td>
</tr>
<tr>
<td><strong>Lorraine Roache, Poplar Harcar</strong></td>
<td>Poplar Harca is a social landlord who has installed underground refuse banks in partnership with Tower Hamlets in most of its estates in that borough.</td>
</tr>
<tr>
<td><strong>Eco Island Ltd.</strong></td>
<td>Eco Island Ltd. and Sulo MGB Ltd are two suppliers of underground refuse and recycling systems in the UK.</td>
</tr>
<tr>
<td><strong><a href="http://www.ecoisland.co.uk">www.ecoisland.co.uk</a></strong></td>
<td></td>
</tr>
<tr>
<td><strong>Sulo MGB Ltd</strong></td>
<td></td>
</tr>
<tr>
<td><strong><a href="http://www.sulo.com">www.sulo.com</a></strong></td>
<td></td>
</tr>
</tbody>
</table>
Annex 2- Example Draft Supplementary Planning Guidance from Hampshire County Council

SUPPLEMENTARY PLANNING GUIDANCE

THE STORAGE AND COLLECTION OF DOMESTIC WASTE AND RECYCLABLES MATERIALS

CONSULTATION DRAFT

HAMPSHIRE COUNTY COUNCIL
INTRODUCTION

1. This Supplementary Planning Guidance (SPG) sets out planning and design considerations which need to be taken into account by people proposing new developments or people affected by these developments. The guidance can be used to determine planning applications, and it has the legal status of a ‘material consideration’, which the local authority is entitled to take into account in making decisions.

2. This SPG provides details of:
   - The refuse storage requirements for various forms of residential development
   - Appropriate ways of siting, enclosing and screening bin storage areas
   - The access requirements for the waste/recycling collection operator
   - Contributions to the infrastructure for waste and recyclables collection

3. Housing developers should ensure that the requirements for the storage and collection of household waste and recyclable materials set out in this SPG are taken into account at the outset in the design and layout of all new housing development.

4. The SPG continues in force as long as the Unitary Development Plan/Local Development Framework that it supplements is in force.

5. References to relevant policies in the Local Plan and Waste Local Plan, e.g.: The Eastleigh Borough Local Plan Review 2001-2011 (pre-enquiry changes to 2nd deposit draft) includes a general requirement in policy 29.ES which states that:

   ‘Provision should be made in the design and layout of housing developments for the storage and collection of domestic waste and recyclable materials to the design and specification of the Borough Council. These facilities must be sited in locations that would not give rise to disturbance to the occupiers of residential property.’

CURRENT ARRANGEMENTS FOR THE COLLECTION OF WASTE AND RECYCLABLE MATERIALS

6. Current arrangements for the storage of domestic refuse are as follows:

   Detached / semi-detached houses: each provided with .... x .... litre wheeled bins, usually stored to the side or rear of property. (e.g. 2 x 240 litre wheeled bin)

   Terraced houses: each provided with .... x .... litre wheeled bins. Unless access can conveniently be gained to the rear, these bins are usually stored at the front of the property. (e.g. 2 x 240 litre wheeled bin)

   Flats, maisonettes, houses in multiple occupation and bedsits: Normally provided with .... x .... litre Eurobins for every .... units, but may have individual wheeled bins for each dwelling. (e.g. 2 x 1,280 litre Eurobins for every 6 units)

7. Small bins (140 litres capacity) are available for smaller households. However, all households of 3 or more persons are eligible for a 240 litre capacity bin, so provision should be made to accommodate the larger capacity bins.

8. The dimensions of the wheeled bins currently provided are as follows:

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Height (h)</th>
<th>Depth (d)</th>
<th>Width (w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 litres</td>
<td>1070mm</td>
<td>740mm</td>
<td>509mm</td>
</tr>
<tr>
<td>360 litres</td>
<td>1090mm</td>
<td>880mm</td>
<td>600mm</td>
</tr>
<tr>
<td>660 litres</td>
<td>1190mm</td>
<td>770mm</td>
<td>1220mm</td>
</tr>
<tr>
<td>1,100 litres</td>
<td>1360mm</td>
<td>950mm</td>
<td>1220mm</td>
</tr>
<tr>
<td>1,280 litres</td>
<td>1430mm</td>
<td>985mm</td>
<td>1265mm</td>
</tr>
</tbody>
</table>
9. The use of waste disposal chutes is generally not considered suitable for the collection of recyclable materials, because they are not conducive to the safe transfer of recyclables. First, recyclables, particularly glass, are generally damaged or destroyed by the drop down the chute. Secondly, cardboard can easily block chutes and represent a fire hazard. Furthermore, recyclables such as paper and plastic are highly flammable. The storage of large quantities of recyclables at the bottom of the chute shaft, which runs along the height of the building, may also constitute a fire hazard. It is therefore required that in buildings where refuse chutes are planned, separate collection facilities for recyclables are provided. These may be located in chute rooms on each floor or in the refuse room at the bottom of the building where the bulk bins or the compactor are located. The disposal of general refuse and recyclables should be equally convenient. Where there are to be disparities, disposing of general refuse should be marginally easier than the disposal of recyclables. If possible, the refuse disposal point should be the first encountered when residents enter the refuse disposal area. This is to minimise the risk of contamination of recycling bins by general refuse by residents who do not participate in recycling and use the first bin available.

10. Currently, the Council’s recycling scheme includes the direct collection from households of the following materials:

- Plastic bottles
- Newspapers and magazines
- Cardboard
- Aluminium and steel cans

11. Glass is not collected by the Council as part of the domestic waste and recyclable materials collection and must be taken to one of the Council’s glass recycling banks.

   In order to enhance recycling rates and to provide more accessible glass recycling facilities, the Council has introduced a glass collection vehicle capable of emptying the standard 240 litre wheeled bins. New mini recycling banks consisting of three 240 litre bins for the separate collection of clear, green and brown glass will be installed in appropriate locations.

   Developers of flats, apartments and sheltered accommodation schemes, where communal waste storage facilities are to be installed, are therefore encouraged to make additional provision within the bin storage area to accommodate such mini recycling banks.

HEALTH & SAFETY CONSIDERATIONS

12. Bin storage areas must be conveniently located for use by residents, and bins must be easily manoeuvrable to the edge of the public highway from where they are to be collected. Plastic wheeled bins should not need to be wheeled more than 30m. For elderly persons or persons with a disability, this distance may be reduced.

13. Bins should not need to be wheeled over steps and the access roads should be level or have a gradient from the access area not greater than 1:12. Drop kerbs should be provided where necessary.

14. The Council’s waste collection operatives will move bulk bins such as Eurobins provided to multi-occupancy dwellings from their permanent storage space for collection. This storage area must be no more than 10m from the point accessible by the collection vehicle.

15. Where the collection vehicle is to access a site off the public highway the access road must be capable of safely accommodating a 6-wheeled vehicles, XX metres in length weighing up to XX tonnes. Developers should also ensure that manhole covers are strong enough to withstand this weight.

16. The site layout must allow for one of the turning manoeuvres illustrated below.
17. Access between the bin storage area and the collection point should: be a minimum of 1.8m wide and have a reasonably smooth, durable surface; not be steeply graded; include drop kerbs.

**BIN STORAGE AND COMMUNAL BIN AREAS**

18. Space requirements
The requirements for the storage of wheeled bins set out below should be incorporated in all proposal for residential development:

- **Detached, semi-detached and end of terrace houses with side access**
  Proposals for Detached, semi-detached and end of terrace houses with rear or side access must include areas suitable for the storage of X x 240 litre wheeled bins. Such areas must be convenient for use by residents with easy access to the roadside. There will be no specific need for screening unless the storage area is prominent in view from the road, a footpath or other public vantage point.

- **Mid-terrace houses and other property without side or rear access**
  Proposals for dwellings without convenient side or rear access direct to the public highway must include an enclosed bin storage area to accommodate X x 240 litre wheeled bins on the frontage of the property. There must be at least 150mm clearance around each bin and the enclosure must be of a minimum height of 1200mm. Bins placed alongside one another will required a total width of at least 1630mm. Bin storage areas should be designed as an integral part of the exterior of the dwelling with easy access to the roadside.

- **Flats, houses in multiple occupation and bedsits**
  Proposals for flats, houses in multiple occupation and bedsits must include provision for X x 1,280 litre bins for every six units unless provision is made for individual bins for each dwelling. There must be at least 150mm clearance around each bin, with a minimum 1 metre clearance required if 1,280 litre bins are to be positioned facing each other. Screening must be provided to a height of at least 450mm above the top of the bins. Consideration should be given to providing appropriate roofing for communal bin storage areas.

19. Noise control
Communal bin storage areas should be far enough away from residents so as to reduce the impact of noise during bin use and collection. Eliminating the need for collection vehicles to reverse will also assist in keeping noise to a minimum.

20. Odour/vermin control
Communal bin storage areas should be well ventilated. If the bin area is completely enclosed by brick walls, high level and low level air bricks should be incorporated.

A smooth easily cleanable floor, for example paving or a concrete float finish should be installed.

Suitable drainage, with water discharging into a sewered drain, should be installed to allow the washing of bins. Nearby access to the water mains should also be provided.

21. Security
The design of communal bin storage areas should allow easy access to residents but not to non-residents. For this purpose, bin storage areas should be either located out of sight of the main road or they should be lockable.
Adequate lighting needs to be provided to allow the usage of the bin store after dark.

22. Signage
Communal bin storage areas should have a notice showing which properties are entitled to use the facilities.

Additional signage to indicate the materials collected as part of the recycling collection scheme may be required. Alternatively, if the erection of posters within the bin store is not possible due to space or other restrictions, bin stickers may be used.

*Include photographs / sketches of examples*

**STORAGE SPACE INSIDE HOUSING UNITS**

23. Consideration needs to be given to providing sufficient space within the kitchen, or other convenient locations, within each housing unit to be built for the storage of recyclables and residual waste.

24. Additional space for a compost bin may be provided on the balcony or within the unit to allow residents to compost their kitchen waste.

**ONGOING MANAGEMENT ARRANGEMENTS**

25. For communal bin areas, it is important to establish and delegate the responsibility for the tasks involved in the ongoing management of the bin bay. This includes:

- Moving bins to and from the kerbside on the collection days
- Washing the bins and keeping the bin storage area clean
- Ensuring the prompt removal of litter and fly-tipped refuse

**COVERAGE OF COSTS OF RECYCLING COLLECTION INFRASTRUCTURE**

26. Developers are expected to contribute towards the costs of community infrastructure where the need for those facilities arises directly from the development.

27. Developers will be required to cover the costs of providing new bins required by the residential development.

28. The average cost of placing a new property on the kerbside recycling collection is £XX per unit. This comprises the following:

- 1 240 litre wheeled bin per household
- Publicity material including instructions about the scheme
- Any work involved in the re-configuration of existing collection rounds in the event that the scale of new development breaches the operational threshold of an existing round (currently XXX)

29. The average cost of providing communal recycling collection facilities is £XX per unit. This comprises the following:

- 2 x 1,280l bins for every six units
- Publicity material including instructions about the scheme
- Any work involved in the re-configuration of existing collection rounds in the event that the scale of new development breaches the operational threshold of an existing round (currently XXX)

30. The contribution towards recycling collection infrastructure is payable for developments comprising more than XX units.
31. It is usual practice to collect development contributions via a legal agreement (otherwise known as a **Section 106 agreement**). However, the sums required towards recycling are small and where contributions are not triggered towards other services or facilities, the costs of drafting a legal agreement solely for this contribution may exceed the sums involved.

32. In such cases it would be acceptable for a developer to make a 'Voluntary Contribution' wherein the required amount towards recycling is given to the Council when the planning application is submitted. This will be held under a contract that the contribution will be spent providing kerbside recycling to the new units. If planning permission is granted, the payment will be cashed. If it is not, the payment will be returned.

**FURTHER ADVICE**

33. To discuss the arrangements for the collection of domestic waste please contact:

*(Contact details to be inserted here)*

To discuss the arrangements for the collection of recyclable materials please contact:

*(Contact details to be inserted here)*

To discuss the provision for the storage and collection of domestic waste and recyclable materials in the design and layout of development proposals, please contact:

*(Contact details to be inserted here)*

**CONSULTATION**

34. This SPG is published in a draft form for consultation purposes. Comments on this draft should be submitted no later than XXXX.

35. All consultation responses will be carefully considered and appropriate amendments made to the guidance which will then be adopted as Council policy to support the Council’s Local Plan Review.
Annex 3- Example Good Practice Planning Guide from Woking Borough Council

Waste and recycling provisions for new residential developments

Good practice guide for developers
Good practice

- New developments should provide safe and convenient facilities for residents to recycle and dispose of their waste
- Facilities for waste and recycling collection should be designed into new developments
- An integrated approach to waste and recycling collection helps contribute to sustainable waste management and waste minimisation

Climate change and waste

Waste may not appear to be directly related to climate change. However, the transport, treatment and disposal of waste are all energy demanding activities and contribute to harmful greenhouse gas emissions. Recycling and reuse have become common practice in addressing some of the environmental impacts of waste generation by reducing the need for raw materials extraction and processing and the demand for landfill space.

Currently the vast majority (79%) of municipal solid waste in the South East of England is still landfilled. Local authorities are therefore charged with increasing the amount of waste that is recycled and have been set annual targets by the central government. Woking Borough Council is expected to recycle 36% of its waste by 2005/06.

Increased convenience plays a major role in encouraging householders to recycle more of their waste. The provision of recycling facilities at home is therefore an important element of Woking’s waste minimisation strategy. The design of new residential developments should take into account the waste management requirements with the aim to encourage recycling and composting.

Household waste in Woking

Woking produces an estimated total of 77,000 tonnes of waste per year. Approximately, 30,000 tonnes of this is household waste, including 21,000 tonnes biodegradable waste and 6,000 tonnes non-organic recyclables.

It is estimated that at least an average of 60% of household waste is recyclable. Similar to the national average, Woking’s households waste is made up of the following materials:
The vast majority of these materials can be reused, recycled or composted.

Depending on the recycling scheme in operation, local authorities provide residents with a number of different containers for the separation and storage of recyclables, residual waste and sometimes also organic garden and kitchen waste.

Woking Borough Council currently operates a twin-bin system for residents of houses – one bin for mixed recyclables and one for the remaining refuse. Blocks of flats are also provided with separate large capacity bins or colour-coded sacks. Recyclable materials collected from homes include newspapers and magazines, cardboard, plastic bottles, metal cans and tins. Glass is currently not collected from the doorstep, but residents have the opportunity to recycle glass bottles and jars at public recycling banks.

In the context of Woking’s Climate Change Strategy, Woking promotes the source separation of the organic element of the waste stream, to maximise recycling through anaerobic digestion and the production of compost. The Council offers householders pre-paid sacks for garden waste, which are collected at the same times as the recyclables. The Council also promotes home composting and residents have the opportunity to purchase composters at a discounted price from the Council.

---

22 Based on Woking Borough Council, *Waste Management Strategy 2002*, p.18
Storage capacity for refuse and recyclables

Houses

Internal storage capacity
Consideration needs to be given to providing sufficient space in the kitchen or another convenient location within each house for the storage of recyclables and residual waste.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Refuse</td>
<td>60 litre bin</td>
</tr>
<tr>
<td>Mixed dry recyclables</td>
<td>30 litre bin, box or bag</td>
</tr>
<tr>
<td>Mixed glass</td>
<td>30 litre bin, box or bag</td>
</tr>
<tr>
<td>Compostable kitchen waste</td>
<td>30 litre bin</td>
</tr>
</tbody>
</table>

External storage capacity
A small paved area should be provided for storing at least two wheeled bins, one for recyclable materials and one for refuse. Woking Borough Council operates a curtilage collection policy and it is the responsibility of the householder to place their wheeled bin at the curtilage for collection and return thereafter, for waste containers up to 240 litres, steps should be avoided between the container store and collection point wherever possible and should not exceed 3 in number in a single flight. The collection point at the property boundary should also be hard stand surface. Road access to the individual containers must be to within 25 metres.

As a standard, 240 litre bins are provided to each house, but residents can request smaller or larger bins according to the following guidelines:

<table>
<thead>
<tr>
<th>Number of people in household</th>
<th>Wheeled bin provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>140 or 240 litre</td>
</tr>
<tr>
<td>2</td>
<td>140 or 240 litre</td>
</tr>
<tr>
<td>3</td>
<td>240 litre</td>
</tr>
<tr>
<td>4</td>
<td>240 litre</td>
</tr>
<tr>
<td>5</td>
<td>240 litre (or exceptionally 360 litre)</td>
</tr>
<tr>
<td>6</td>
<td>360 litre</td>
</tr>
<tr>
<td>7</td>
<td>360 litre</td>
</tr>
<tr>
<td>8</td>
<td>360 litre</td>
</tr>
<tr>
<td>9 or more</td>
<td>480 litre (2 x 240 litre)</td>
</tr>
</tbody>
</table>

Bins of different capacity have the following approximate sizes:

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Height (h)</th>
<th>Depth (d)</th>
<th>Width (w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>140 litres</td>
<td>1,100mm</td>
<td>555mm</td>
<td>505mm</td>
</tr>
<tr>
<td>240 litres</td>
<td>1,100mm</td>
<td>740mm</td>
<td>580mm</td>
</tr>
<tr>
<td>360 litres</td>
<td>1,100mm</td>
<td>880mm</td>
<td>600mm</td>
</tr>
</tbody>
</table>

Composting
Home composting areas should be designed into all new housing developments, as treatment of waste at source is recognised as the most sustainable method of treatment. This should include sites where management contracts are in place and these should use on-site composting of garden waste.

In houses with gardens, an area with composting bins should be provided. Ideally, composting bins are located away from the house in a shaded area. Composters should normally sit directly on the soil to allow access for worms and microbes and to ensure drainage.

Rural properties
Collection vehicles will not enter private driveways to collect domestic waste. In rural areas dwellings may be some distance from the public road and provision should be made for a designated collection
point at the roadside. The occupier will need to transport their bins to this point. In these circumstances a road-end collection point could be designed to store the bins awaiting collection.

**Apartments**

**Internal storage capacity**

As with houses, consideration needs to be given to providing sufficient space in the kitchen or another convenient location within each apartment for the storage of recyclables and residual waste. Storage space for compostable garden waste may be provided, for example on balconies.

<table>
<thead>
<tr>
<th>Refuse</th>
<th>50 litre bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed dry recyclables</td>
<td>20 litre bin, box or bag</td>
</tr>
<tr>
<td>Mixed glass</td>
<td>20 litre bin, box or bag</td>
</tr>
<tr>
<td>Compostable kitchen waste</td>
<td>20 litre bin</td>
</tr>
</tbody>
</table>

**External storage capacity**

Apartment block developments (low, medium and high-rise) are expected to incorporate into their design a designated compound for the storage of communal refuse and recycling bins. The compound should be situated at ground level, preferably in the basement, within the boundaries of the development. Apartment buildings will be provided with the following containers:

<table>
<thead>
<tr>
<th>Refuse23</th>
<th>One 1,100 litre wheeled black eurobin with black lid per every five households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed dry recyclables</td>
<td>One 1,100 litre wheeled black eurobin with blue lid per every five households</td>
</tr>
<tr>
<td>Mixed glass24</td>
<td>Potentially one to two eurobins</td>
</tr>
</tbody>
</table>

Eurobins have the following sizes:

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Height (h)</th>
<th>Depth (d)</th>
<th>Width (w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,100 litres</td>
<td>1,340mm</td>
<td>950mm</td>
<td>1,220mm</td>
</tr>
<tr>
<td>1,280 litres</td>
<td>1,430mm</td>
<td>990mm</td>
<td>1,260mm</td>
</tr>
</tbody>
</table>

**Bulky waste storage**

Additional dry storage needs to be provided for the storage of bulky waste such as furniture, electrical items and mattresses. This may be a designated section of the waste and recycling compound, or a separate room or enclosure. Storage capacity must be a minimum of 10m² for every 50 housing units.

As a Waste Collection Authority (WCA) the council is required to arrange for the removal free of charge of non-prescribed i.e. ‘non chargeable’ household waste. This does not for example include the removal of litter left by residents or animals or the general cleaning of refuse storage areas. This together with arranging the removal of ‘chargeable’ waste such as bulky or heavy items, furniture, builders/DIY materials, oil, for sale boards or garden waste is the responsibility of occupiers. Collections of bulky household waste can be arranged through the Council’s special waste collection service for which there is a charge. For further information about special waste collections, please telephone Woking Borough Council on 01483 755855.

**Composting**

Home composting areas should be designed into all new housing developments including the communal gardens space in apartment developments, as treatment of waste at source is recognised as the most...

---

23 The one-to-five ratio is to be used as a **guide only**. The number of eurobins required could be increased or decreased according to the number of residents per apartment and/or the number of properties with greater or less than two bedrooms per unit.

24 Woking Borough Council currently does not run a separate collection of glass from apartment buildings. This may change in future and developers are advised to allow for additional bins.
sustainable method of treatment. This should include sites where management contracts are in place and these should use on-site composting of garden waste. Communal composting facilities should be provided or apartment developments. Communal composting areas must be carefully designed as part of the garden and not merely placed in a convenient area, which may be inappropriate. Issues such as odour and vermin must be addressed in the design of the facilities.

**Health & safety considerations for communal bin compounds**

Communal bin compounds for apartment developments should be located at ground level within the development’s boundaries, preferably at an internal location such as the basement. Wherever possible, bin compounds should house both the communal refuse bins and the communal recycling bins. **Ease of access for residents**

The refuse and recycling facilities should encourage residents living in apartments to dispose of their refuse responsibly and to recycle as much of their household waste as possible. Bin compounds must therefore be conveniently located for residents and should be no further than 30 metres from the entrance door. Internal bin rooms should be located near lifts or stairs providing that the requirements for ease of access for waste collection operatives listed below are also met. Residential high-rise developments (5 floors and above) are required to have at least one lift providing access to each floor.25 Refuse chute systems for flatted dwelling houses would not be encouraged unless it could be demonstrated that the system would accommodate the Council’s twin-bin recycling service. Where external bin compounds are to be provided, these must be located close to the main building entrance without interfering with pedestrian access to buildings. Stairs or ramps should be provided for Eurobins to ensure ease of access for elderly or disabled persons. **Ease of access for collection operatives**

Waste collection operatives will move the communal refuse and recycling bins from their permanent storage compound to the collection point. Access points for refuse vehicles should not normally be more than 10 metres from bin compounds. There should be no need to wheel bins over steps and drop kerbs must be provided where necessary. The internal bin compound should be sited so that Eurobins can be taken to the collection point without being taken through a building or across designated parking spaces. **Vehicle access**

The access road must be capable of safely accommodating a vehicle weighing 28 tonnes (when fully loaded) of the following dimensions: 9.8 metres length x 4 metres high x 2.5 metres wide. Developers should also ensure that manhole covers are strong enough to withstand the weight of the vehicle using a heavy-duty ‘Grade A’ type. Where collection vehicles have to enter developments, there should be sufficient on-site turning circles or the site layout must allow for the collection vehicle to manoeuvre in a Hammerhead T Form. An example of this might be to ensure the ability of refuse vehicles to enter or manoeuvre in the vicinity of the site without being prevented from doing so by cars parked close to the entrance which would otherwise prevent refuse vehicle collection movement.

25 Building Regulations 2002 Approved Document B — Fire Safety (2000 Edition Consolidated with 2000 and 2002), Section 18 states that buildings with a floor at more than 18m above vehicle access level with lifts.
Vehicles should never have to reverse onto a highway to make a collection.

Doors/ gates to any waste compound are not permitted to open out over a public highway.

If it is proposed to locate waste and recycling containers in compounds in a basement area inaccessible to a standard waste collection vehicle, a suitable ground floor collection area must be indicated on drawings submitted for approval.

**Design considerations for communal bin compounds**

For apartment developments, developers should ensure that the disposal of general waste and recyclables within the communal bin compound is equally convenient. Where there are to be disparities, disposing of general refuse should be marginally easier than the disposal of recyclables to avoid contamination of recyclables with refuse. If possible, the refuse disposal point should be the first encountered when residents enter the bin compound.

**Visual impact**

External compounds should be constructed of materials in keeping with the surroundings and screened by planting with adequate provision of soil if appropriate.

**Noise control**

Communal bin compounds should be sufficiently far from housing units (at least 5 metres) so as to reduce the impact of noise during bin use and collection. Eliminating the need for collection vehicles to reverse will also assist in keeping noise to a minimum.

Signage indicating reasonable hours of use should be installed.

**Odour/vermin control**

Internal bin compounds should be well ventilated and have a smooth easily cleanable floor. Air fresheners and vermin boxes may be installed. External compounds should be open and also have a concrete floor.

Suitable drainage, with water discharging into a sewered drain, should be installed to allow the washing of bins. Nearby access to the water mains should also be provided.

**Security**

The design of communal bin compounds should allow easy access to residents but not to non-residents. External bin compounds should be located out of sight of the main road where possible.

Developers may consider an open rail gate for internal bin rooms so that residents can see inside the bin room before entering it. Similarly, the walls of external compounds should only be slightly higher than the bins and have no roof so that residents can see who is inside the compound before entering.

Adequate lighting needs to be provided to allow the usage of the bin store at all times.

**Bin room layout and access**

Any enclosure, compound or storage area should allow for filling and emptying and provide clear space of 15cm between and around containers.

A rubber buffer should be affixed to the surrounding wall and placed at the appropriate height to prevent damage to the storage area walls and unnecessary noise.
All doors should open outwards. Double doors with a clear opening of at least 1,500mm and a facility to hold open the doors during collection should be installed.

**Management considerations**

It is important to establish and delegate the responsibility for the tasks involved in ensuring an effective waste management system in apartment developments. All apartment developments will be required to have a Housing Management arrangement in place.

The key waste management responsibilities of the Housing Management organisation are:

- Keeping residents informed of waste facilities
- Maintenance of bins and the communal bin compound

**Keeping residents informed**

Communal bin compounds should have a notice showing which properties are entitled to use the facilities. Additional signage to indicate the materials collected as part of the recycling collection scheme will be required. Alternatively, if the erection of posters within the bin store is not possible due to space or other restrictions, bin stickers may be used.

Where the Housing Management organisation holds tenants’ induction schemes, these should include a briefing on the use of waste and recycling facilities.

The Council will issue a leaflet on the correct use of the waste and recycling facilities and the materials collected as part of the scheme. Tenants’ handbooks should include a section on the correct use of refuse and recycling facilities.

Housing Management organisations should encourage Tenants’ Association to take on responsibility for enforcing residents’ compliance with the waste management arrangements.

**Maintenance of bins and the communal bin compound**

Housing Management organisations will be responsible for washing the bins on a regular basis, arranging for replacement bins when necessary and for keeping the communal bin compound clean and safe.

**Coverage of costs of waste and recycling infrastructure**

Developers are expected to contribute towards the costs of communal infrastructure where the need for those facilities arises directly from the development. Developers will be required to cover the costs of providing new bins required by the residential development.

Developers and their Housing Management organisations are expected to hire both communal refuse and communal recycling Eurobins from the Council at an annual rate of £XX per bin. If a bin becomes damaged or needs maintenance, the Council will replace it or repair it at no extra charge.
Appendix 1- Building regulations part H6: Solid Waste Storage

The Requirement

This Approved Document, which takes effect on 1 April 2002, deals with the following Requirement which is contained in the Building Regulations 2000 (as amended by SI 2001/3335).

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid waste storage</td>
<td></td>
</tr>
<tr>
<td>H6. (1) Adequate provision shall be made for storage of solid waste.</td>
<td></td>
</tr>
<tr>
<td>(2) Adequate means of access shall be provided -</td>
<td></td>
</tr>
<tr>
<td>(a) for people in the building to the place of storage; and</td>
<td></td>
</tr>
<tr>
<td>(b) from the place of storage to a collection point (where one has been specified by the waste collection authority under section 46 (household waste) or section 47 (commercial waste) of the Environmental Protection Act 1990(b) or to a street (where no collection point has been specified).</td>
<td></td>
</tr>
</tbody>
</table>

(b) 1990 c. 43

---

Guidance

Performance

In the Secretary of States view the requirements of H6 will be met if the solid waste storage is:

a) designed and sited so as not to be prejudicial to health;

b) of sufficient area having regard to the requirements of the waste collection authority for the number and size of receptacles under Sections 46 and 47 of the Environmental Protection Act 1990;

c) sited so as to be accessible for use by people in the building and of ready access for removal to the collection point specified by the waste collection authority under Sections 46 and 47 of the Environmental Protection Act 1990.

Introduction to provisions

0.1 The efficacy of a refuse storage system is dependent on its capacity and the ease of removal in relation to the collection service provided by the waste collection authority.

0.2 The waste collection authority has powers under section 46 (Receptacles for household waste) and section 47 (Receptacles for commercial or industrial waste) to specify the type and number of receptacles to be used and the location where the waste should be placed for collection. Consultation should take place with the waste collection authority to determine their requirements.

0.3 The Requirements of the Building Regulations do not cover the recycling of household and other waste. However H6 sets out general requirements for solid waste storage. Guidance is included in this section (H6) regarding arrangements for separate storage of waste for recycling should it be necessary. This is to support requirements which may be made under Sections 46 and 47 of the Environmental Protection Act 1990 and to support national initiatives on recycling and waste reduction.

Domestic developments

Capacity

1.1 For domestic developments space should be provided for storage of containers for separated waste (i.e. waste which can be recycled is stored separately from waste which cannot) and having a combined capacity of 0.25m3 per dwelling or such other capacity as may be agreed with the waste collection authority. Where collections are less frequent than once per week, this allowance should be increased accordingly.

1.2 Low rise domestic developments - In low rise domestic developments (houses, bungalows and flats up to 4th floor) any dwelling should have, or have access to, a location where at least two movable, individual or communal waste containers, meeting the requirements of the waste collection authority, can be stored.

1.3 Where separate storage areas are provided for each dwelling, an area of 1.2m x 1.2m should be sufficient to provide for storage of waste containers and provide space for access.

1.4 Where communal storage areas are provided space requirements should be determined in consultation with the waste collection authority.

1.5 High Rise domestic developments - In multi storey domestic developments dwellings up to the 4th floor may each have their own waste container or may share a waste container.

1.6 Dwellings above the 4th storey may share a single waste container for non-recyclable waste fed by chute, with separate storage for any waste which can be recycled. Alternatively storage compounds or rooms should be provided. In such a case a satisfactory management arrangement for conveying refuse to the storage should be assured.
1.7 The use of 'Residents Only' recycling centres (areas where residents may bring their recyclable waste for storage in large containers e.g. bottle banks) in large blocks has been found to be effective in some areas.

Siting

1.8 Storage areas for waste containers and chutes should be sited so that the distance householders are required to carry refuse does not usually exceed 30m (excluding any vertical distance). Containers should be within 25m of the waste collection point specified by the waste collection authority.

1.9 The location for storage of waste containers should be sited so that unless it is completely unavoidable, the containers can be taken to the collection point without being taken through a building, unless it is a porch or garage, or a carport or other open covered space (This provision applies only to new buildings except that extensions or conversions should not remove such a facility where one already exists.).

1.10 For waste containers up to 250 litres, steps should be avoided between the container store and collection point wherever possible and should not exceed 3 in number. Slopes should not exceed 1:12. Exceptionally this may be exceeded provided that the lengths are not excessive and it is not part of a series of slopes. (See also Approved Document K1 Section 2). For storage areas where larger containers are to be used steps should be avoided. Where this is not otherwise possible, the storage area should be relocated.

1.11 The collection point should be reasonably accessible to the size of waste collection vehicles typically used by the waste collection authority.

1.12 External storage areas for waste containers should be away from windows and ventilators and preferably be in shade or under shelter. Storage areas should not interfere with pedestrian or vehicle access to buildings.

Design

1.13 Where enclosures, compounds or storage rooms are provided they should allow room for filling and emptying and provide a clear space of 150mm between and around the containers. Enclosures, compounds or storage rooms for communal containers should be a minimum of 2m high. Enclosures for individual containers should be sufficiently high to allow the lid to be opened for filling. The enclosure should be permanently ventilated at the top and bottom and should have a paved impervious floor.

1.14 Communal storage areas should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.

1.15 Any room for the open storage of waste should be secure to prevent access by vermin. Any compound for the storage of waste should be secure to prevent access by vermin unless the waste is to be stored in secure containers with close fitting lids.

1.16 Where storage rooms are provided, separate rooms should be provided for the storage of waste which cannot be recycled, and waste which can be recycled.

1.17 Where the location for storage is in a publicly accessible area or in an open area around a building (e.g. a front garden) an enclosure or shelter should be considered.

1.18 High rise domestic developments Where chutes are provided they should be at least 450mm diameter and should have a smooth non-absorbent surface and close fitting access doors at each storey which has a dwelling and be ventilated at the top and bottom.

Non domestic developments
1.19 In other types of development, and particularly where special problems such as high density developments, influence the provision of a system, it is essential that the waste collection authority is consulted for guidance on resolving the following points.

a) The volume and nature of the waste and the storage capacity required, based on the frequency of collection and the size and type of waste container.

b) Any requirements for segregation of waste which can be recycled.

c) The method of waste storage, including any on-site treatment proposed, related to the intended layout and building density.

d) The location of waste storage areas, waste treatment areas and waste collection points and the access to these locations for operatives and vehicles.

e) Hygiene arrangements in the waste storage and waste treatment areas.

f) Fire hazards and protection measures.

1.20 Waste storage areas should have an impervious floor and should have provision for washing down and draining the floor into a system suitable for receiving a polluted effluent. Gullies should incorporate a trap which maintains a seal even during prolonged periods of disuse.

1.21 Any room for the open storage of waste should be secure to prevent access by vermin. Any compound for the storage of waste should be secure to prevent access by vermin unless the waste is to be stored in secure containers with close fitting lids.

1.22 Waste storage areas should be marked and signs should be provided.

*Alternative approach*

1.23 Recommendations and data on these items can be found in BS 5906:1980 Code of practice for storage and on-site treatment of solid waste from buildings. The relevant clauses are Clauses 3 to 10, 12 to 15 and Appendix A.

Note: BS 5906:1980 does not contain guidance on recycling. It is currently being updated and it is hoped that the revised edition will include guidance on this aspect.
Annex 4 – Attitudes to recycling - Survey template
Blocks of Flats — Recycling Survey

**ENTER DETAILS**

Estate .................................................. Block + flat number ..........................................................
Time and date of survey ..........................................................
Name of survey worker ..........................................................

**SHOW LETTER OF INTRODUCTION AND SAY ...**

Hello, I’m conducting a short Government funded survey for the Council about recycling because the Council wants to improve its recycling services. May I ask you a few questions about recycling?

**IF YES, SAY ...**

I’m from a research organisation
Here is my ID (SHOW ID)
and here is a letter of authorisation
which has contact details for
the Council if you want to follow up on anything I say.
(GIVE TO RESIDENT)

**GO TO Q.1 BELOW**

**IF RESPONDENT ANSWERS NO, SAY ...**

Is it possible to call back a bit later and do the survey?

**IF YES, NOTE NEW APPOINTMENT**

..........................................................................................................................

**AND SAY ...**

See you then.

**IF NO, SAY ...**

Well thanks anyway.

(GIVE LEAFLET AND TICK HERE ...)

1. The Council has installed some recycling bins on this estate. Do you, or anyone else who lives here, use them at all?

(TICK BOX) Yes ☐ No ☐ IF NO, GO TO Q.8 (page 4)

2. Whereabouts are the recycling bins you use?

(WRITE IN) ..........................................................................................................................

3. Thinking about the recycling bins you’ve just mentioned, do you use them to recycle paper?

(TICK BOX) Don’t know ☐ No ☐ ☐ GO TO Q.4 (page 2)

Yes ☐

(a) And would you say you recycled all or almost all your paper, or just some of your paper?

(TICK BOX) All/almost all ☐ Just some ☐ GO TO Q.4 (page 2)
(b) Any particular reason for recycling just some of your paper?
   Too heavy to carry all the paper .................................................. 1
   Takes up too much room in flat to save all for recycling .... 2
   Use some paper for other purposes .................................................. 3
   No particular reason/don’t know .................................................. 4
   Other (WRITE IN) ..............................................................................
   ........................................................................................................
   GO TO Q.4

(c) Any particular reason for not using the bins for recycling your paper?
   Don’t get a paper/don’t use much paper .... 1
   Too heavy to carry ................................................................. 2
   Takes up too much room ......................................................... 3
   Recycle paper somewhere else .................................................. 4
   (WRITE IN) ..............................................................................
   Ask where
   No particular reason/don’t know .................................................. 5
   Other (WRITE IN) ..............................................................................
   ........................................................................................................

4. And do you use the recycling bins you’ve just mentioned to recycle your glass bottles and jars?
   (TICK BOX)  
   Don’t know ................................................................. 1
   No ................................................................. 2
   Yes ................................................................. 3
   GO TO Q.5  

   (page 3)

(a) And would you say you recycled all or almost all your glass, or just some of your glass?
   (TICK BOX)  
   All/almost all ................................................................. 1
   Just some ................................................................. 2
   GO TO Q.5  

   (page 3)

(b) Any particular reason for recycling just some of your glass?
   Too heavy to carry all the glass ................................................. 1
   Takes up too much room in flat to save all for recycling .... 2
   Use glass for other purposes .................................................. 3
   No particular reason/don’t know .................................................. 4
   Other (WRITE IN) ..............................................................................
   ........................................................................................................
   GO TO Q.5
(c) Any particular reason for not using the bins for recycling your glass?

Don’t use glass bottles or jars/don’t use much ......................................................... 1
Too heavy to carry ........................................................................................................ 2
Too noisy to recycle .................................................................................................... 3
Too smelly/messy to store in flat ................................................................................ 4
Takes up too much room in flat .................................................................................. 5
Recycle glass somewhere else .................................................................................... 6 ASK WHERE

(WRITE IN) ....................................................................................................................... 

No particular reason/don’t know .................................................................................. 7
Other (WRITE IN) ......................................................................................................... 

5. And do you use the recycling bins you’ve just mentioned to recycle your food and drinks cans?

(TICK BOX) Don’t know ................................................................................................ 1
No ................................................................................................................................. 2
Yes ............................................................................................................................... 3

GO TO Q.6 (page 4)

(a) And would you say you recycled all or almost all or just some of your cans?

(TICK BOX) All/almost all ......................................................................................... 1
Just some ................................................................................................................... 2

GO TO Q.6 (page 4)

(b) Any particular reason for recycling just some of your cans?

Some cans are too smelly/messy to safe for recycling ............................................. 1
Take up too much room in flat to save all for recycling ........................................... 2
No particular reason/don’t know ................................................................................ 3
Other (WRITE IN) ........................................................................................................ 

GO TO Q.6

(c) Any particular reason for not using the bins for recycling your cans?

Don’t use cans/don’t use much .................................................................................... 1
Too heavy to carry ....................................................................................................... 2
Too noisy to recycle .................................................................................................... 3
Too smelly/messy to store in flat ................................................................................ 4
Takes up too much room in flat .................................................................................. 5
Recycle cans somewhere else .................................................................................... 6 ASK WHERE

(WRITE IN) ....................................................................................................................... 

No particular reason/don’t know .................................................................................. 7
Other (WRITE IN) ......................................................................................................... 

GO TO Q.6
6. Do you use any other recycling facilities and, if so, what else do you recycle?
   (WRITE IN) ..................................................................................................................................................................
   .............................................................................................................................................................................
   .............................................................................................................................................................................

7. How often do you, or whoever does the recycling here, take items to the recycling bins?
   (TICK ONE BOX ONLY)
   Daily □
   More than once a week □
   Once a week or so □
   From time to time □
   Don’t know/can’t remember □

   Other (WRITE IN) ......................................................................................................................................................
   .............................................................................................................................................................................

IF Q2 TO Q7 ANSWERED, GO TO Q.9

ASK Q.8 ONLY OF THOSE ANSWERING “NO” TO Q.1.

8. Any particular reasons for not using the recycling bins?
   (TICK ANY BOXES THAT APPLY)
   (a) Use different recycling facilities .................................................................................
   (ASK WHEREABOUTS. ENTER DETAILS BELOW, THEN GO TO Q.9)
   .............................................................................................................................................................................
   .............................................................................................................................................................................
   (b) Don’t know where the recycling bins are ...........................................................
   (c) Bins are too far away .................................................................................................
   (d) No room in flat to keep recycling ........................................................................
   (e) Not interested in recycling/can’t be bothered ......................................................
   (f) No particular reason/don’t know ...........................................................................
   (g) Other (WRITE IN) .............................................................................................................
   .............................................................................................................................................................................
   .............................................................................................................................................................................
9. I am going to read out a list of possible improvements to the recycling. Whether you do any recycling or not, could you say for each item I read out whether it would make you more or less likely to recycle, or not make any difference.

(a) So if the Council provided extra benefits for Southwark estates (for example more planting or extra play equipment) based on how successful they were at recycling, would you be ...?

(TICK BOX) Less likely to recycle □  More likely to recycle □
Or would it make no difference □  Or don’t you know □

(b) Or if the Council gave out special carriers or bags for you to put your recycling in, would you be ...?

(TICK BOX) Less likely to recycle □  More likely to recycle □
Or would it make no difference □  Or don’t you know □

(c) What if there were more bins on the estate, or they were put in more convenient places for you to use, would that make you ...?

(TICK BOX) Less likely to recycle □  More likely to recycle □
Or would it make no difference □  Or don’t you know □

IF MORE LIKELY, ASK ...
Any suggestions for where extra bins could go? (WRITE IN)

.................................................................................................................................................................................................

(d) Or, finally, what if you could put your paper, cans and bottles in a carrier or bag and then put it by your doorstep, say every Tuesday morning, for estate cleaners to collect for recycling, would you then be ...?

(TICK BOX) Less likely to recycle □  More likely to recycle □
Or would it make no difference □  Or don’t you know □

10. Have you any other suggestions for making the recycling on this estate any better? If you don’t recycle anything, what would persuade you to do any recycling?

(WRITE IN).................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
........................................................................................................................................................................................................
SAY ...

The Council has asked us to gather information about the composition of households and involvement in recycling so that facilities and publicity can be developed accordingly. So the final questions are more about you and your circumstances.

11. How many people in the following age groups usually live here?
(READ OUT AGE GROUPS AND WRITE IN NUMBERS)

Under 5s .......................... 5-16 ......................................... 16-24 ..................................
25-34 .................................. 35-65 .................................. over 65 ............................

12. Is English the language usually spoken in the home?
(TICK BOX)

Yes 1  No 2  Live alone 3  Don’t know 4

IF NO, ASK ...
What language is usually spoken in your home (WRITE IN)

13. Do you have a car, or do you have the use of a car?
(TICK BOX)

Yes 1  No 2  Don’t know 3

14. Do you, or does anyone else living here, have a long term illness or disability which restricts mobility at all?
(TICK BOX)

Yes, I do 1  No 2
Yes, another family member does 3  Don’t know 4

SAY ...

Finally, the Council has asked us to gather the following information.
SHOW PAGE 7 TO RESIDENT AND SAY ...
Please have a look at this sheet and using this pencil, please tick an answer to question 15.

SAY ...

Thank you for answering the questions.
(GIVE LEAFLET)
15. To which of the following groups do you consider you belong?

(TICK BOX AND/OR WRITE IN)

White:
- British
- Irish
- Other white background

Mixed:
- White & Black African
- White & Black Caribbean
- White & Asian
- Other mixed background

Black or Black British:
- African
- Caribbean
- Other

Asian:
- Indian
- Bangladeshi
- Pakistani
- Any other Asian background

Other:
- Chinese
- Other
- (write in)
Annex 5 – Site survey templates
Site survey template for sites without recycling facilities

Introduction

To develop effective convenient recycling facilities in blocks of flats it is important to understand how residents dispose of their refuse, how much capacity there is in the refuse system and whether the system is adequate for current waste production and management.

Recycling facilities can then be planned which match the convenience of the refuse system and which offer sufficient capacity to allow flat dwellers to make a proportionate contribution to the authority’s waste recycling targets. Unless all blocks of flats are identical, there cannot be a one size fits all approach.
## 1. Site and visit information

<table>
<thead>
<tr>
<th>Date of visit:</th>
<th>Person conducting visit:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address (including block names):</strong></td>
<td><strong>Contact name, telephone, position (for person accompanying visit):</strong></td>
</tr>
<tr>
<td><strong>Type of property (low, medium or high rise):</strong></td>
<td><strong>Age of property:</strong></td>
</tr>
<tr>
<td><strong>Number of blocks (for estates):</strong></td>
<td><strong>Number of flats per block:</strong></td>
</tr>
<tr>
<td><strong>Number of floors per block:</strong></td>
<td><strong>Number of lifts:</strong></td>
</tr>
<tr>
<td><strong>Bedrooms per flat (range):</strong></td>
<td><strong>Type of residents (e.g. mainly elderly/ young couples, etc.)</strong></td>
</tr>
<tr>
<td><strong>Phone entry system?:</strong></td>
<td><strong>Concierge or security personnel?:</strong></td>
</tr>
<tr>
<td><strong>Name of owner (e.g. local authority, private company, housing association):</strong></td>
<td><strong>Name of management organisation (e.g. private management company, housing association, local authority):</strong></td>
</tr>
<tr>
<td><strong>Residents/Tenants Association:</strong></td>
<td><strong>Chairperson (name, contact details):</strong></td>
</tr>
<tr>
<td><strong>Other RA details (frequency of meetings, communication channels):</strong></td>
<td><strong>Is there a recycling champion on site?</strong></td>
</tr>
</tbody>
</table>
2. Residual waste collection facilities

<table>
<thead>
<tr>
<th>Residual waste</th>
<th>Refuse system e.g. ground floor bring to bulk containers, ground floor bring to individual bin, refuse chute from landing etc</th>
<th>Refuse container locations e.g. individual bins in compound; car park</th>
<th>Total Number, Capacity and Type of refuse containers e.g. 8 x 880 litre chamberlains</th>
<th>Collection frequency/week</th>
<th>Calculate refuse capacity per household per week*</th>
<th>When is refuse weighed e.g. on-board weighing, at end of round etc.</th>
<th>Vehicle type</th>
<th>Contractor</th>
</tr>
</thead>
</table>

* Note on calculating residual waste capacity per household
1. Calculate the total capacity available per site (e.g. site has 4 x 1,100 containers = 4,400 litre waste capacity);
2. Multiply by the number of collections per week (e.g. twice weekly, so multiply by 2 x 4,400 = 8,800 litre waste capacity per week);
3. Divide by the number of dwellings in the block of flats (e.g. 60 dwellings, therefore weekly waste capacity per dwelling is 8,800/60 = 146.66 litres)
Bin stores, areas or compounds size and other details
If there are bin stores, bin areas or bin compounds, measure size and record access to/from pick up point (e.g. ramps, drop kerbs etc.)

Chute systems
If there are chute systems record locations and assess cleanliness etc.

Recycling facilities
Please note whether residents can request participation in kerbside recycling schemes and whether there are recycling banks nearby. Record in as much detail as possible, e.g. number of participants in kerbside scheme, distance to and facilities at nearby recycling banks

Is any information on recycling provided at the site? (e.g. posters on communal noticeboard)

Are there any other forms of communication used in the building (e.g. from management to residents). Are new residents informed of recycling facilities?
3. Responsibility for site management

Please note who is responsible for keeping the refuse areas clean and tidy and for undertaking any repairs.

- Caretaker/ Cleaning Contractor
- Waste contractor
- Local authority cleansing department

Please note whether there is any special contract for this, e.g. between the housing dept and the cleansing/recycling dept.

4. Problems

Photograph where appropriate and record as much detail on the problems as possible.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Description</th>
<th>Problem</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fly-tipping / Littering</td>
<td></td>
<td>Vandalism</td>
<td></td>
</tr>
<tr>
<td>Overflowing bins</td>
<td></td>
<td>Service break down (e.g. collections missed by contractor)</td>
<td></td>
</tr>
<tr>
<td>Space availability</td>
<td>(Assess whether additional capacity can be installed in bin areas if appropriate)</td>
<td>Lack of or inadequate signage</td>
<td></td>
</tr>
<tr>
<td>Vehicle access</td>
<td>(Specifics of collection, problems, measure width of road and photograph area)</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
Have there been any particular complaints by the residents?

5. Recommendations

6. Other/ additional notes
Site survey template for sites with existing recycling facilities

Introduction

This survey is designed to assess the performance of existing recycling facilities at blocks of flats, especially sites which may be problematical for local authorities because of contamination, littering, vandalism or complaints from residents. Surveying such sites will help identify factors impacting on performance such as the safety and convenience of the facilities and the storage capacity.

It may not be possible to complete all the entries. However, the greater the detail, the more effective any diagnostic and remedial measures are likely to be.
1. Site and visit information

<table>
<thead>
<tr>
<th>Date of visit:</th>
<th>Person conducting visit:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address (including block names):</td>
<td>Contact name, telephone, position (for person accompanying visit):</td>
</tr>
<tr>
<td>Type of property (low, medium or high rise):</td>
<td>Age of property:</td>
</tr>
<tr>
<td>Number of blocks (for estates):</td>
<td>Number of flats per block:</td>
</tr>
<tr>
<td>Number of floors per block:</td>
<td>Number of lifts:</td>
</tr>
<tr>
<td>Bedrooms per flat (range):</td>
<td>Type of residents (e.g. mainly elderly/young couples, etc.)</td>
</tr>
<tr>
<td>Phone entry system?:</td>
<td>Concierge or security personnel?:</td>
</tr>
<tr>
<td>Name of owner (e.g. local authority, private company, housing association):</td>
<td>Name of management organisation (e.g. private management company, housing association, local authority):</td>
</tr>
<tr>
<td>Residents/Tenants Association:</td>
<td>Chairperson (name, contact details):</td>
</tr>
<tr>
<td>Other RA details (frequency of meetings, communication channels):</td>
<td>Is there a recycling champion on site?</td>
</tr>
</tbody>
</table>
2. Existing recycling facilities and collection arrangements

2a. Commingled collections

<table>
<thead>
<tr>
<th>Enter materials targeted for commingled collection</th>
<th>Recycling Container Locations e.g. In each of three bin stores; 1 location in car park etc.</th>
<th>Total Number, Capacity and Colour of Containers e.g. 2 x 1,100 orange lid, 1 x 360 green</th>
<th>Security features e.g. lockable frames; special apertures</th>
<th>Collection frequency/week</th>
<th>Calculate Recycling Capacity per dwelling and enter here</th>
<th>Is the weight or fullness of each container recorded before emptying? W = on-board weighing; F = fullness estimates; N = No</th>
<th>Vehicl e type</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commingled</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 2b. Source separated recycling collections

<table>
<thead>
<tr>
<th>Source separated collection</th>
<th>Recycling container locations e.g. bin stores; car park etc.</th>
<th>Total number, capacity and colour of containers e.g. 2 x 1,100 litre orange lid, 1 x 360 green</th>
<th>Security features e.g. lockable frames; special apertures</th>
<th>Collection frequency/week</th>
<th>Recycling capacity per material per dwelling per week*</th>
<th>Is the weight or volume recorded before emptying? e.g. on-board weighing; visual estimates</th>
<th>Vehicle type</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper, Magazines, Junk Mail, Directories</td>
<td>In bin room 1</td>
<td>1 x 660 green</td>
<td>Chained, paper aperture</td>
<td>Weekly</td>
<td>=((660 litres x 1 weekly)/n flats)</td>
<td>No</td>
<td>Top-loader</td>
<td>Community Recycling</td>
</tr>
<tr>
<td>Source separated</td>
<td>Mixed Glass</td>
<td>In bin room 2</td>
<td>1 x 360 green</td>
<td>Chained, glass aperture</td>
<td>Weekly</td>
<td>=((360 x 1 weekly)/n flats)</td>
<td>No</td>
<td>Top-loader</td>
</tr>
</tbody>
</table>

* Calculating recycling and residual waste capacity per household - The purpose is to calculate necessary capacity to accommodate desired level of participation/capture. For each waste stream with dedicated containers (e.g. refuse, commingled recyclables, segregated recyclables by type) from the table above:

4. Calculate the total capacity available per material (e.g. site has 2 x 1,100 and 1 x 360 paper containers = 2,560 litre paper capacity);
5. Multiply by the number of collections per week (e.g. paper collection is fortnightly, so multiply by 0.5 = 1,280 litre paper capacity per week);
6. Divide by the number of dwellings in the block of flats (e.g. 55 dwellings, therefore weekly paper recycling capacity per dwelling is 1,280/55 = 23.27 litres)
### 2c. Residual waste

<table>
<thead>
<tr>
<th>Residual waste</th>
<th>Refuse system e.g. ground floor bring to bulk containers, ground floor bring to individual bin, refuse chute from landing etc</th>
<th>Refuse container locations e.g. individual bins in compound; bin stores etc</th>
<th>Total number, capacity and type of refuse containers e.g. 8 x 880 litre chamberlains</th>
<th>Collection frequency/week</th>
<th>Calculate refuse capacity per week in here</th>
<th>When is refuse weighed e.g. on-board weighing, at end of round etc.</th>
<th>Vehicle type</th>
<th>Contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bin stores, areas or compounds size and other details
If there are bin stores, bin areas or bin compounds, measure size and record access to/from pick up point (e.g. ramps, drop kerbs etc.)

Chute systems
If there are chute systems record locations and whether they are used for residual waste only or for recyclables as well

Residual waste only

Recycling (list items recycled by using chute)

Storage of recyclables by residents
Are residents provided with a receptacle to store recyclables in their flats? (If yes, please note what type. E.g. basket with carrying handles, reusable bag, disposable bag etc.)

Other nearby recycling facilities
Please note whether there are recycling banks nearby. Record facilities provided and approximate distance to the site.
3. Responsibility for site management

Please note who is responsible for keeping the collection facility clean and tidy and for undertaking any repairs.

- Caretaker
- Local authority cleansing department
- Waste contractor

*(Please note whether there is any special contract for this, e.g. between the housing dept and the cleansing/recycling dept.)*

4. Problems with residual waste and recycling collections

Photograph where appropriate and record as much detail as possible.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Description</th>
<th>Problem</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fly-tipping / Littering</td>
<td></td>
<td>Vandalism</td>
<td></td>
</tr>
<tr>
<td>Contamination (Check what type of contaminants)</td>
<td></td>
<td>Lack of participation</td>
<td></td>
</tr>
<tr>
<td>Overflowing bins (Assess whether this is due to lack of capacity, collection failure or failure of participants to use system correctly)</td>
<td></td>
<td>Service break down (e.g. collections missed by contractor)</td>
<td></td>
</tr>
<tr>
<td>Space availability (Assess whether additional capacity can be installed in bin)</td>
<td></td>
<td>Lack of or inadequate signage</td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>areas if appropriate)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vehicle access</strong> (Specifics of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>collection, problems, measure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>width of road and photograph area)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Have there been any particular complaints by the residents?

5. Recycling communication

Signage in bin location (e.g. on or above recycling bins)

Is any other recycling information provided at the site? (e.g. posters on communal noticeboard)

Are there any other forms of communication used in the building (e.g. from management to residents). How are new residents informed of recycling facilities?
6. Recommendations

7. Other/ additional notes
Annex 6 – Literature review

Key themes

We have found only a small number of studies concerned specifically with recycling schemes for blocks of flats and multi-occupancy buildings either in the UK or worldwide. Similarly, literature discussing recycling services for transient populations, such as students and residents in temporary accommodation, is also very limited.

There have been a number of recent attitudinal research studies focusing on general household waste behaviour. In addition, in the UK, Defra-commissioned consultants have produced a range of studies for local authorities examining flat-dwellers’ attitudes to existing and proposed recycling schemes. This type of literature is also pertinent to our discussion and studies of interest have been included in this review.

In many cases, the projects commissioned by Defra’s Waste Implementation Programme Local Authority Support Unit (WIP LASU) under the direct consultancy work stream also included a number of option assessments and feasibility studies, which reviewed existing recycling systems in blocks of flats with a view to their improvement or provided suggestions for the implementation of facilities in specific types of property.

Summaries of individual reports are provided in the summary of individual reports below.

Guides to recycling techniques and systems in blocks of flats

In the UK there seem to be only two significant studies of this type: Recycling for flats, commissioned by Defra’s WIP in 2004, and Estates recycling research – Review of programme options, published by Recycle Western Riverside in 2005. Both of these reports focus on the logistical challenges of implementing flats recycling schemes.

The principle focus of Recycling for Flats was on local authorities in which flats constituted a higher than average proportion of total housing stock. For these authorities, typically inner London boroughs and large provincial cities, building design and layout of their flats, a lack of adequate information on local housing stock and about housing management arrangements and even information on current refuse arrangements had all constituted significant barriers to providing convenient recycling facilities for flat dwellers.

Recycling for flats suggested that these problems could generally be overcome through information gathering exercises on dwelling numbers and current refuse collection provision and through local mapping of sites. Consultation with landlords and residents were also used to address difficulties in identifying suitable recycling sites where these could not be located within existing refuse facilities. The consultancy projects delivered through the Defra LASU27 reinforce the notion that this kind of approach generally guarantees the successful introduction of recycling schemes for flats.

27 Summaries of seven reports commissioned by WIP LASU on behalf of a range of English local authorities are presented in Section 2 (page 12 onwards).
The experience of many city administrations overseas, such as New York and Toronto, also shows that initial problems encountered in putting the necessary recycling infrastructure into place can be overcome relatively easily and that the major challenge lies in ensuring residents’ participation in the new schemes.

**Feasibility studies and options assessments**

Consultants contracted through Defra’s WIP LASU have produced consultancy reports for a range of English authorities assessing their options for introducing flats recycling schemes and undertaking attitudinal research with residents of flats. Summaries of these are provided in Section 2.

Extensive desk-based research has not generated any examples of studies of recycling schemes specifically targeting other resident groups living in multi-occupancy accommodation such as students and military personnel. One study of interest here is a general survey of environmental initiatives, including recycling schemes, at six higher educational establishments in London conducted in July 2000, which is reviewed in Section 2. The consultancy report for Hampshire County Council and Project Integra also describes some recycling programmes trialled in university halls of residence (Maximising capture, quality and cost effectiveness of recycling schemes for residents of flats and transient populations in Hampshire, Waste Watch, April 2005).

**Attitudinal research**

*Recycling for flats* also showed that an overriding concern for local authorities in delivering recycling collections for multi-occupancy housing was to provide safe and convenient facilities at reasonable cost. The importance of this objective is underlined by recent attitudinal research on the household waste behaviour in London, including residents of multi-occupancy housing estates, which showed that the highest participation rates are achieved by schemes that make recycling easy for residents. It is crucial, therefore, that schemes are designed to make participation as convenient as possible.

Several of the WIP LASU 2004/05 consultancy reports produced by SNU and Waste Watch (summarised below) echo these findings specifically for flat dwellers. In the first, interviews with 940 residents of Southwark high-rise estates found that the inconvenience of remote estate recycling provision compared with the ease of refuse disposal via nearby chutes was a major barrier to increasing participation in recycling. In the second study in South Oxfordshire, convenience of collection arrangements and the provision of household recycling containers suitable for small flats were found to be important stimulants to likely recycling participation for flat dwellers.

Similarly, attitudinal research with residents of flats in Hampshire showed that the perceived convenience and safety of the facilities combined with the quality of the service are significant motivational factors in recycling participation. Scheme design should therefore consider issues such as the required collection capacity per flat, which should be comparable to that offered to residents of houses, regular emptying of the recycling bins and the maintenance of communal bin stores.

Authorities should avoid a ‘one size fits all’ approach and should instead tailor collection facilities to local conditions. The WIP LASU reports, as well as the *Estates recycling research – Review of programme options* report, generally recommend that the convenience of recycling systems should be equivalent to general waste disposal. This means that often only slight modifications to existing refuse facilities have to be made. For example, blocks of flats with recycling facilities should be able to use the same chutes as general waste disposal.

---

29 Household Waste Behaviour in London Phase 2 – High, medium and low recyclers: attitudes, behaviour and needs, Resource Recovery Forum, 2004
30 Estates recycling research and action in Southwark, Safe Neighbourhoods Unit, April 2005
communal waste facilities could instantly be brought onto the recycling scheme through the introduction of additional bins for recyclables using the existing vehicle fleet.

**Achieving behavioural change**

Recycling from apartments is important in many US and Canadian cities where several studies have been undertaken into securing more effective participation by apartment dwellers once genuinely convenient recycling facilities have been introduced.

The majority of the literature on recycling schemes for residents living in flats and apartments, on the more mature schemes of several North American cities, focuses on the important issue of achieving behavioural change to sustain public commitment to recycling and to maintain and increase diversion rates.

It is well recognised that the roll-out of the recycling infrastructure must be accompanied by communication campaigns that give residents clear information on how and what to recycle. The ability of residents to correctly identify the materials collected as part of the scheme has a significant impact both in terms of contamination and material capture rates. Information campaigns should focus on the specifics of the scheme rather than on the general need to recycle.

For example, the literature on the New York City scheme^31^ emphasised that repeated changes to the collection regime (e.g. in collection frequency or materials collected) can have detrimental effects on residents’ confidence in the scheme. Any such changes, where they are unavoidable, need to be communicated clearly, well in advance and over a sufficient period of time.

Many urban populations are made up of a large proportion of transient residents such as temporary workers and students. This requires that communication programmes are ongoing and targeted so that residents receive regular reminders of the service and are made aware of any service variations between different city boroughs where they exist.

In the case of student populations, the survey of environmental initiatives at London universities^32^ identified ample opportunities for communication; for example, by tapping into existing channels of communication used by the institutions such as university newsletters, email bulletins, websites and open seminars. However, to achieve lasting behavioural change measures beyond giving information need to be put in place. One such approach, proposed by the UK Sustainable Development Education Panel, is to incorporate environmental issues into all courses, for example by representing subjects using environmental examples or creating essay questions that examine environmental implications. Another way of integrating sustainable behaviour is through recruiting students as environmental advocates with the aim of utilising peer pressure.

The literature review has also identified that cultural and linguistic factors can pose a significant barrier to residents’ participation. This applies to both residential and student audiences. Most urban authorities have sought to address this by translating recycling pamphlets into the prevalent community languages. However, this can only be a first step towards achieving high diversion rates in culturally diverse cities and must be accompanied by further initiatives such as waste and recycling education programmes for local schools^33^ or through the use of social marketing techniques. The Greater London Authority commissioned a best practice guidance document on ‘doorstepping’ to help London boroughs develop effective communication mechanisms to

---

^31^ New York City’s Failing Public Education Campaign for Recycling, Natural Resources Defense Council (NRDC), 2002


^33^ ibid.
promote participation in their recycling collection schemes.34 ‘Doorstepping’ is a direct marketing approach using face-to-face contact with householders on their doorstep, which is increasingly acknowledged as a highly effective method for improving participation. An essential prerequisite for a successful doorstepping campaign, however, is that existing kerbside collections are reliable and well-managed.

Recent research on household waste behaviour in London,35 which included residents of multi-occupancy housing estates, showed that recycling is of low priority for many urban householders and purely environmental concerns do not generally motivate the public to recycle. Information campaigns need to tap into other motivational factors such as civic pride, peer pressure and financial incentives. People’s awareness that their neighbours recycle can be a motivating factor for their own participation. Giving regular feedback to residents on the average amount of material recycled by each household can also be useful in harnessing this type of peer pressure and conveys the message to residents that their personal contribution makes a difference. However, as the WIP LASU commissioned local authority reports emphasise, this requires the dedicated monitoring of the performance of flats recycling schemes.

With rising cost of waste disposal facing many cities, recycling is a lower cost option in the long term. The potential cost savings should be clearly communicated to residents. Authorities operating more mature recycling schemes have found that achieving high diversion rates can be difficult as this requires participation by increasing numbers of residents and greater individual diversion rates. Cities such as Toronto36 are therefore introducing mandatory recycling schemes, which confer the onus to provide adequate recycling facilities onto apartment owners. Additionally, the city plans to use financial incentives to motivate householders to recycle. This will be achieved through limiting the amount of residual waste collected per household with any additional collections requiring extra payment by householders.

A detailed summary of the reports reviewed is provided in Section 2 below.

Summary of individual reports

Household Waste Behaviour in London Phase 2 – High, medium and low recyclers: attitudes, behaviour and needs, Resource Recovery Forum, 2004

This study is a follow-up to the 2002 study Household Waste Behaviour in London, which explored attitudes to waste and waste behaviour in London. This study found that constraints on, and enabling factors in favour of, recycling and composting are very unevenly distributed in London. The survey showed that households’ moral/environmental commitment to recycling is divided along broad, and predictable, age and social class lines. Older and middle class people tend to be more environmentally aware. Less well off people feel they have difficult lives in which ‘big issues’, such as recycling and the environment, are generally peripheral. Many young people are simply apathetic. For many people, environmental motivations to recycle are irrelevant. The reason that they do not recycle is that they simply do not think about it, or do not consider it of sufficient importance to justify the effort involved. Low- and non-recyclers were

34 Waste Watch, ERM and TRC for Greater London Authority, Raising waste awareness through doorstepping, , April 2004
35 Household Waste Behaviour in London Phase 2 – High, medium and low recyclers: attitudes, behaviour and needs, Resource Recovery Forum, 2004
36 Getting to 60% Diversion and Beyond, City of Toronto staff report, April 2004
most likely to hold these views. In general, the survey showed that recycling is a low priority for most households and is done most conscientiously where participation is made easy.

The 2004 study included a survey of attitudes of residents living in flats, focusing particularly on ‘low recyclers’. Their attitudes were tested by presenting pictures of a variety of on-estate bring systems and asking for opinions on how a doorstep collection would work on their estate. The survey showed that even if recycling is brought closer to home, some people will still find reasons for not doing it and at least a minority will object to having bring banks located nearby. Reasons cited for this are generally negative expectations relating to poor management of the sites or vandalism.

A small number of more committed low recyclers claimed that they would use bring sites or doorstep collection if they were provided. The majority, however, would have to be persuaded that recycling in general is worthwhile and that estate-based services would be managed competently, including special provision to prevent vandalism and anti-social behaviour. This applied both to bring banks as well as to collections, which some feel could be a target for vandals if boxes have to be left outside their front doors.

The survey also showed that the needs of residents living in privately owned or managed blocks of flats often appear to be overlooked. The study found that the strongest support for recycling came from younger professionals living in flats. It is important to target this group of residents and to provide adequate recycling facilities for them in order to boost recycling rates.

In addition, the survey identified the potential for local authorities to use existing planning and building regulations to secure on-site recycling facilities for new-build private flats.

_Household Waste Behaviour in London_ can be downloaded free of charge from the following website: 
[http://www.coryenvironmental.co.uk/media/publications/docs/Briefing%20Papers/RRF(B-L).pdf](http://www.coryenvironmental.co.uk/media/publications/docs/Briefing%20Papers/RRF(B-L).pdf)

_Household Waste Behaviour in London Phase 2 – High, medium and low recyclers: attitudes, behaviour and needs_ is available from the Resource Recovery Forum (£75).


This survey examined environmental initiatives undertaken by six London universities, focusing on the two areas of energy and solid waste management.

All of the institutions surveyed had paper and cardboard recycling schemes in place. However, this was carried out only to a minor extent, typically with recycling bins placed in lecture theatres and university offices. These initiatives were not very successful though as the recycling bins were often contaminated. Similarly, glass and aluminium can recycling programmes implemented by two of the universities were withdrawn after a short period for the same reason.

The study identified a lack of communication about recycling and the facilities provided, which contributed to the problems encountered.
None of the universities surveyed had made any efforts to reduce solid waste through composting or source reduction. Only three had undertaken waste stream analyses to determine the main waste streams.

**Recycling in minority communities in New York City, Marjorie J Clarke, City University of New York, September 2003**

This report presents data maps on the relationship between material diversion rates and demographic factors, such as income and ethnicity, which affect New York City’s (NYC) recycling rate.

NYC’s recycling programme began in 1988 with pilot programmes and was extended in 1993 to collect metals, glass, plastic bottles, newspapers, magazines and corrugated cardboard. In 1996, mixed paper, bulk metal, grey cardboard and wax paper cartons. In June 2002, the diversion rate was approx. 21% and capture averaged 46%. However, changes to the materials collected (metals, glass and plastic were dropped) and to the collection frequency in July 2002 adversely affected diversion rates of other materials such as paper, which reduced by over 10%.

Since the beginning of the programme, the Department of Sanitation (DOS) provided recycling information in both English and Spanish. In the late 1990s, further languages including Hebrew, Yiddish, Chinese, Korean, Russian and Polish, were added.

Although not a thorough GIS analysis, the maps show the correlation between low diversion districts and the prevalence of low income levels, lower educational attainment and non-white ethnic backgrounds in those districts. The study also considers the impact of other barriers to recycling. These include differences in building design impacting on convenience of recycling, uncooperative building management, lack of storage space for recyclables and poor labelling of the recycling area.

The report concludes that providing educational literature in minority languages is only the first step in achieving high capture and diversion rates in all areas in a culturally diverse city. The report recommends that DOS should further explore the barriers to recycling and tailor the educational signage to different types of building layout. It also warns of further changes to the collection system to avoid confusing residents.

The report is available at the following website address:
http://www.nrc-recycle.org/member/abstracts/balt03/Clarke.pdf

**New York City’s Failing Public Education Campaign for Recycling, Natural Resources Defense Council (NRDC), 2002**

This report examines the shortcomings of NYC’s recycling education programme, which is recognised as essential to a successful operation. In its landmark 1989 recycling law, the City Council specifically recognized this fact when it required New York City to, among other things, “develop and implement an educational program...using flyers, print and electronic advertising, public events, promotional activities, public service announcements, and such other techniques as the [Sanitation] Commissioner determines to be useful, to assure the greatest level of compliance” with the recycling law.

Among other things, the Department of Sanitation (DOS) has undertaken an extensive program of mailing recycling information to individual households and building managers throughout the City. DOS staff have spoken at numerous public meetings, street fairs, association events and school assemblies; and
recycling education ads have been placed in newspapers and on radio and television broadcasts in New York City. In total, the City has spent more than $49 million between fiscal years 1994 and 2001 to educate New Yorkers about recycling. However, there are concerns over the effectiveness of the programme, particularly in view of several changes to the range of materials collected and the collection frequency. In June 2001, NRDC commissioned an independent survey of New Yorkers to gauge their knowledge of how and what to recycle.

Among the major findings of the survey:

- Only 4 of the 12 household items in the survey were correctly identified by a majority of New Yorkers as being recyclable or non-recyclable.
- Confusion persists over what is recycled under the City's program, with a significant number of residents incorrectly identifying six items that should be recycled.
- A majority of New Yorkers did not correctly identify six items in the survey as garbage when these items should in fact be placed out with the regular waste and are not recyclable. This has significant impact in terms of contamination of the recyclables collected.
- Only 0.03 percent of New Yorkers correctly identified all 12 items as either recyclables or non-recyclables.
- 59 percent of New Yorkers stated that the City is doing a "fair" or "poor" job of educating residents about the specifics of the Sanitation Department's recycling program, while only 41 percent thought the City's efforts were "good" or "excellent."

The report recommends the following steps to improve the impact of the education programme:

1. DOS should scrap its existing television ad campaign for recycling. Despite the significant amount of money spent on this campaign, the NRDC survey strongly suggests that the current effort is failing to educate residents on the specifics of the recycling program.

2. DOS should initiate a new recycling ad campaign that focuses on specifics. Rather than provide only general information, future television ads should provide specific information on which items are recyclable (and which items are not), under the City's program.

3. DOS should mail its colour recycling poster to all residents annually. New Yorkers need to be reminded, through different media, as to the specifics of the city's recycling "dos and don'ts" on a regular basis. Accordingly, an annual mailing of the DOS recycling poster to all City residents should be a cornerstone of the City's education program -- at least for the next several years until familiarity with program specifics increases in New York.

4. DOS advertising should also advance a secondary campaign theme that focuses on individual recycling rates and challenges residents to match the recycling rates of their neighbours. Experts suggest that bringing issues to the neighbourhood and even individual level can be an effective way of encouraging community members to increase their recycling participation. People often conclude that they are paying more attention to recycling than others, these experts suggest, and that their neighbours are not doing their "fair share". The average amount of recycling placed out by each household should be announced in order to more effectively motivate individual New Yorkers.

5. DOS should provide information on the benefits of recycling for the New York community. The perception that a resident is performing a good deed for his/her own community through recycling is a strong motivating factor, and one that is not necessarily fully tapped in New York City. Advertising could focus
on issues such as job creation that comes from recycling and decreased pollution from reduced garbage truck traffic in neighbourhoods. Additionally, now that the cost of recycling is nearing the cost of exporting garbage in New York City, it is important to tell residents that increasing recycling has long-term fiscal advantages for New York.

6. DOS should undertake intensified recycling education efforts in apartment houses, New York City Housing Authority facilities and all 1,100 public schools. Implementation of intensified outreach to superintendents in high-rise apartment buildings should receive greater emphasis. Informal inspections of apartment house recycling areas by NRDC suggest that lack of proper signage and information to apartment dwellers is hampering participation in the recycling program. The long-promised addition of recycling in the City's 1,100 public schools is still not a reality. Regular recycling collections are expected to begin this fall in about 700 public schools. That program should be carefully monitored and expanded to all 1,100 schools.

The report is available at the following website address:
http://www.nrdc.org/cities/recycling/nycsurvey/nycsurvinx.asp

---

**Getting to 60% Diversion and Beyond, City of Toronto staff report, April 2004**

In 2001, Toronto City Council adopted the recommendations of its Waste Diversion Task Force 2010 calling for the City to achieve waste diversion goals of 30%, 60% and 100% by 2003, 2006 and 2010 respectively. At that time, the City was diverting 215,000 tonnes of residential waste, equating to a 25% diversion rate.

The present staff report provides suggestions for achieving a diversion rate of 60% by 2006. The 2003 target of 30% was exceeded by 2%. This combined average, however, hides the fact that residents living in single-family residences recycled 43%, whereas the average for residents in multi-occupancy dwellings was only 12%. In addition, waste composition studies in 2000 and 2003 showed that the capture rate is consistently lower for multi-occupancy dwelling (30%) than for single-family dwellings (60%).

As a result, increasing the recovery of recyclables from multi-occupancy dwellings was identified as a priority for the next phase in the programme. A multi-pronged approach is taken to achieve greater diversion rates from residents living in apartments.

First, the City plans to increase the size of recycling collection containers to ensure that there is sufficient capacity for additional recyclables to be deposited by residents. Where buildings are provided with 'carts' (wheeled bins), these will be replaced with bulk bins where possible. This will also ensure that materials such as cardboard can be collected. It is planned to survey all apartment blocks to determine whether they can be brought onto the bulk collection system. The responsibility for the purchase of the bulk containers would rest with the apartment owner.

Secondly, the City plans to introduce a mandatory diversion programme. This mandates that apartment owners provide adequate recycling container capacity to enable residents to fully participate in the recycling programme, with failure to comply resulting in suspension from City waste collection services for a minimum three-month period. The requirement will be enforced through inspection of apartment buildings by By-Law Compliance Officers to determine if the buildings are adequately recycling. The officers will decide if there are enough recycling bins for the number of units within a building based on a pre-determined formula for minimum requirements, and whether the recycling bins are being used. The recycling bins will also be checked for contamination and the garbage bins will be checked to ensure they do not contain a significant quantity of recyclables.
Thirdly, to enhance recycling programs the City plans to introduce a Pay-As-You-Throw (PAYT) programme for the residential sector, whereby only a limited number of bags is collected from each household. This is funded through general tax revenues, similar to the UK council tax. The report recommends establishing a limit of three bags per household per fortnight. This recommended limit reflects the fact that the Green Bin provides Toronto residents with the ability to beneficially manage their organics, which is a substantial component of the waste stream. Additional bags will be collected if they are fitted with a tag, which can be purchased from a local retail outlet or civic centre. The nominal tag levy will partially cover the cost of collection, transport and disposal.

The City also plans to implement a source separated organics (SSO) programme for multi-family dwellings once the recycling diversion rates have been increased. The City has been operating organics collection pilots utilizing deep (underground) collection systems in two apartment buildings since 2002. The system are being tested at a small condominium building with no garbage chutes and a large 260 unit rental building with a garbage chute. Participation in the program has been very good, with an average organics capture rate of 75kg/hh/year.

Similarly to UK cities, residents living in multi-occupancy dwellings in Toronto tend to be highly transient and there are significant language and cultural barriers to participation in recycling. The City intends to formulate a communication and awareness raising programme using a combination of mass media such as advertising and newsletters, and community outreach such as in-person visits and working with individual building superintendents.

The report can be downloaded from the following website address:
http://www.toronto.ca/wes/techservices/involved/swm/net/about.htm#reports

Variations in the composition of household collected waste, AEA Technology for EB Nationwide, December 2004

Many cities have areas that either have high proportions of high rise housing or culturally diverse populations. However, there is very little data on how these factors might affect waste composition. This study develops a sampling matrix of 15 samples which between them, enabled variations due to ethnic group (Asian, Black and White households), type of property (houses and flats/multiple-occupancy properties) and socio-economic group (“more affluent” and “less affluent”) to be assessed. Analyses were conducted in London and Bedford in two seasons (October/November 2003 and June 2004).

The average waste arisings for flats and houses found are:

- Flats – 11.9 kg/household per week, which is comparable to arisings of 10-12 kg/household per week determined in another study
- Houses – 17.3 kg/household per week, which is comparable to arisings of 15-18 kg/household/per week determined in other studies

The study determined that waste arisings are lower in flats than in houses for both the Black and Asian ethnic groups. In addition, the arisings in flats for the White ethnic group are lower than typical arisings for houses determined in other studies. Although there is a significant difference in the weekly weight arisings between flats and houses, there is very little difference between flats and houses in terms of weight percent composition.

The main reason for the difference in arisings between flats and houses is likely to be the number of people in the house. The number of people in a flat is generally lower than the number of people living in a household, and other studies have shown that there is a statistically significant relationship between the number of people in the household and the amount of waste produced by the household.
The overall arisings for houses in both the Asian and Black communities, at 17.3 and 17.4 kg/household per week respectively, are comparable with typical values of 15-18 kg/household per week determined in recent studies in predominantly white households. Data from the 2001 census shows that the average number of people in an Asian household is higher than the average number of people in households in either the White or Black ethnic groups. This suggests that households in Asian communities generate less waste per person than households in either White or Black communities.

There is little difference in the arisings (in kg/household per week) of most categories (including organic material) between households in the Asian, Black and White communities. However, arisings of paper are higher in households in Black communities.

The report also took into account other factors influencing waste generation. A recently completed study identified that the only category to show a statistically significant seasonal variation was garden waste. The results from this study show that average arisings of garden waste were higher in the summer (1.05 kg/household per week in summer compared to 0.56 kg/household per week in winter).

Current sample selection procedures for household collected waste are based on the use of socio-economic profile data. This is based on findings from work conducted during the late 1980s and early 1990s, which suggested that ‘more affluent’ households produce more waste than the “less affluent” households. However, the results from this study show that the average arisings in the “more affluent” households are similar to those in the ‘less affluent’ households. Consequently, they support the findings from other recent surveys that there is no relationship between the socio-economic profile of a household and the amount of waste that it produces.

Although the method of collection was not initially intended to be assessed in this study, three different collection methods (sack, wheeled bin and Eurobin/Paladin) were used in the sample areas. The results show that the average weight per household per week from Eurobins/Paladins were lower than for either sacks or wheeled bins, but this is due to the lower arisings in flats (all Eurobin/Paladin collections were from flats). There was no evidence that houses with sack collections produced lower arisings than houses with wheeled bins; this finding supports the results from a recent survey which showed that there was no statistically significant relationship between the amount of waste generated and the method of collection (sack or wheeled bin).

The study has developed a spreadsheet-based model to assess the effect of the change in waste arisings and composition due to type of housing and ethnic nature of the population. The outputs from the model show that there is a decrease in the arisings of targetable materials per household when 25% of the population live in flats (this is due to lower arisings in flats), and there is a much smaller change in arisings of targetable materials as the ethnic nature of the population changes (this is due to similar arisings in different Ethnic households).

The report can be downloaded from the following website address: www.netcen.co.uk/pdf/report.pdf

*Raising waste awareness through doorstepping*, Waste Watch, ERM and TRC for Greater London Authority, April 2004

This best practice guide was commissioned by the Greater London Authority to help London boroughs develop effective communication tools to promote their recycling schemes and increase participation rates.

‘Doorstepping’ is a direct marketing approach using face-to-face contact with householders (customers) on their doorstep. It is becoming increasingly acknowledged as a highly effective method for improving participation in recycling collections from home with numerous examples of its use now available from UK local authorities.
The principal aims of 'doorstepping' usually involve one or sometimes several of the following:

- Raise awareness of recycling and encourage action
- Provide details about recycling collections from home
- Increase capture rates (the range of materials a householder recycles)
- Decrease contamination (materials that should not be put in their bag/box)
- Improve set-out (the frequency with which a householder recycles)
- Improve participation (the number of households recycling)
- Provide targeted information with a personal approach
- Collect attitudinal data on recycling
- Obtain feedback from residents on current services

The guidelines within this report are based on fourteen doorstepping projects run between 1996 and 2004 in both urban and rural areas across England. The guidelines are designed to help waste authorities decide whether they would benefit from delivering a project in their area, provide some guidance on how to deliver such a campaign and advise on the factors that need to be taken into consideration, such as, if the authority has the capacity to deliver the project themselves (internally), or whether to outsource the project to an external delivery organisation. The report also provides a range of case studies as examples of best practice.

Doorstepping has had the greatest impact in areas with existing ‘effective’ recycling collections and high levels of resident support. However, it can be also used during the launch of a new service, to correct poorly performing crews/neighbourhoods and to pilot new systems and messages. Critically, if doorstepping is conducted in areas with poor waste and recycling collections services are unlikely to see any improvements in recycling behaviour.

This report can be downloaded from the following website address:

**Estates recycling research – Review of programme options, Recycle Western Riverside, May 2005**

This report pools the current knowledge on estates or flats recycling schemes. This desk-based study was undertaken by the Recycle Western Riverside campaign to provide the four constituent boroughs of the London Western Riverside Waste Authority with information about the costs, performance and issues surrounding different flats recycling schemes.

Estates recycling schemes are extremely varied; bring banks, service lifts and collection containers at the end of each corridor are all used to provide recycling collections. This report investigates three of the major options: door-to-door collection schemes, chute schemes and bring schemes. Doorstep sort systems, on-site sort and commingled collection schemes are also considered.

The report concludes that, at an average of 103 kg/hh/yr, door-to-door recycling systems recover the highest weight of material of the three approaches. Those schemes using single-use sacks or carrier bags for collection recover almost three times more recyclables than those using boxes or baskets. None of the authorities contacted for this research had measured participation rates for door-to-door schemes, but estimates based on number of containers set out average 57%. The average cost per household of running a door-to-door collection system is reported to be about £27 per year. Costs per tonne range from £141 for well performing schemes to £254 for schemes in which a lower quantity of recyclables are collected.
The report also examines chute-based recycling systems and concludes that these need not be costly or require existing chutes to be modified. Schemes as simple as placing a collection container for recyclables at each door of a refuse chute have been successfully introduced. Using chutes for different materials at different times of day or containing recyclables within survival sacks can also avoid the need for modification. Chute modifications allow materials to be mechanically sorted into different collection containers, reducing the need for manual handling of recyclables. Costs of modifying chutes range from £1000 for the installation of a manually operated deflector arm to £1 million for a vacuum system to transport recyclables and waste from 10 blocks to a central collection point. Monitoring of Canadian systems shows a 44% increase in recyclables collected following introduction of chute systems to buildings previously using bring banks.

The report found that bring systems are the most widely used estates recycling system in Britain but are also the most poorly performing, collecting, on average, 42 kg/hh/yr. Since monitoring bins to provide information on participation rates would be costly and impractical, participation rates have usually been assessed through user surveys. An average rate of 29% is estimated for near-entrance collection facilities and a rate of 16% for centralised collection facilities. The cost of introducing bring schemes varies depending on the type of scheme. A single 1,100 litre bin for commingled collection costs around £105, while an underground storage system can cost up to £27,000. Revenue costs for collecting from traditional bring sites are around £7 per household per year. Costs per tonne range from £162 for traditional wheeled bin bring sites to £285 for mobile sites.

The report makes the following general recommendations:

• Authorities should try to make recycling as easy as or easier than refuse disposal. This may mean schemes differ between estate blocks, but providing flexible solutions is likely to result in higher capture of materials and participation than introducing identical schemes.
• Authorities should try to include as many estate households on kerbside collection schemes as possible. This can be done at very little extra cost and can result in high levels of materials collected.
• Close working between different council departments and use of Section 106 planning obligations can ensure provision for recycling facilities is made in all new developments.
• Introducing new schemes to blocks that have already requested facilities or where schemes are unlikely to be opposed can have a useful demonstration function to less keen recyclers.
• Assessing blocks on an individual basis is time consuming but allows identification of opportunities to increase materials capture, allows the best scheme for the block to be introduced and can help identify key contacts at each block.
• Authorities should try to engage with management agents, residents associations and porters as they will often be willing to provide a high standard of recycling service at no cost.
• Working with partners can help authorities obtain funding that would otherwise be inaccessible.
• Dedicated monitoring of estates recycling schemes allows their performance to be assessed and can highlight potential problems.
• Communications should aim to overcome problems that are often typical to estates such as high population turnover and cultural diversity.
• Incentives can be used to encourage participation in estates recycling schemes and increase capture.

The report is available to download at the following website address:

The following studies were commissioned by Defra’s Waste Implementation Programme Local Authority Support Unit on behalf of a range of local authorities.
**Accessing hard-to-reach estates with recycling schemes in Cheshire,** Safe Neighbourhoods Unit, May 2005

This study was produced for the Cheshire Waste Partnership as the authority considered a number of poorer communities to be insufficiently involved in recycling.

A detailed social survey was carried out of a large sample of the communities identified. However, the survey failed to find evidence of under-performance from the residents themselves.

In what might be an example of 'over-reporting', very high percentages of respondents in all areas surveyed claimed to be recyclers, almost all using the kerbside schemes and almost all claiming to recycle the full range of materials targeted.

This unexpected finding implies that, if the authorities remain convinced that the areas surveyed are poor recycling performers; other investigative measures should be used to assess actual recycling performance. Participation studies and waste composition analysis (using a waste profile for poorer communities prepared by Cheshire Waste Partnership in 2001) should be used. The authorities should also calculate the actual contribution to recycling targets in terms of tonnes of material per annum required of the poorer areas.

The report also recommends doorstep campaigns to promote more effective participation, along with action on concerns about waste and recycling services raised by respondents to the survey.

Please contact Defra WIP LASU for further information.

---

**Accessing hi/lo-rise estates with recycling schemes in Cheshire,** Safe Neighbourhoods Unit, May 2005

A second study for the Cheshire Waste Partnership and a number of districts considered the provision of recycling facilities for residents living in blocks of flats. A survey of different types of estates and blocks of flats was undertaken to identify the most appropriate collection method. The study concluded that many low-rise flats in Cheshire can be included in ordinary kerbside recycling programmes without modifications to schemes or with only minor changes. Others, particularly high-rise blocks, may need higher levels of investment. However, regardless of the type of collection chosen by each authority, recycling collection services can be readily offered to flat dwellers and existing vehicle fleets can be used.

Councils should be prepared to invest in marginal changes to collection operations and to procure suitable household containers for flat dwellers, otherwise schemes may fail.

The report also recommends that councils should separately measure the performance of their flats recycling initiatives. If schemes are not performing to target, councils should assess whether they are genuinely convenient and be prepared to make changes, initiating door-to-door collections in high-rise flats for example. Finally, the use of doorstep promotional campaigns to secure commitment and build a recycling culture among flat dwellers should be considered.

Please contact Defra WIP LASU for further information.
Development of a strategy for delivery of a kerbside wheeled bin recycling service to communal and high-density residential developments in the Borough of Elmbridge, Safe Neighbourhoods Unit, May 2005

Elmbridge Council had experienced some difficulties in implementing a pilot recycling programme from blocks of flats in the Weybridge area of the borough in 2001. These difficulties consisted of physical installation problems at blocks of flats and some disagreements between residents about appropriate locations for recycling facilities. This had led to a perception that the quantity and quality of recyclable material from the pilot areas was below expectations. The council also acknowledged that it had not been able to support the pilot programme with adequate promotional and publicity work.

SNU undertook a survey of the remaining blocks, which showed that there should be few serious physical barriers to the installation of recycling facilities at most blocks of flats. In the majority of cases, recycling facilities could be located alongside refuse bins in enclosed refuse areas minimising resident objections. The study concluded that in the small number of cases where this was not possible, some local consultation might be necessary to find consensus on locations for bins.

The report recommends the development of a promotional strategy to ensure effective awareness and take-up of the scheme. SNU also proposes a waste compositional study to provide baseline data against which scheme performance could be assessed.

Please contact Defra WIP LASU for further information.

Recycling organic kitchen waste in Nottingham communities – An initial feasibility study, Safe Neighbourhoods Unit, May 2005

This report models the amount of organic kitchen waste likely to be in the Nottingham household waste stream. It shows the contribution kitchen waste makes to overall, Biodegradable Municipal Waste (BMW) in Nottingham. It considers the impact of a city-wide kitchen waste scheme on Nottingham’s Landfill Allowances under the LATs scheme and looks at other drivers for recovering kitchen waste such as soil enrichment.

The study concludes that the production of kitchen waste seems to be fairly consistent for houses and flat-dwellers of most socio-economic and ethnic backgrounds. The report goes on to argue that although Nottingham is comparatively deprived in socio-economic terms, this should not seriously inhibit local residents from taking part in a well-organised and properly promoted kitchen waste recycling and composting programme.

A survey of residents in the Woodlands area of Nottingham, 400 dwellings in tower blocks and surrounding terraced housing, finds support and interest in the idea of a kitchen waste recycling project. Successful experience in kitchen waste composting and recycling from elsewhere is rehearsed, including schemes in areas of socio-economic deprivation. The provision of household collection containers, composting equipment and compliance requirements for kitchen waste composting schemes is reviewed.

The report makes a case for a pilot kitchen waste programme at Woodlands. Equipment, a modus operandi, staffing and publicity requirements and possible end-users for composted material are identified. Finally, the report suggests that Nottingham could confidently plan a citywide scheme on the basis of successful operating experience elsewhere and the identification of end-use for composted kitchen waste.

Please contact Defra WIP LASU for further information.
**Evaluation of recycling options for low-rise flats in South Oxfordshire, Safe Neighbourhoods Unit, May 2005**

South Oxfordshire sought consultancy advice on the introduction of a dedicated recycling service for approximately 1,500 dwellings in low-rise blocks of flats and a further 400 dwellings for single service personnel at RAF Benson, which currently do not have a recycling collection service.

Although more than 40% of flat dwellers in a sample survey undertaken for this project claimed to have obtained green boxes and to be participating in the green box scheme, this may exaggerate the actual extent of participation which has not been assessed by a formal participation study. It does however show that flat dwellers are potentially enthusiastic about recycling.

Evidence from elsewhere indicates that convenient recycling services for flat dwellers can secure effective participation, although it may be necessary to promote and publicise the recycling services intensively. The report recommends therefore that a disposable plastic sack recycling collection be initiated, with residents asked to take their sacks to the refuse area to maximise convenience and likely participation. Resources for promoting the scheme and for assessing its impact should also be secured. Recycling orientated collection services should be trialled at RAF Benson.

Please contact Defra WIP LASU for further information.

**Estates recycling research and action in Southwark, Safe Neighbourhoods Unit, April 2005**

The London Borough of Southwark sought consultancy advice to improve the performance of its recently installed 220 estates recycling centres for residents in blocks of flats.

SNU undertook a survey of the recycling facilities on 20 estates with an aggregate total of 9,900 dwellings. This showed that the distribution of estates recycling centres, which consist of sets of three 1,100 litre wheeled bins for a range of materials, is very uneven. For example, one estate of over 700 dwellings currently has only one recycling centre. This represents just 4.5 litres of recycling capacity per household. Thirteen of the twenty estates surveyed offer between 8.66 and 14.5 litres per household and the overall average is 13.4 litres. This compares with at least 75 litres of recycling capacity in the box and bag provided to Southwark street level properties for weekly kerbside recycling collection.

Monitoring of the estates collection facilities during the project period suggests that the centres may not be attracting the proportion of recyclable household waste from flat dwellers which the kerbside box and bag collection anticipates from street level properties, even allowing for lower levels of household waste production in flats compared with street level housing.

In addition to the facilities survey, SNU interviewed 940 households (9.5% of the total) on the 20 estates. On average, 46% of respondent households claimed to use estates recycling centres, with 39% saying they used them to recycle paper, 36% glass and 30% cans. With the small number of respondents who said that they did not use estate-recycling facilities but did recycle elsewhere, the proportion of all estate residents claiming to recycle increased very slightly to 47%. This is lower than the 51% to 59% claimed rates of participation in recycling recorded in MORI surveys between 1997 and 2001 when recycling provision was much less than now. It may also be an over-estimate, since MORI suggests that questionnaire surveys of recycling behaviour are prone to the phenomenon of ‘over-reporting’, which may exaggerate the true level of participation in recycling by 10% to 20%.
It is suggested that as it stands the estates recycling centre programme has inadequate capacity and attracts insufficient participation to make a full contribution to Southwark recycling targets. The report recommends a revised strategy in which targets are set for flatted estates to recycle a proportion of their waste, and convenient recycling facilities are then introduced, backed by intensive promotion to drive up participation. Waste composition analysis is also suggested to allow the actual performance of estates recycling to be assessed.

Please contact Defra WIP LASU for further information.

**Maximising capture, quality and cost effectiveness of recycling schemes for residents of flats and transient populations in Hampshire, Waste Watch, April 2005**

Multi-occupancy housing such as low- and high-rise blocks of flats, and other types of high-density housing such as university halls of residence and military communities makes up a significant proportion of the housing stock of Hampshire and its constituent districts. Waste Watch was commissioned to review the current recycling facilities for residents living in multi-occupancy dwellings, to explore their attitudes towards the service provided and to develop recommendations for improving the recycling service for flats now and in the future.

This was delivered through a series of site surveys assessing the recycling facilities currently provided by the five local authorities participating in this project to a range of multi-occupancy dwellings including halls of residence and military communities. In addition to the site surveys, the views of residents of a number of the properties surveyed were sought through a range of focus group discussions and in-depth interviews.

The project also included the development of a monitoring and evaluation methodology, the drafting of supplementary planning guidance (SPG) template and a review of communications strategies and promotional materials.

The majority of blocks of flats surveyed as part of this project were served by communal recycling collection facilities for the commingled collection of paper, cardboard and cans. A small proportion of properties were provided with on-site glass recycling facilities. Only a small minority of residents of flats were provided with individual recycling bins. The location of communal recycling facilities varied from site to site, depending on the availability of space for the required bins. Communication about the recycling facilities available to the residents was also found to vary.

A number of common problems were encountered at the sites, including:

- Recycling and general waste bins being stored in separate areas due to restricted space resulting in reduced convenience
- Lack of participation in the recycling scheme
- Inadequate collection capacity for recyclables due to lack of space for larger or additional bins
- Contamination of recyclables with general waste and plastic carrier bags
- Vandalism and other security issues affecting bin stores
- Restricted access for the collection vehicle, often due to parked cars

Attitudinal research has shown that these factors can have a negative impact on residents’ propensity to recycle. This has been borne out by the findings of the focus group discussions and in-depth interviews with residents conducted as part of this project. The report concludes that the condition of residents’ immediate and local environment is an important concern in their lives. Due to the limited space available in most flats, residents often tend to dispose of their
general waste on a daily basis. At a number of locations residents cited various obstacles to disposing both their recyclables and general waste. These included:

- ‘Overflowing’ communal bins (both general waste and recycling bins)
- Blocked refuse chutes
- Untidy, dirty or ‘unsafe’ bin areas
- Lack of convenience

As a result, residents feel that in their environment recycling can be a futile exercise. In addition, where residents feel their primary day-to-day housing related problems are not being dealt with by their housing provider or management, this presents a barrier to engaging residents in voluntary activities such as recycling. However, the research also showed that recycling has taken greater root in locations where an organisation or support mechanism exists within the community. For example, residents or tenants groups play an important role in liaising with housing association or council officers to address particular on-site problems, including recycling. Individuals committed to recycling, such as wardens or block captains, were also found to be effective in championing recycling and motivating others to participate.

In addition, a variety of different recycling schemes were in place in the halls of residence explored. A common feature was that self-catered halls provided students with boxes to collect recyclables in their shared kitchens. In most cases the boxes were then emptied by cleaners or porters. In catered halls, the catering staff were generally responsible for collecting and disposing of recyclables. In these cases diversion rates were generally higher.

Most schemes focussed on collecting cans and plastic and/or glass. None of the kitchen box schemes included paper. However, in some cases students were also provided with individual cloth bags to store and transport their recyclable paper. Some schemes provided separate boxes for different materials, in others students could place commingled recyclables in the same box and it was the porters’ responsibility to separate the materials into external recycling bins. In all cases, recyclables were emptied into external source-separated recycling bins for collection by the contractor. Participation was generally higher in cases where the external bins were easily accessible and were sited in convenient locations, such as near the entrance to the halls of residence.

Echoing the findings of the research into residents’ attitudes to recycling, the focus groups with students living in halls of residence and in shared accommodation showed that concerns of the wider world were of little importance at an everyday level for this group of residents. The interviewees acknowledged that recycling is something that everyone should do. However, this motivational factor was counter-acted by the perception that the problems arising from not doing so were too far in the future. A number of students also pointed out that had they been told to recycle as part of the rules of their halls of residence, they would be more likely to do so. Fines for non-compliance, similar to those currently enforced for lack of tidiness of communal kitchens, were suggested as a way to increase recycling participation at halls of residence.

All the surveyed military sites received similar recycling services from their respective local councils, which included a weekly collection of commingled recyclables. As the participating military community sites all received council waste and recycling services similar to those received by general residents of flats, similar problems were observed during these site visits.

Please contact Defra WIP LASU for further information.
Providing recycling facilities for multi-occupancy housing in Dacorum, Waste Watch, April 2005

Dacorum Borough Council has approximately 8,800 flats. Currently, the majority of these are not served by a dedicated recycling collection. Waste Watch was commissioned to undertake site surveys of ten properties in the borough reflecting a range of different types of flats, tenure and management arrangements and different waste collection systems to help identify the best option for providing a recycling service.

Despite the disparities in the types of sites surveyed, it was felt that recycling facilities could be introduced at all the sites visited. It was generally felt that integrating the sites visited into the current domestic recycling box scheme would not be possible as the residents had limited storage space for recycling boxes. The report therefore recommends that all the sites surveyed are provided with access to on-site communal recycling facilities. Nevertheless, as the majority of flats in Dacorum are situated on the ground, first and second floors (approx. 95%), the first step in the implementation of a flats-based recycling scheme should be to evaluate the potential for these properties to be included in the existing kerbside collection scheme.

The report recommends that communal collection facilities are installed at the remaining properties, including the majority of sites surveyed. Many of the high-rise sites surveyed used a chute system for some of their general waste. However, these were not considered an efficient method of collecting general or recyclable waste. It is recommended that the use of chutes is discontinued and residents are given access to the bin rooms, which could house both bins for general waste and recyclables.

The report considers the planning and implementation of flats recycling schemes. This should be accompanied by a consultation with the residents and other stakeholders to secure their buy-in and support from the outset. Generally, the collection method will be determined by the local authority in advance and residents will be consulted on the specific location of the new recycling facilities. This process should address concerns commonly raised by residents including:

- loss of amenity
- fly-tipping
- noise
- safety issues
- other concerns about their local environment

Prior to the commencement of the scheme, residents should receive information on the start date, which materials will be collected and how these materials need to be sorted.

Once the scheme is in place, a longer term communication strategy targeted specifically at residents of flats needs to be delivered to encourage residents’ continued commitment. Such strategies should consider a number of factors specifically relating to residents in flats:

- residents of flats tend to be more transient
- flats tend to house more ethnic minority residents
- residents of flats are more likely to be disadvantaged in terms of income, health, employment prospects and educational attainment

Please contact Defra WIP LASU for further information.
Recycling from flats in Brighton & Hove City Council: A Business Plan, Safe Neighbourhoods Unit, September 2005

This report makes the case for collecting recyclable waste from 16,258 flatted dwellings in 363 blocks in the Brighton & Hove City Council (BHCC) area.

The report focuses on bulk containers and collection vehicles and considers the costs of various collection options.

The report also attempts to calculate the average volumes of recyclable waste likely to be produced by BHCC flats. It provides a means of calculating likely volumes of recyclable waste from different blocks of flats. It points out that BHCC records indicate that volumes of refuse capacity for flats vary enormously between blocks of similar sizes for no readily apparent reason.

The report recommends that BHCC uses two vehicles to collect from its flats: an RCV type to collect Paper and Cardboard, and a two compartment top loading vehicle to collect Glass and mixed Cans and Plastics. It suggests that 1,500 or so tonnes of recyclables could be collected by these vehicles at considerably less cost than the use of redundant RCV types for all targeted waste streams.

The report finds that in most blocks of flats, the most convenient recycling option is likely to be the installation of dedicated recycling containers alongside existing refuse bring-facilities. However, the report recommends that where caretakers or others already offer a door-to-door refuse collection service as in a significant minority of blocks, then BHCC should negotiate with the appropriate authority to extend the service to cover recycling. In the relatively small number of blocks with refuse chutes, the report encourages BHCC to consider offering door-to-door recycling services as the only approach likely to match the convenience of the refuse chute.

The report also considers
- Some barriers to the effective introduction of recycling in flats;
- Evidence of successful flats recycling schemes and
- Tasks and time commitments for key officers in developing the scheme

Appendices indicate refuse and recycling capacity calculations.

Please contact Defra WIP LASU for further information.