



**Leeds**  
CITY COUNCIL

Originator: Tom Smith/ Kevin Mulvaney Tel: 51672
--

---

**Report of the Director of Environment and Neighbourhoods**

**Scrutiny Board**

**Date: 13<sup>th</sup> September 2010**

**Subject: Pilot of New Recycling Services in Rothwell**

---

**EXECUTIVE SUMMARY**

A six month pilot of new recycling services began in Rothwell in February 2010. The new service consists of fortnightly commingled recycling collections, fortnightly garden waste collections (excluding winter), weekly food waste collections, and fortnightly residual (black bin) collections. The pilot was successfully implemented and managed using a four phase approach (surveying and testing, 'warm-up' communications, service roll-out, monitoring and maintenance).

Our evaluation suggests that the pilot has been a success. Participation in all aspects of the scheme are relatively high and customer satisfaction is also high. There has been a significant increase in the kerbside recycling rate when compared to recycling collection regimes in other parts of the city. Rothwell's kerbside recycling rate is 88% higher than the 'standard' city scheme and 62% higher than the area where only green bin collection frequency was increased.

Further work is required to inform a future decision as to whether the pilot should be rolled out across the city, including an assessment of the longer term strategy for food waste processing, that takes into consideration the climate change strategy and the potential for added value, such as the use of biofuels in council vehicles .

In the meantime the Rothwell pilot should be extended indefinitely whilst looking to expand the pilot into a number of other areas. This extended pilot should then be used to inform the necessary further work.

## **Purpose Of This Report**

- 1.1 The purpose of this report is to provide an update to Scrutiny Board about the pilot of new recycling services in the Rothwell area and compare it to other recycling regimes in the city.
- 1.2 The report describes how the pilot was implemented, and evaluates it from an operational, customer and performance perspective.
- 1.3 The report discusses the opportunities and constraints to extending the pilot to other areas
- 1.4 It goes on to described the further work that is necessary to scope the longer term strategy for Leeds.

## **2.0 Background Information**

- 2.1 The Integrated Waste Strategy for Leeds (2005-35) sets out our long-term vision for dealing with the city's waste and includes detailed plans of how we intend to achieve this vision. Ultimately, we aim to be recycling over half of Leeds' waste by 2020. The forward strategy for increasing the amount of waste recycled in Leeds was agreed by Executive Board in September 2007. The strategy includes:
  - increasing the collection frequency of recyclables to fortnightly;
  - the introduction of kerbside garden waste collections where appropriate; and
  - the introduction of weekly food waste collections and where this has happened the reduction of residual waste collections to fortnightly.
- 2.2 As part of the initial evaluation of kerbside recycling options a pilot of fortnightly green bin 'Sort' collections was introduced to 26,000 households in the North West of the city in October 2008 and is being evaluated alongside this new pilot.
- 2.3 A full options appraisal for the collection of food waste was undertaken and the outcome used to put forward a budget bid in September 2008 to pilot the full recycling strategy above in one area of Leeds. The budget for this was agreed by Executive Board as part of the budget setting process for the 2009/10 financial year.
- 2.4 Subsequent to this, the agreement to a six month pilot in 8,500 households in the Rothwell area of the city was obtained at Cabinet in May 2009. Rothwell was chosen following analysis of ward based recycling rates and demographic profiles. Rothwell was seen to be a good area to pilot the scheme because of its relatively high recycling levels, coupled with the relative diversity (amongst wards with high recycling rates) in terms of household type and demographic profile.
- 2.5 Cabinet stipulated at the time that the pilot should be used to evaluate the full recycling collection strategy prior to a future decision about the citywide roll-out being made through Executive Board.

### **3.0 Service Design**

- 3.1 A detailed options appraisal was undertaken to inform the design of the collection scheme. This included appraisal of existing food waste collection schemes in other areas, alongside an evaluation of the expected recycling rates, and cost. The pilot regime consists of weekly food waste collection, fortnightly collection of commingled recycling, fortnightly collection of garden waste except during the winter when it changes to four weekly, and a fortnightly 'residual' waste (black bin) collection.
- 3.2 Food waste is collected weekly in either a 23 or 47 litre black bin. Given the innovative nature of food waste collections, Cabinet asked that we also tested two different sizes of food waste collection containers (23 and 47 litres), and asked residents to choose their bin size before the trial began, defaulting to the larger container (see section 4.5 below). Residents were then provided with the bin of their choice before collection began. Residents were also provided with a kitchen caddy, which is used in the kitchen for containing food waste before it is transferred to the outside bin, and six months worth of compostable corn-starch liners for the caddy.
- 3.3 The collected food waste continues to be sent for processing at an in-vessel composting facility operated by Mytum and Selby in South Milford.

### **4.0 Operational Implementation**

- 4.1 Given the significant nature of the change to services in the area, an effective approach to change management and implementation was essential. To inform the strategy for implementation of the trial the council commissioned three focus groups (August 2009) to test the new arrangements and to find out what challenges we needed to overcome to make the trial successful. The findings of this research were used to inform the implementation of the scheme.

- 4.2 The final implementation strategy for the pilot effectively had four phases:

#### ***Phase 1 – Route Redesign and Operational Testing***

- 4.3 In order to make sure that the new services were as simple and convenient as possible for residents, collection routes were redesigned to make sure that all the bins were routinely collected on the same day each week. The area was surveyed in detail to ensure that all properties were covered, and that all properties had access to recycling collections prior to implementation. Where residents did not have a green bin they were provided with one.
- 4.4 The collection regime was 'tested' with the operational workforce to make sure that the bins being used, the collection rounds and the vehicles were operationally fit for purpose.

#### ***Phase 2 – 'Warm-up' communications***

- 4.5 A major finding of the research was that up-front communications would be key to the success of the pilot. The research told us that residents understanding of why the scheme was important, as well as how to use it, was essential. To that effect, a series of communications were undertaken during August 2009 to pre-empt the original date for the roll-out of the service in October 2009. This included:

- i. a direct mail-out to residents introducing the service and asking them to choose the size of food waste bin they wanted. Over 55% (4,714) of households on the trial responded to tell us which bin size they would like. Around two-thirds of those who responded (3,016) asked for the smaller 23 litre bin. Where residents did not contact us, they received the larger (47 litre) bin by default.
- ii. road-show events and attendance at local galas and in areas of high footfall to introduce the service and timed so that people could see the types of bin prior to them needing to choose the size they wanted;
- iii. directing the council's 'Sort It' schools recycling education programme to the schools in the local area to coincide with the communications;
- iv. local advertising on bus stops and telephone boxes to let residents know that the pilot was on its way.

4.6 Unfortunately, due to the industrial action with Streetscene Services during the autumn of 2009, the implementation of the service was delayed until February 2010. All the residents on the pilot were written to in October 2009 advising them of the delay. Once the industrial action was over, a press release, alongside posters in local buildings were used to publicise the trial, prior to its launch in February.

### ***Phase 3 – Service Roll-out***

4.7 The new food waste bins were delivered between the 15<sup>th</sup> and 20<sup>th</sup> of February 2010. Each household received the food waste bin of their choice, along with a kitchen caddy, six months worth of liners (3 per week) further detailed information about how to use the service, and a new calendar advising them of their new collection dates.

4.8 To make sure that the trial was a success we identified the need for on the ground support for residents in the early stages of the trial; to deal with any issues such as missing bins, or difficulties with collections and to communicate the benefits of the new recycling arrangements. We therefore recruited and trained a team of four temporary 'Waste Doctors' to provide this support on a daily basis. The Waste Doctors initially supported the roll-out of the service, following the crew when the deliveries were made and providing advice to any residents with questions.

### ***Phase Four - Service Monitoring and Maintenance***

4.9 Once the trial had begun, the Waste Doctors continued to provide a reactive service to deal with complaints and problems, but also proactively monitored the area and dealt with any problems as they arose. As the trial progressed, and the number of issues declined and the level of Waste Doctor support gradually reduced to one member of staff. In the first 16 weeks of the trial the Waste Doctors had undertaken well over 3,000 visits to residents.

4.10 From the outset of the trial, daily service update reports were implemented to ensure that the service was monitored effectively and any issues were dealt with quickly. These reports were circulated on a daily basis to Environmental Services' Senior Management, the Executive Member for Environmental Service and the local Rothwell Elected Members.

## **5.0 Evaluation of the Pilot**

5.1 A detailed independent report was commissioned by the council to evaluate both the approach and performance of the pilot. This has encompassed analysis of the type of waste being collected across all bins used, contamination levels, food waste bin usage according to bin size, levels of participation in the scheme and an evaluation of our approach to communications. This has been supplemented with formal attitudinal surveys (face to face survey and a series of focus groups) and consultation meetings with the collection crews and local Rothwell Elected Members, to form conclusions about the success and future challenges for implementing these new recycling services in future.

### **5.2 Scheme Design and Implementation**

5.2.1 Feedback about the design and implementation of the pilot has been very positive. with 91% of respondents saying the scheme is easy to use. 83% of respondents felt that the fortnightly collection of black bins was about right and 91% felt that the fortnightly collection of green bins was about right. Only 16% of respondents saying that they had had any practical issues or problems since the pilot began.

5.2.2 Nearly all respondents with the 23 litre bin (94%) felt that it was the right size compared to 77% of respondents with the 47 litre bin. Just over one in five respondents with the 47 litre bin (22%) indicated that it was too large compared to just 2% of those with the 23 litre bin. 75% of those using the 47 litre bin said that it was either half full or less than half full, compared to 63% of those using the 23 litre bin.

5.2.3 A survey of the 'fullness' of food waste bins also suggested that, on average, they were less than half full, suggesting that the smaller (23 litre) bin size would be adequate for the majority of households. When asked, Rothwell Elected Members also agreed with this view. Collection crews also prefer the smaller bins as they are less awkward to handle.

5.2.4 Liners for the food waste caddies are seen as an integral part of the scheme. Local Elected Members saw them as 'essential' and collection crews felt that they made emptying the food waste bins easier. A survey of liner usage found that 93% of households were using them. Indeed, 40% of respondents to our survey said that they would not use the food waste collection service without liners being provided for free by the council. Given the ongoing cost of liners, this issue will need to be explored in more depth as we go forward with the future recycling strategy.

5.2.5 The provision of containers was broadly sufficient for households needs, however flats with communal recycling and food collections were initially an issue. In some cases it was necessary to change collection arrangements to provide sufficient capacity.

### **5.3 Presentation, Participation and Contamination**

5.3.1 The table below summarises the presentation rates for each collection type.

**Table 1 – Presentation Rates**

Collection Type	Average Presentation (excluding week 1)
Residual Waste (black bin)	82%
Commingled Recycling (green bin)	74%
Food Waste	56%
Garden Waste (brown bin)	53%

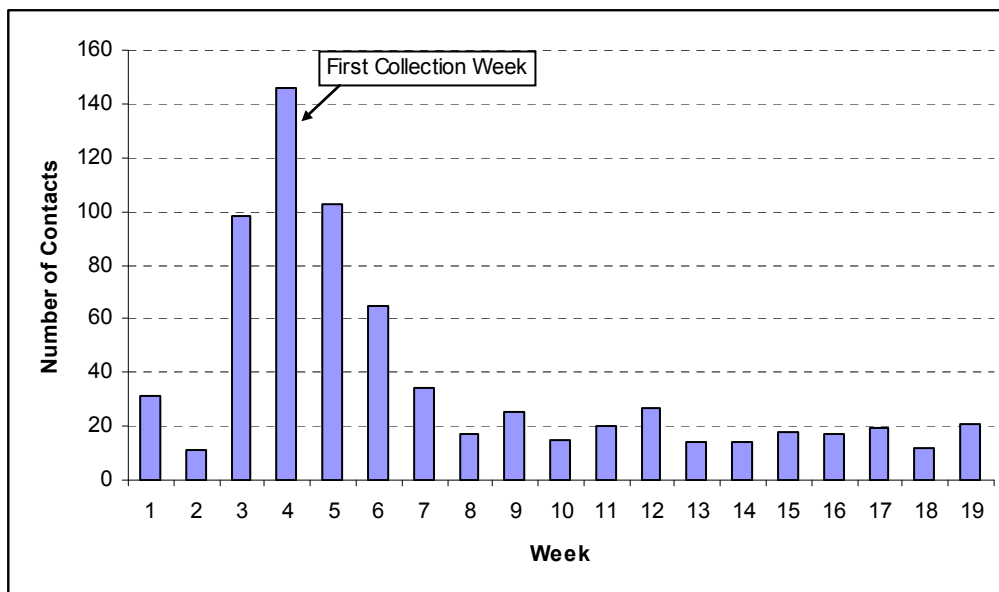
- 5.3.2 The high presentation rate for residual waste collections did lead to some early operational challenges. In the first few weeks, collection crews needed assistance on residual waste collections due to heavy loads and excess side waste being produced. Whilst the amount of residual waste disposed of per week has fallen (see section 5.5), there has been an overall increase in the amount of residual waste being collected on the scheduled collection day each fortnight, from around 9.1 kg per household per week, to 12.4 kg per household per week. However this increase in weight has now been accommodated within the normal collection rounds.
- 5.3.3 There are differences in presentation rates and weights of waste, between the 23 and 47 litre food waste bins. The average weight of food waste in a 47 litre bin was nearly twice that in the 23 litre bin, however the 23 litre bins were presented 62% of the time, compared to 52% for the 47 litre bin. This suggests that many residents with the larger bin are presenting it fortnightly, rather than weekly, as it is not full.
- 5.3.4 In addition to this, as part of the evaluation report, a full participation survey was undertaken for food waste collection element of the pilot. Whilst the presentation rates above describe the number of households presenting their bin on a particular day of collection, participation rates refer to the number of households that have participated in the scheme at least once during a monitoring period (in this case two weeks). Participation rates therefore capture the residents who participate in the scheme but may not present their bin at on every scheduled collection day. For food waste collections the participation rate was 79%, i.e. 79% of residents were taking part in the scheme.
- 5.3.5 Contamination levels were, on the whole, very low. Waste composition analysis suggests that less than 0.5% of food waste collected was contaminated and this low level of contamination is also supported by the fact that none of the food waste loads delivered to Mytum and Selby have been rejected. The level of food waste still being disposed of through the residual waste collection scheme is also significantly less than our last citywide waste analysis (12% in the pilot area compared to 30% citywide).

## 5.4 Communications and Customer Satisfaction

- 5.4.1 Survey figures show that customer satisfaction with the new scheme is exceptionally high. 94% of the residents asked said that they agreed, or strongly agreed with the statement that “Overall, I am satisfied with the new recycling scheme”.

5.4.2 Aside from the first few weeks of implementation, the number of call to Customer Services has been very low. The graph below describes the level of customer contact in relation to the pilot so far.

**Figure 1 – Weekly Customer Contact**



5.4.3 The use of the Waste Doctors has been very well received. Where contact has taken place they have effectively resolved issues without the customer making a complaint. To date we have only received four complaints about the pilot, and these were largely to do with changes to collection days. Local Rothwell Elected Members also felt that the Waste Doctor approach was valuable, but did feel that they could have undertaken more proactive work with those who did not present and work more flexibly, e.g. at evenings and weekends. The collection crews were also very positive about the Waste Doctors approach.

5.4.4 The vast majority of media and press coverage has also been positive. Across the life of the pilot so far there have been six positive articles in local media (Yorkshire Evening Post, Yorkshire Post and the Rothwell and District Record). One of these was a comment piece praising the scheme and suggesting it was the way forward for the whole city. Only one negative piece of coverage has appeared to our knowledge and this was in relation to the cost of the scheme.

## 5.5 Recycling and Waste Performance

5.5.1 In order to assess the performance of the scheme it is useful to compare it to the other recycling collection regimes that are in operation across the city across a full year of operation, as certain types of waste such as garden are seasonal in nature. There are two other main collection regimes in Leeds:

**Scheme 1: ‘Standard’ scheme** – Weekly residual (black bin) waste collection, four weekly recycling (green bin) collection, fortnightly (except winter) garden waste collection.

**Scheme 2: ‘Sort 3’ Pilot** – The same scheme as above, but with fortnightly recycling (green bin) collections.

5.5.2 The table below shows projections for the full year of 2010/11 based on the actual data from the pilot and other schemes for the year to date.

**Table 2 – Waste and Recycling Comparison Data, 2010/11 Projections**

Scheme	Kerbside Recycling Rate %	Residual Waste kg per household per week	Total Waste kg per household per week
Scheme 1 (standard)	28.1%	9.2	14.4
Scheme 2 (Sort 3)	32.7%	10.0	16.5
Rothwell Pilot	52.9%*	6.2	15.1

\*Of which food waste makes up 15.7%, i.e. there has also been an increase in green bin recycling.

- 5.5.3 In the first 24 weeks of the pilot 56% of the waste collected in the Rothwell pilot at the kerbside has been recycled or composted. Taking into account the seasonality of waste flows, it is forecast that in a full year, the Rothwell pilot will yield an overall recycling and composting rate of 53%. This compares favourably with the citywide figure of 28% and the figure for the 'Sort 3' pilot of 33%. The Rothwell kerbside recycling rate is therefore 88% higher than the 'standard' scheme and 62% higher than the 'Sort 3' pilot area.
- 5.5.4 The weight of residual (landfilled) waste per household is also significantly lower in the pilot area with 6.2 kg per household per week being collected in Rothwell compared to 9.2 kg per household per week citywide and 10.0 kg per household per week in the 'Sort 3' pilot area. The amount of residual waste being collected in Rothwell is projected to be 32% lower over the full year than in the 'standard' collection regime.
- 5.5.5 Many factors influence the total amount of waste that residents dispose of but it is clear that the amount of capacity is a major influence. Each scheme has differing levels of capacity with the 'Standard' collection scheme having 840 litres of capacity each week, 'Sort 3' having 960 litres per week, and the Rothwell pilot having 820 litre per week. This differing capacity is reflected in the figures above, with the Sort 3 pilot households disposing of significantly more waste per week in total than the other two regimes.
- 5.6 **Cost Comparisons**
- 5.6.1 The table below outlines the estimated annual collection and disposal costs for one round and also shows an average cost per property.



**Table 3 – Average Cost per Household of Recycling Collection Schemes**

	Rothwell Pilot (£000)	'Standard' Service (£000)	'Sort 3' Pilot (£000)
<b>Collection Costs</b>			
Food	268		
Residual Waste	112	224	224
SORT	112	56	112
Garden	112	112	112
Bin Costs	79	57	57
<b>Total Collection Costs</b>	<b>683</b>	<b>449</b>	<b>505</b>
<b>Disposal Costs</b>			
Food	44	-	-
Residual (inc Landfill Tax)	180	265	289
SORT	15	9	11
Garden	21	20	25
<b>Total Disposal Costs</b>	<b>260</b>	<b>294</b>	<b>325</b>
<b>Total Cost</b>	<b>943</b>	<b>743</b>	<b>830</b>
<b>Costs per Household</b>			
Collection Cost per Household	85.49	57.78	64.41
Disposal Cost per Household	31.45	35.52	39.26
<b>Total Cost per Household</b>	<b>116.94</b>	<b>93.30</b>	<b>103.67</b>
<b>Recycling Rate %</b>	<b>53%</b>	<b>28%</b>	<b>33%</b>

5.6.2 The pilot involved intensive communication and monitoring costs (see 4.5 and 4.9). Approximately £53k was spent in 2009/10. The existing Waste Education and Communications budget was prioritised to fund these costs in the pilot. The Communications costs are not therefore included in the above analysis.

5.6.3 As a result of Rothwell having more collections per month than either the 'standard' service or Sort 3, the cost per property is higher than the other two schemes. However, measurement on a value for money basis suggests that the Rothwell pilot is the better service option. This is shown in the table below where the Rothwell pilot delivers a cheaper cost for each recycling percent than either the 'standard' or the Sort 3 pilot.

**Table 4 – Cost Per % of Recycling Rate**

	Rothwell Pilot	'Standard' Service	Sort 3 Pilot
Total Cost per Property (£)	116.94	93.30	103.67
Additional Cost from 'standard' (£)	23.64	-	10.37
Cost per Recycling % (£)	17.80	26.55	25.14

- 5.6.4 As landfill tax continues to rise, the net difference between the different service options begins to close. Assuming landfill tax increases to £80 per tonne as the Government have indicated, then the cost differential up to 2014/15 is shown below.

**Table 4 – Additional Cost of Rothwell Scheme Compared to ‘Standard’ Scheme**

	2010/11	2011/12	2012/13	2013/14	2014/15
Additional Cost from Standard	23.64	22.41	21.18	19.95	18.72

- 5.6.5 It is also worth noting that the costs above are based on an assumed treatment cost of £45 per tonne for food waste, which is the current cost, and on a static dry recycling rate. Should the cost of food processing fall (which is likely as more processing capacity becomes available) and the dry recycling rate increase, this will further decrease the cost differential between the schemes.

## **6.0 Future Expansion of Food Waste Collections**

### **6.1 Opportunities**

- 6.1.1 It is clear from the above evaluation that the pilot of new recycling services has been a success. The significantly increased rate of recycling in the area gives us confidence that the full recycling strategy identified in September 2007 can deliver a citywide recycling rate of over 50%.
- 6.1.2 Because land filled biodegradable waste creates methane as it rots, the large-scale diversion of food waste from landfill will not only help the council’s financial position in terms of the Landfill Allowance trading Scheme and landfill tax, it also has a positive impact in terms of the climate change impact.
- 6.1.3 The pilot has not only seen a reduction in the level of food waste being land filled. The level of residual waste being collected has also fallen by almost 40% with the positive benefit on land-fill and our recycling rate that that brings.
- 6.1.4 The amount of waste being recycled through the commingled green bin collection scheme has also increased in the pilot area, as the frequency of collections has increased.
- 6.1.5 The ongoing success of the pilot means that there is more likelihood of the development of commercial food waste processing capacity in the area.
- 6.1.6 As outlined above customer satisfaction on the pilot is very high. The initial results of the pilot show that there is an appetite amongst the public for more recycling collections.

### **6.2 Further work**

- 6.2.1 Although the pilot has been a success, further work is required in order to support a decision to roll-out this service design out to the rest of Leeds.
- 6.2.2 Further information about the cost of additional bins and replacements is required, along with the merits of providing the 23litre food waste bin as the preferred option.

- 6.2.3 Further analysis of the cost benefits of providing free liners to residents, in terms of the likelihood of a fall in participation when compared to the cost of provision, needs to be undertaken, given the overall cost of the pilot scheme.
- 6.2.4 Further information is required to understand the longer term requirement and specification for food waste collection vehicles.

### 6.3 **Constraints**

- 6.3.1 The most important factor in being able to roll-out the pilot further is the level and location of treatment capacity that is available to process the food waste collected. Whilst there is currently limited food waste processing capacity in the area, and some expansion of food waste collection could be possible, a procurement will need to be undertaken to secure capacity for 2011/12 onwards
- 6.3.2 The location of this processing facility, will have an influence on the areas to be chosen for any further expansion of the pilot, as haulage distances impact on service delivery.
- 6.3.3 The capacity of the service to resource a further expansion of the service in 2011/12 to the standard of the Rothwell pilot is also a factor to be considered.
- 6.3.4 An appraisal of the options for procuring longer term capacity needs to be undertaken in the light of the developing market, and taking into consideration the possible longer term sustainability agenda and the potential for added value, such as biomethane production for use in council vehicles.

## 7.0 **Implications For Council Policy And Governance**

- 7.1 Whilst the recycling strategy for the city was agreed at Executive Board in September 2007, it is clear that further work is required in order to inform a future decision as to whether this service design should be rolled out across the city, including an assessment of the longer term strategy for food waste processing, that takes into consideration the climate change strategy.

## 8.0 **Legal And Resource Implications**

- 8.1 The 2010/11 budget fully provides for the continuation of both the Rothwell pilot and the Sort 3 fortnightly recycling pilots.
- 8.2 The costs of expanding the pilot to be considered during the budget setting process for the 2011/12 financial year.

## 9.0 **Conclusions**

- 9.1 The Rothwell pilot of new recycling collections has by any measure, been a success. It has delivered a large-scale increase in recycling rate and high customer satisfaction levels.

- 9.2 However, further work is required to fully inform a decision to roll-out the full recycling strategy further, particularly in regard to food waste collection and processing capacity.
- 9.3 Given the success of the pilot however, and the need for further evaluation to take place, it is considered that the pilot should be continued indefinitely and expanded into other areas. The current pilot of fortnightly collections in the North West of the city should also be continued, as it provides a useful comparator scheme when evaluating the full recycling strategy.

## **10.0 Recommendations**

10.1 Scrutiny Board are recommended to:

- Note the current performance of the Rothwell pilot scheme, comparison with the 'Sort 3' recycling collection pilot that has been running since October 2008 and the 'standard' recycling position;
- Support the extension of both the current pilot areas indefinitely;
- Note the opportunities, constraints and areas for further work, required to inform a future decision as to whether this service design should be rolled out across the city
- Support the assessment of the longer term strategy for food waste processing, that takes into consideration the climate change strategy and the potential for added value, such as the use of biofuels in council vehicles .
- Discuss the scope of an expansion of the Rothwell pilot scheme and recommend to Executive Board, subject to budget provision being made available, an expansion into other areas in 2011/12.