

Somerset's ***SORT IT!*** Collections

INFORMATION PACK



Somerset
Waste
Partnership



SOMERSET WASTE PARTNERSHIP

***SORT IT!* - Integrated Waste Collections with Separate Food Waste Service**

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COMMUNICATION MATERIALS

The following are available on request (see contacts at end):

- Notification Packs
- Enforcement Labels and Letters
- Service Leaflets

SOMERSET'S *SORT IT!* COLLECTIONS SUMMARY

Somerset's *SORT IT!* collections were introduced in October 2004 as part of an integrated package of waste collection services, which includes:

- Weekly recycling and food waste collections, with kerbside sorting for recyclables;
- Fortnightly refuse collections, with 180-litre wheeled bins provided to most households;
- Optional charged garden waste collections using wheeled bins or compostable paper sacks.

SORT IT! was rolled out in phases and expanded to cover over 160,000 households throughout Mendip, South Somerset and Taunton Deane in 2006.

The new collections were supported by a comprehensive communications plan, involving press launches, notification packs, roadshows, doorstepping in selected areas, service leaflets, follow-up newsletters and District helplines. Also new customer care officers have provided advice and taken reasonable action to enforce new service rules, such as no excess side waste alongside refuse bins.

Somerset's *SORT IT!* collections were the UK's first large-scale separate collections for domestic food waste introduced following the Animal By-Product Regulations 2003.

Overall, in *SORT IT!* collection areas, total WCA waste has reduced by 10-20%, refuse levels have halved and recycling rates have more than doubled to 45-49%, with a quarter of these rates contributed by food waste. This has been achieved without providing free collections for garden waste that would have considerably increased waste arisings in Somerset.

Advantages of Somerset's *SORT IT!* collections include:

- Fortnightly refuse collections with wheeled bins restrict amounts put out and so encourage waste reduction and use of recycling and composting services;
- Fortnightly refuse collections reduce refuse costs, allowing investment in improved recycling services;
- Separate collections for food waste clearly target this material, which is the largest category of bin waste in Somerset, making up 27% of total arisings;
- Weekly food waste collections make fortnightly refuse collections more acceptable to residents;
- Collecting garden waste separately, rather than with food waste, allows the garden waste to be processed at a lower cost in windrows, rather than in-vessel to food waste (Animal By-Product) standards;
- Charging for garden waste collections encourages home composting and avoids the increase in waste arisings and high costs associated with free garden waste collections;
- Fees for garden waste collections reduce the net cost of this service.

SOMERSET WASTE PARTNERSHIP

SOMERSET'S SORT IT! COLLECTIONS – Integrated Waste Collections with Separate Food Waste Service

BACKGROUND

The Somerset Waste Partnership (SWP) consists of the five District/Borough Councils (Mendip, Sedgemoor, South Somerset, Taunton Deane and West Somerset) and the County Council in Somerset. In August 2002, the SWP published a joint Best Value review of waste management services, which included service objectives to:

- Provide dry material and organic waste recycling collection schemes; and
- Develop containment systems for residual waste that will enable recycling/composting targets to be met.

In 2003, the SWP submitted an expression of interest to the Department for Environment, Food and Rural Affairs (DEFRA) for support under the partnership category of the Waste Minimisation and Recycling Fund to:

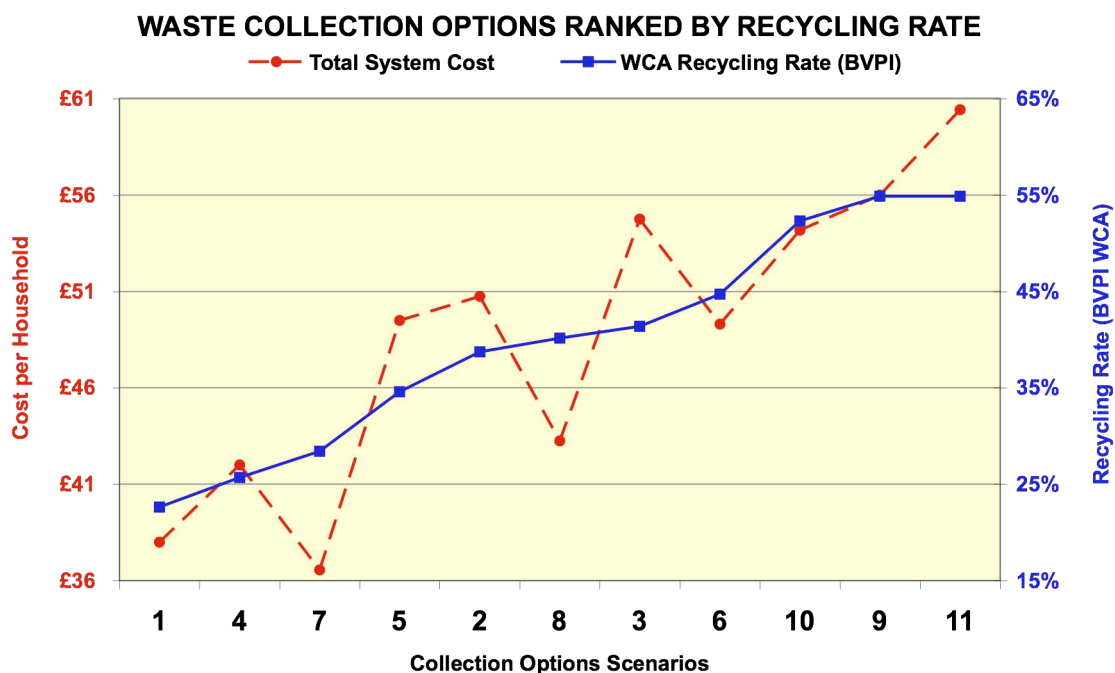
- Introduce food and garden waste composting collections; and
- Integrate waste collection services for recycling, composting and refuse.

This bid was successful and, as a result, funding of nearly £6m has been awarded to the SWP to develop these new integrated waste collection services.








OPTION APPRAISAL AND CASE STUDY RESEARCH

Before deciding how to integrate waste collection services, the SWP undertook an appraisal of waste collection options and developed a model to compare the costs and performance of 11 different service packages, each with different collection frequencies or composting collections.



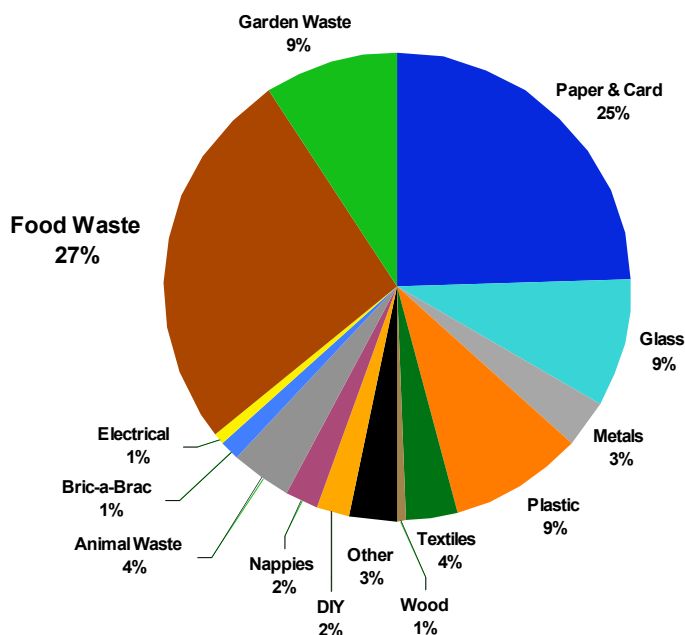
The main contenders for adoption were options 8 and 10, which are illustrated below. The SWP model suggested that Option 8 would achieve a recycling rate of 40% (exceeding the SWP's pooled target of 39.6% for 2005/06) at a relatively low cost compared to other options.

OPTION 8	Week A	Week B	OPTION 10	Week A	Week B
Recycling			Recycling		
Food Waste			Food Waste	With Garden Waste	
Garden Waste			Garden Waste		
Refuse			Refuse		

The SWP reviewed case study research on composting collections for food and garden waste and visited trials for a variety of collection options organised by Avon Friends of the Earth and then operating in Bath & North East Somerset. These trials demonstrated that food waste could be successfully co-collected with recyclables using the same multi-stillage collection vehicle. The SWP's main kerbside recycling contractor, ECT Recycling, had also successfully operated similar trials (OWL) in London. However, the yields of food waste from both these trials were low, which in the view of SWP officers was related to weekly refuse collections continuing to be provided.

The SWP was keen to collect food waste because waste composition analysis¹ undertaken in Somerset over 4 seasons during 2002-03 had shown that food waste was the largest category of the WCA bin waste stream not being targeted for recycling. This analysis found that food waste contributed more than 200 kg per household per year to bin waste, whereas garden waste contributed an average of 80 kg per household per year in Somerset. There was a hot dry summer when the composition analysis was undertaken, which may have slightly suppressed garden waste arisings.

Case study research² had shown that free garden waste services normally collected 200-300 kg per household per



¹ For national data see: Analysis of Household Waste Composition and Factors Driving Waste Increases (December 2002): Dr Julian Parfitt, WRAP (http://www.strategy.gov.uk/work_areas/waste/background.asp).

² Study of Kerbside Collection Options for Organic Waste (2001): David Mansell, Avon Friends of the Earth

year, which is 2-3 times as much as found in Somerset's bin waste. Some of this extra garden waste from free collections will be diverted from Civic Amenity Sites, but most is likely to be new material to the municipal waste stream that residents may previously have home composted or left in their gardens. The SWP viewed this as a disadvantage of free garden waste collections and tended to prefer charged garden waste collections, such as those operating in Taunton Deane since 1992.

Based on this research and consideration of the best service package for residents, 3 SWP collection authorities (Mendip, South Somerset and Taunton Deane) decided to introduce option 8, assisted by the DEFRA funding³. These authorities also decided to introduce charged garden waste collections to avoid increasing waste arisings and because it could be afforded to offer this service option throughout each District, whereas free collections were assessed as too expensive.

Advantages identified for option 8 included:

- Fortnightly refuse collections with wheeled bins helps to restrict the amount of refuse put out and so encourages recycling and composting, especially through more frequent weekly recycling and food waste services;
- Fortnightly refuse collections reduces costs compared to a weekly refuse service;
- Separate collections for food waste clearly targets this material, compared to alternative options where it is collected mixed with garden waste;
- Collecting garden waste separately, rather than mixed with food waste, allows garden waste to be processed at a lower cost in windrows, rather than in-vessel to food waste standards;
- Weekly food waste collections makes fortnightly refuse collections more acceptable;
- Charging for garden waste collections encourages home composting and avoids the increase in waste arisings and high costs associated with free garden waste collections;
- Fees for garden waste collections helps to reduce net costs.

Before rolling out the new waste collection services, the SWP also studied research on alternating or fortnightly refuse collections, undertook a telephone survey of local authorities providing these collections and visited a number of existing schemes, including those operating in Eastleigh, Teignbridge and Wealden.

SOMERSET'S NEW SORT IT! SERVICES



SORT IT! was adopted by the SWP and promoted as the name for the new option 8 waste collection services.

³ Sedgemoor, which has a lower recycling target than the other Somerset Districts, decided to introduce charged garden waste collections to add to their existing multi-material kerbside recycling collections. West Somerset decided to add glass and cans to their paper and card kerbside collections and introduce charged garden waste collections, but indicated their intention to introduce option 8 when the next waste collection contract for the District was awarded. Sedgemoor now also has a policy to introduce option 8 (*SORT IT!*).

The main operational features of the *SORT IT!* collections are outlined below.



RECYCLING

A 55-litre bin is provided for collections of paper, glass bottles and jars, food and drinks cans, foil, textiles, shoes, and car batteries. Recyclables can also be put out in carrier bags instead of or alongside boxes.

Collections are weekly using a multi-stillage vehicle with kerbside sorting.



FOOD WASTE

A 25-litre bin with lockable lid is provided to put food waste out for collection along with a 5-litre kitchen caddy, which was designed for the SWP by Straight plc.

Residents are advised to wrap food waste or line caddies with newspaper. Compostable starch-based liners can also be purchased (£4 for 50) by mail order or from more than 100 local retailers.

GARDEN WASTE

Residents can pay an annual fee for the use of a wheeled bin and/or purchase compostable paper sacks for garden waste collections. Annual fees for bins are £15 in Taunton Deane and £25 in Mendip and South Somerset. Sacks are sold in packs of 10 for £5 in Taunton Deane and £7.50 in Mendip and South Somerset. Collections are fortnightly on alternate cycles to refuse.



REFUSE

Refuse collections are made fortnightly with the new *SORT IT!* collections, whenever possible on the same day as recycling and food waste collections. Wheeled bins for refuse are provided to most households. Exceptions are households surveyed as unsuitable for wheeled bins, which are able to put out up to 4 sacks per fortnightly collection instead, and large communal properties, such as blocks of flats, which are normally provided with large 1,100 wheeled bins.



Mendip already used 240-litre wheeled bins for refuse collections before the *SORT IT!* collections were introduced. South Somerset and Taunton Deane previously used sacks (provided by residents) and now provide 180-litre wheeled bins as the standard bin size with the new *SORT IT!* collections.

Residents in South Somerset and Taunton Deane can request smaller 140-litre bins, which are especially popular with the elderly, or apply for larger 240-litre bins, if they can demonstrate that the standard bins will be too small for their household after making full use of recycling and composting collection services⁴. Additional refuse capacity is provided if a need for this can be demonstrated.

⁴ About 10% of households were surveyed as unsuitable for wheeled bins. About 8% of households have requested smaller 140-litre refuse bins and about 5% requested larger 240-litre refuse bins.



COLLECTION VEHICLES

Recycling vehicles with stillages and kerbside sorting were previously used for recycling collections. Stillages have been re-configured on these to allow food waste to be collected alongside recyclables. Food waste is emptied into sealed stillages, which are covered when travelling to and from collection rounds. ECT Recycling use 12 Tonne GVW vehicles with a 5m wheel base for collections in urban areas and short (3.9m) wheel base 12 or 7.5 Tonne GVW vehicles in rural areas⁵.



Refuse and garden waste are collected using standard refuse compaction vehicles.

ENFORCEMENT

SWP authorities have service rules to:

- Only collect accepted materials on recycling collections.
- Not collect contaminated food or garden waste bins on composting collections.
- Not collect excess refuse with sack collections or side waste alongside wheeled bins.
- Collect wheeled bins with lids closed.
- Discourage garden waste from being put out with refuse for disposal and only accept small quantities.
- Only accept small quantities of rubble or bulky waste with refuse.



To ensure compliance, service rules are enforced from the start. At the same time, residents are informed when there has been a problem with the waste they put out for collection, which in many cases is sufficient to ensure that the problem is not repeated. This is done by attaching pre-printed labels to bins, putting stickers on sacks or leaving leaflets in boxes to alert residents when they have not complied with the service rules and to let them know why the rules are important.

Collection crews record addresses of these properties, so that reoccurrences can be identified and letters sent to these householders.

It has been found that not automatically collecting waste that has been incorrectly put out and informing householders of the reasons for this, gives a strong message that helps to avoid reoccurrence. Residents are invited to contact the Council's helpline if they need any assistance and, if necessary, special stickers are provided to allow excess waste to be taken on the next collection, but normally only for the first occurrence.



As there have been found to be a few persistent offenders, SWP authorities are considering whether to issue fixed penalty notices or prosecuting these in future.

Inspectors are employed to assist and advise residents as well as to enforce service rules.

⁵ Each vehicle serves 650-700 houses/day in urban areas and about 500 houses/day in most rural areas.

FOOD WASTE TRANSFER AND IN-VESSEL COMPOSTING

Food waste stillages are removed from collection vehicles using a fork-lift, which rotates each stillage to tip the food waste into a sealed 30 cubic yard roll-on/off transfer container. The transfer containers have a sliding roof, which is pulled back to allow food waste to be tipped inside. Tipping takes place under cover in an open-sided building approved by the Environment Agency.

The food waste is transferred to Viridor's waste management site at Dimmer, near Castle Cary, where Somerset's In-Vessel Composting (IVC) facility is located. This is based on the Wasteology system.

The food waste is tipped in a reception building, where it is mixed 50:50 by weight with garden waste. The mixed food and garden waste is shredded and then placed in enclosed modules of the IVC facility. As required by the Animal By-Product Regulations 2003, the waste undergoes a 2-stage in-vessel composting process, with each stage lasting about 7 days. The composting waste is then moved to be matured in external windrows for 6-10 weeks.

After screening, compost produced by this process has previously been used for landfill site restoration and landscaping. Since early 2007, it has been supplied to local farmers for agricultural use.



COMMUNICATIONS AND PROJECT PLANS

A typical Project Plan for the roll-out of the new services in each District is shown on the next page.

A typical communications plan for each roll-out phase is as follows:

Weeks Before Start of Collections	Communication Activity
12	Press Release
11	Notification Pack to Residents
10	Press Release
7-9	Roadshows in All New Roll-Out Areas
6	Deadline for Return of Request and Order Forms
3	Press Release
3-1	Doorstep Visits to Explain Service Changes in Selected Areas
2-1	Distribution of Bins and Service Leaflets
0	Start of New Collections
8-10 After	Distribution of Newsletters and Questionnaire

The service leaflet, distributed with bins, for the new ***SORT IT!*** collections used in Taunton Deane is shown below.

Collection date calendars for all waste collection services are also distributed with service leaflets.

Newsletters are distributed to residents about two months after the collections start. These include a reply-paid questionnaire to ask residents for their views on the new services.

Similar responses have been obtained in all areas surveyed and include:

- 76% of those responding said the new *SORT IT!* services were better than the previous arrangements (39% said they were much better), with only 11% saying they were worse;
- 87% of those responding said it was easy to separate waste into the different categories.

The top benefits identified for the new collections were:

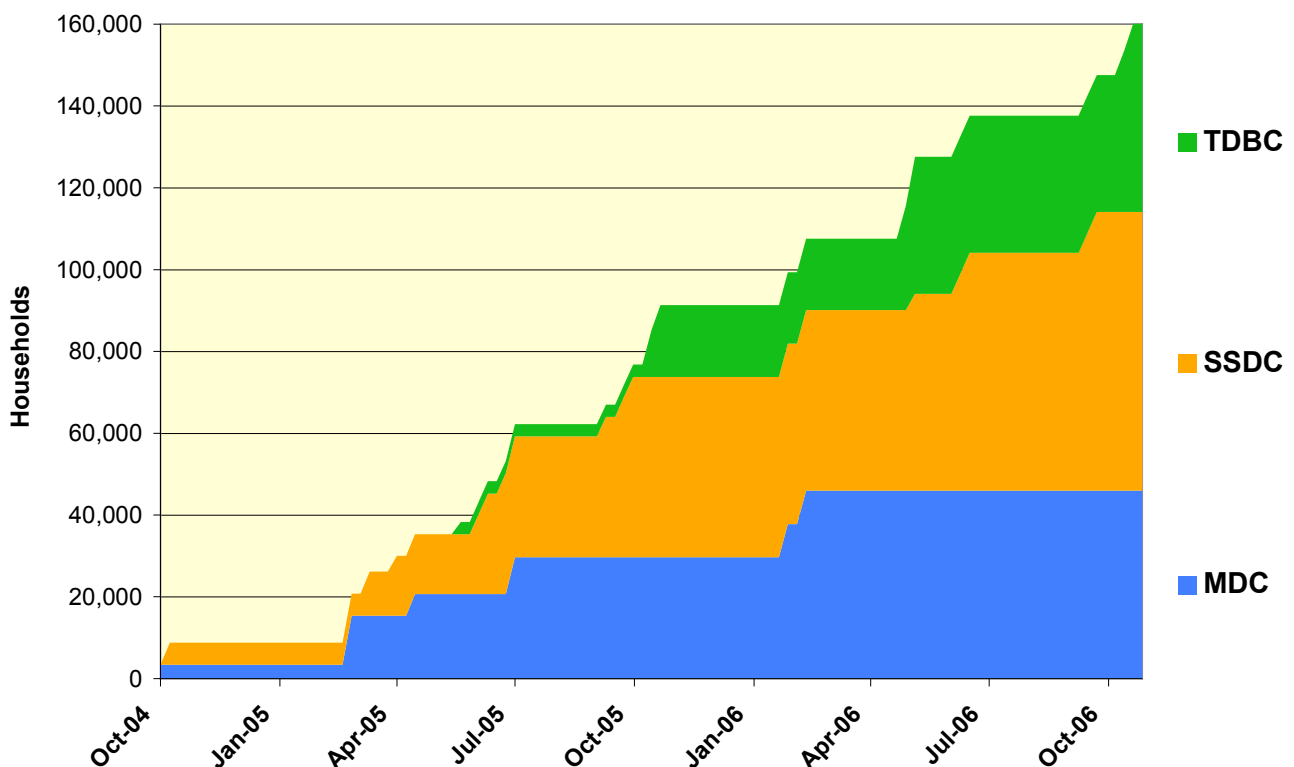
- 79% - more recycling & composting;
- 72% - weekly recycling;
- 66% - the provision of a wheeled bin for refuse.



ROLL-OUT OF SOMERSET'S SORT IT! COLLECTIONS

The roll-out of Somerset's new *SORT IT!* services started in October 2004 in Mendip and South Somerset followed by Taunton Deane in May 2005.

Mendip District Council completed its District-wide roll-out of *SORT IT!* to 46,650 households at the end of February 2006. South Somerset District Council completed District-wide coverage to 70,300 households in September 2006. Taunton Deane Borough Council completed Borough-wide coverage to 47,000 households in October 2006, take the total number of households in Somerset served by the new *SORT IT!* collections to 164,000. The roll-out programmes for the 3 Districts are summarised in the following chart.



After an initial small phase (3,000-5,000 households) to establish and learn the new system, the SWP has found it best to roll-out the *SORT IT!* collections in phases of 12,000-16,000 households, with sufficient space between phases to avoid overlaps in key work-load requirements between successive phases.

The main reason for phasing the introduction of new service roll-outs is to ensure communication activities are properly delivered to residents for each phase and to manage the large number of enquiries that are inevitably generated by such a radical change to waste services, especially with the introduction of wheeled bin collections.

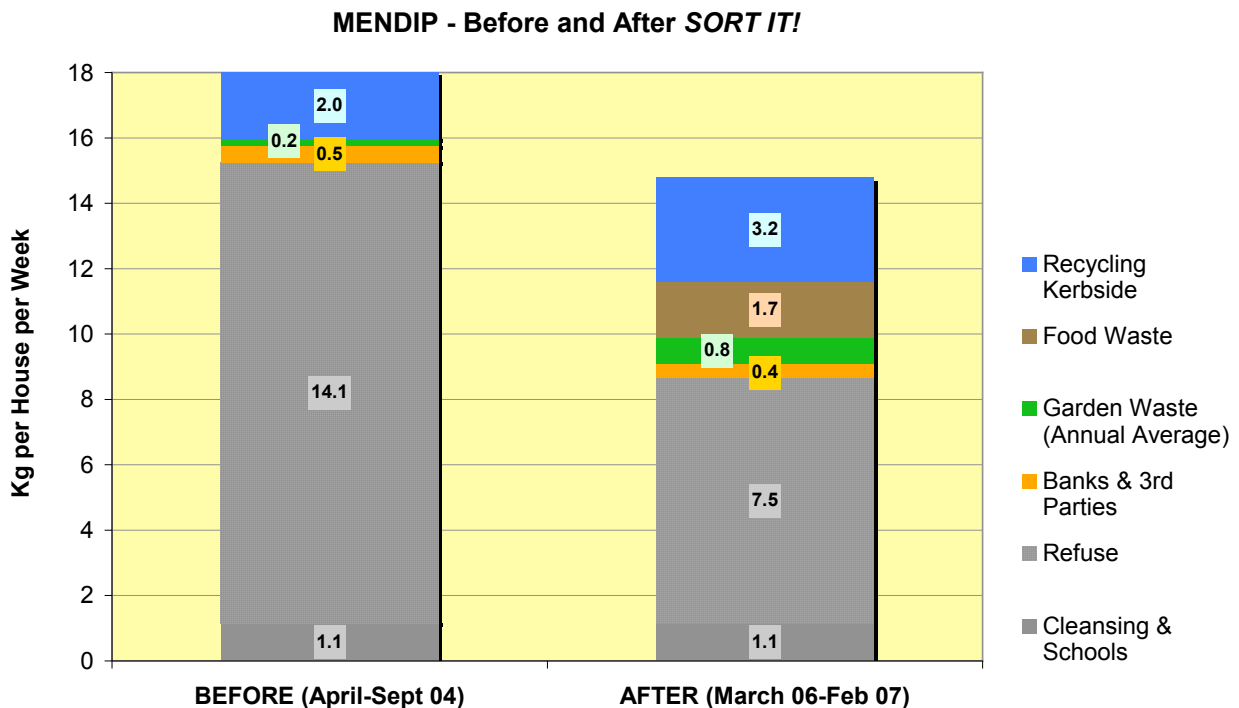
PERFORMANCE

Before the *SORT IT!* collections were introduced, weekly refuse collections were provided in South Somerset, Taunton Deane (both curtilage black sack service) and Mendip (240-litre wheeled bins) and fortnightly recycling collections were provided in all 3 Districts (for the same range of materials as for *SORT IT!*, except that glass was not accepted previously in South Somerset).

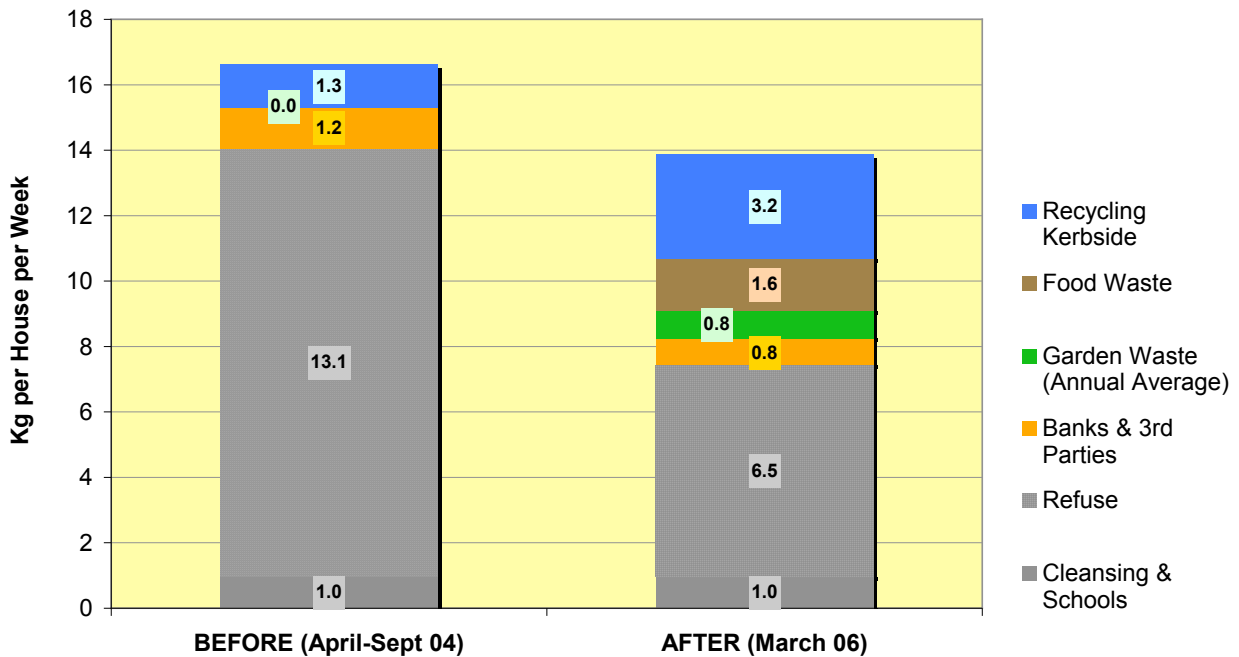
The charts below show the average quantity collected in kg per household per week for the *SORT IT!* collections in each District before and after the new services started.

District-wide averages per household are shown, apart from the March 2006 statistics for South Somerset, which is based on data for the parts of the Districts to which *SORT IT!* collections were provided at this time.

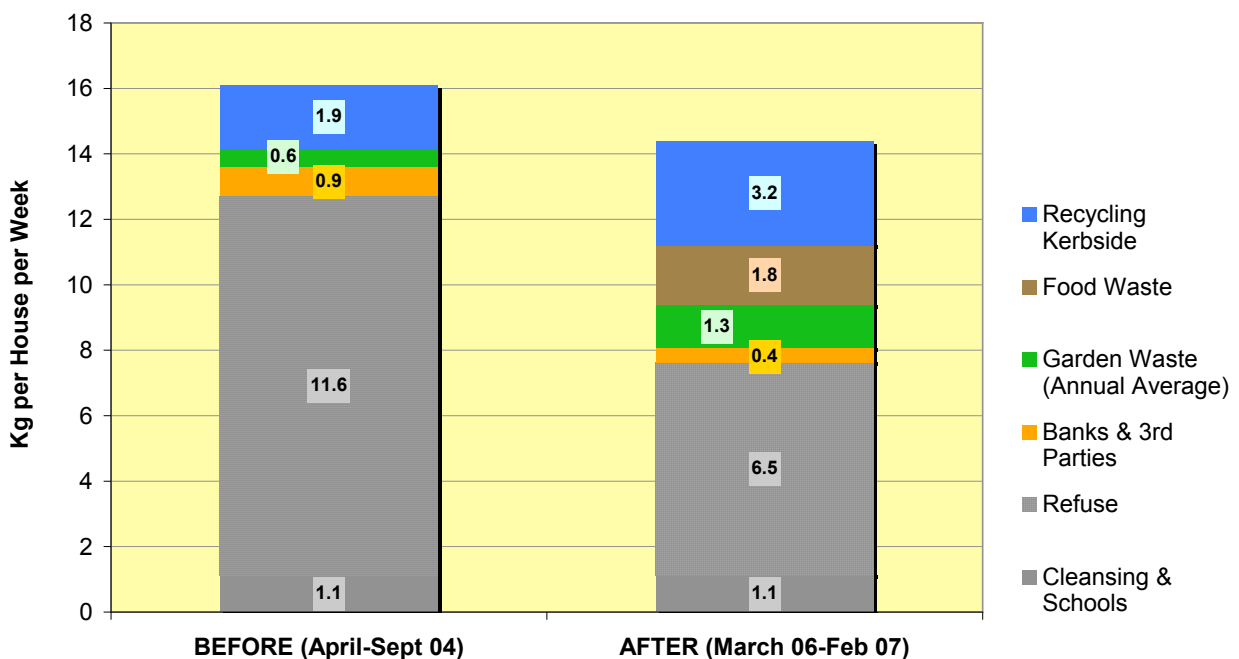
Reduction in bank yields with *SORT IT!* have been estimated for South Somerset and Taunton Deane (based on reductions found in Mendip), because the *SORT IT!* collections were not provided District-wide in these two Districts until late in 2006 and so it has not been possible to reliably measure changes in their bank use yet.



SOUTH SOMERSET - Weekly Arisings Before and After SORT IT!



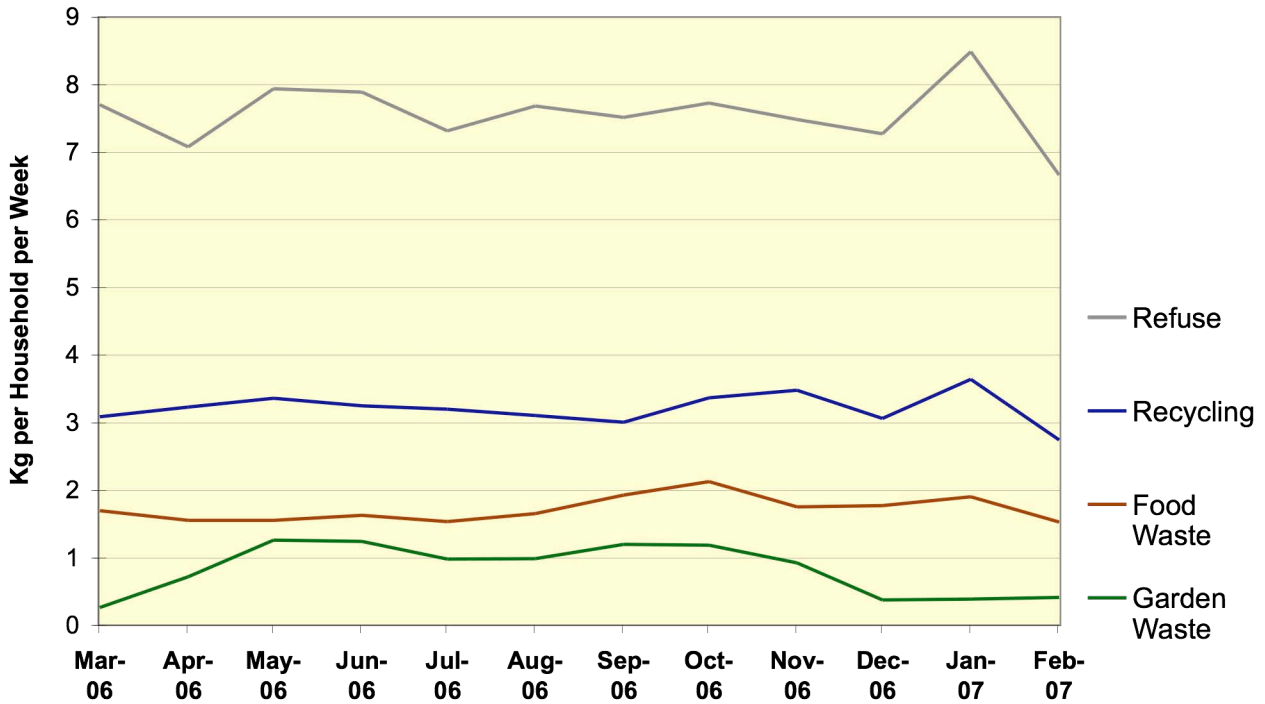
TAUNTON DEANE - Weekly Arisings Before and After SORT IT!



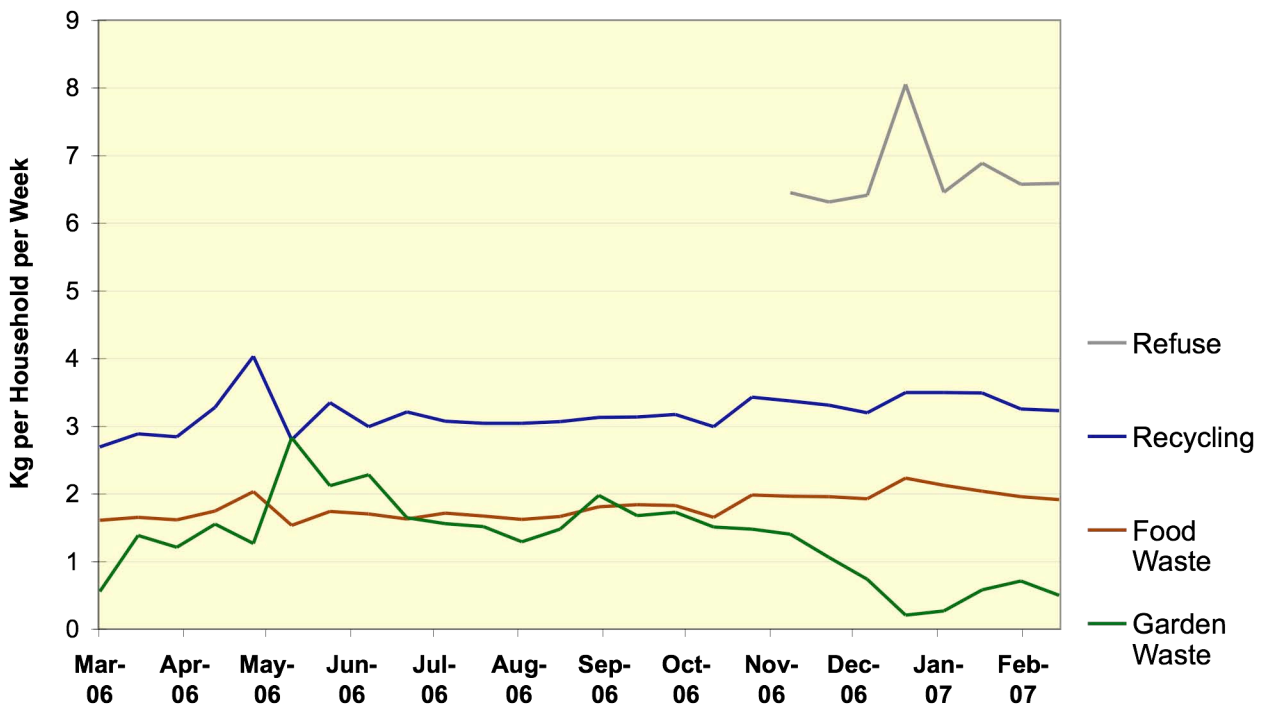
The following charts show recycling yields and refuse arisings (kg/hh/wk) in Mendip and Taunton Deane from March 2006 to February 2007. Prior to November 2006 for Taunton Deane, these statistics had to be obtained by separating out data for areas served and not yet served by *SORT IT!*. As a result, reliable *SORT IT!* refuse data is not available for the period immediately prior to November 2006 for Taunton Deane.

The most noticeable feature of these charts are increases in refuse, recycling and food waste after Christmas and the seasonal variations in garden waste. The variations in Taunton Deane in May-June and Oct-Nov are likely to be statistical issues (due to separating out *SORT IT!* and non-*SORT IT!* data) associated with the service roll-outs at these times.

**MENDIP REFUSE ARISING AND RECYCLING YIELDS (KG/HH/WK)
MARCH 2006 – FEBRUARY 2007**



**TAUNTON DEANE REFUSE ARISING AND RECYCLING YIELDS (KG/HH/WK)
MARCH 2006 – FEBRUARY 2007**



As a result of *SORT IT!*, recycling collections yields for the same materials have increased by more than 50% and refuse has halved. Overall recycling rates in *SORT IT!* collection areas have more than doubled in all 3 Districts (and trebled in South Somerset) to 41-47%, with food waste contributing more than a quarter to these rates.

It is projected that, in the three Districts currently served, the *SORT IT!* services will collect 26,500 tonnes of dry materials for recycling, 14,000 tonnes of food waste for composting and at least 7,000 tonnes of garden waste for composting.

The charts show that the *SORT IT!* collections have resulted in a reduction in the total amount of waste collected from households. It is too early to draw firm conclusions about this reduction, as there has also been an increase in household waste delivered to Household Waste Recycling Centres (HWRCs). There have been a number of factors influencing waste arisings at HWRCs in Somerset, including a new site being provided, existing sites being significantly upgraded and increased efforts to reduce trade waste deposited at all sites. There has also been an increase in HWRC waste arisings at Somerset sites not in Districts with *SORT IT!*. Taking these factors into account, it appears likely that the decrease in waste collected by *SORT IT!* services is at least 2-3 times the maximum increase in HWRC waste arisings that could be associated with *SORT IT!*.



Composition analysis of waste collections in Somerset indicates that the introduction of *SORT IT!* collections has led to half as much wood, electrical items and hazardous waste being put out in refuse collections, as well as significant reductions in cardboard and plastics. It is likely that much of these waste materials have been taken to Household Waste Recycling Centres and Plastic Bottle Banks instead.

Composition analysis also indicates that total food waste collected through the *SORT IT!* collections (composting and refuse services) is about 24% less than collected previously through weekly refuse collections. This reduction may be due to the new food waste collections reducing food waste by highlighting to householders how much was produced (who then shop less wastefully), by encouraging more home composting or through moisture loss in storing and transferring food waste for composting. Composition analysis of HWRC waste suggests that more food waste being taken to HWRCs for disposal is only a small factor.

COSTS

Revenue costs of the *SORT IT!* collections are indicated in the table below. All costs are those for

TAUNTON DEANE ANNUAL REVENUE COSTS	COST PER TONNE		COST PER HOUSEHOLD	
	BEFORE	SORT IT!	BEFORE	SORT IT!
Refuse & Garden Waste	£ 37.37	£ 43.74	£ 23.80	£ 17.83
Recycling & Food Waste	£ 72.13	£ 103.76	£ 8.42	£ 28.39
TOTAL Waste Collection			£ 32.22	£ 46.21
Recycling & Food Waste (Net of Recycling Credits ⁶)	£ 40.01	£ 83.60	£ 4.67	£ 22.87
NET Waste Collection			£ 28.47	£ 40.70

⁶ Recycling Credits on dry recyclables only at £32.12/tonne in 2006/07. Recycling Credit are not paid on food waste as the County Council pays for in-vessel composting.

providing the services shown at 2006/07 values. 'Before' costs are based on those in 2004/05 adjusted for inflation and housing growth. 'After' costs are based on those budgeted for 2007/08, the first complete year when *SORT IT!* will be Borough-wide in Taunton Deane. Total capital costs in Taunton Deane were £1,563,140, which covered new collection containers (refuse, food and garden waste bins and recycling boxes⁷) and new recycling/food waste collection vehicles. Annualised these capital costs amount to about £4.50 per household. Additional client costs (customer care, inspection, promotion) are about £50,000 per annum. So the total net cost for *SORT IT!* in Taunton Deane is about £46.20 per household or an additional £17.70 per household per annum.



A PARTNERSHIP PROJECT

Somerset's *SORT IT!* collections were instigated and are managed by the Somerset Waste Partnership, which consists of the five District/Borough Councils and the County Council in Somerset. The original provision of the *SORT IT!* services involved a partnership, which included:

- Mendip District Council
- Somerset County Council
- South Somerset District Council
- Taunton Deane Borough Council
- Veolia (formerly Cleanaway)
- ECT Recycling
- Viridor Waste Management (formerly Wyvern Waste Services)
- Mendip, South Somerset and Taunton Deane residents.



AWARDS

The SWP's *SORT IT!* collections won the Best Local Authority Initiative at the National Recycling Awards 2005, the Local Authority Award at the 2005 Annual Composting Association Awards and a Gold Green Apple for partnership working by The Green Organisation in 2006.



⁷ Even though recycling boxes had been provided for previous fortnightly kerbside collections, about 20% of households requested boxes for the new *SORT IT!* collections.



CONTACT DETAILS

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Somerset Waste Partnership⁸

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⁸ On 1st October 2007, the Somerset Waste Partnership was reconstituted as a new single organisation to provide waste collection and disposal services on behalf of all Somerset local authorities.