

## Appendix 6 – Collection Modelling Results for Huntingdonshire District Council

This appendix provides the cost, operational and performance implications of each scenario for Huntingdonshire District Council. Table 1 illustrates the current collection service operated across the District.

Table 52: Current collection service (baseline)

	Collection	Frequency	Container	Vehicle
Residual	Residual	Fortnightly	240l Wheeled Bin	RCV 20m <sup>3</sup>
Dry Recycling	Co-mingled	Fortnightly	240l Wheeled Bin	RCV 20m <sup>3</sup>
Organics	Co-mingled food and garden waste	Fortnightly	240l Wheeled Bin	RCV 20m <sup>3</sup>

The description of each scenario (1-5) is in section 3 'Collection Modelling' of the main report. Any sensitivity analysis, in the form of an additional scenario is also described in section 4 within the relevant scenario results.

## Annualised collection costs

Table 53: Annualised collection costs for current service and scenarios 1-5

	<i>Baseline</i>	<i>Scenario 1</i>	<i>Scenario 2</i>	<i>Scenario 3a</i>	<i>Scenario 4</i>	<i>Scenario 5</i>
	<i>Current service</i>	<i>Separate food waste</i>	<i>Separate food waste + restricted residual</i>	<i>Twin-stream recycling, 3WC with residual, separate food, garden as is</i>	<i>Twin-stream recycling, fortnightly collection, separate food, garden as is</i>	<i>Kerbside Sort recycling with food, monthly residual, charged garden</i>
Annualised dry recycling collection cost	£1,908,780	£1,908,780	£1,908,780	£3,420,704	£3,518,386	£6,638,083
Annualised garden waste collection cost	£1,760,012 <sup>51</sup>	£1,760,012	£1,760,012	£1,760,012	£1,760,012	£1,607,672
Annualised food waste collection cost	-	£2,269,745	£2,375,182	Co-collected with DMR and residual	£2,375,182	Co-collected with DMR
Annualised residual waste collection cost	£2,125,389	£1,833,100	£1,840,064	£1,777,896	£1,845,092	£1,302,999
<b>Total gross collection cost</b>	<b>£5,794,182</b>	<b>£7,771,638</b>	<b>£7,884,038</b>	<b>£6,958,613</b>	<b>£9,498,673</b>	<b>£9,548,754</b>
<b>Difference from Baseline</b>	-	£1,977,456	£2,089,856	£1,164,431	£3,704,491	£3,754,572

<sup>51</sup> Commingled organics

## Vehicle and container requirements

Table 54: Vehicle and container requirements for current service and scenarios 1-5

	Dry recycling			Garden waste			Food waste			Residual		
	Vehicle type	No. vehicles	Container type	Vehicle type	No. vehicles	Container type	Vehicle type	No. vehicles	Container type	Vehicle type	No. vehicles	Container type
Baseline	RCV 20m <sup>3</sup>	8	240L	RCV 20m <sup>3</sup>	8	240L	N/A	0	N/A	RCV 20m <sup>3</sup>	9	240L
Scenario 1	RCV 20m <sup>3</sup>	8	240L	RCV 20m <sup>3</sup>	8	240L	Dedicated 7.5t	20	Kitchen caddy + 23L	RCV 20m <sup>3</sup>	8	240L
Scenario 2	RCV 20m <sup>3</sup>	8	240L	RCV 20m <sup>3</sup>	8	240L	Dedicated 7.5t	21	Kitchen caddy + 23L	RCV 20m <sup>3</sup>	8	180L
Scenario 3	REL + front pod (75%/25%)	10	240L&180L	RCV 20m <sup>3</sup>	8	240L	Collected with DMR	0	Kitchen caddy + 23L	RCV 20m <sup>3</sup>	6	240L
Scenario 4	REL 65%/35%	12	240L & 180L	RCV 20m <sup>3</sup>	8	240L	Dedicated 7.5t	21	Kitchen caddy + 23L	RCV 20m <sup>3</sup>	8	180L
Scenario 5	Side loading 21m <sup>3</sup>	34	50L box (x3)	RCV 20m <sup>3</sup>	7	240L	Collected with DMR	0	Kitchen caddy + 23L	RCV 20m <sup>3</sup>	5	240L

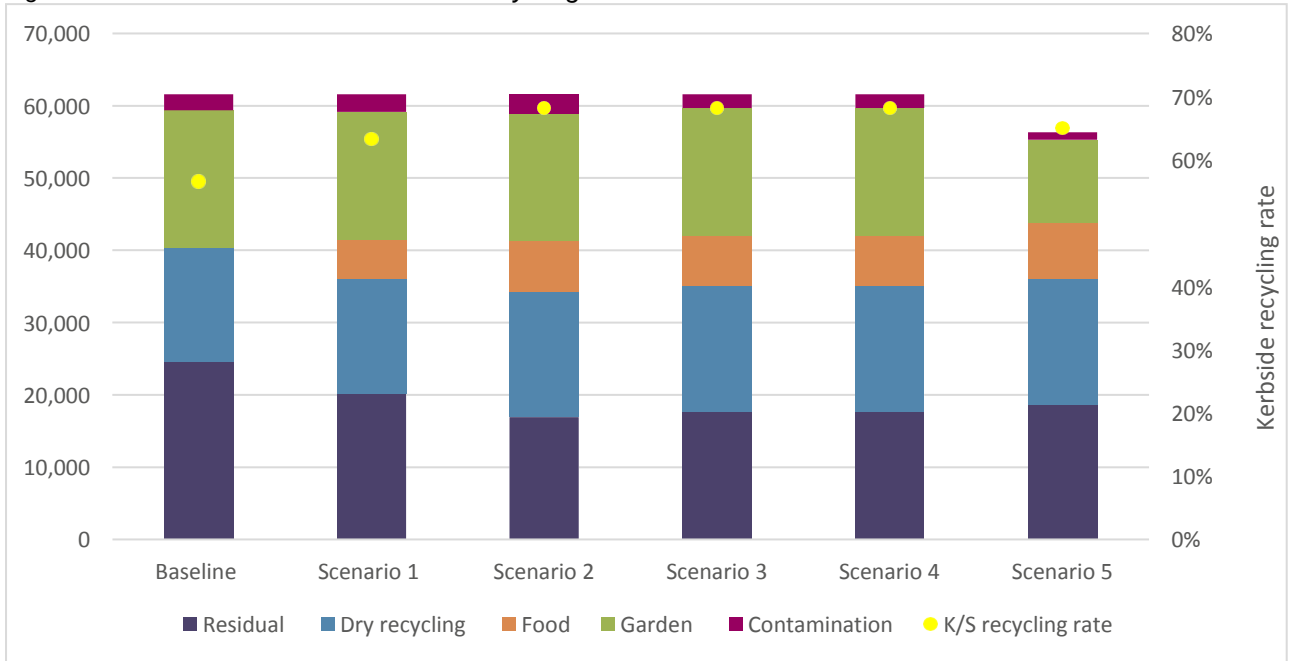
## Tonnes collected and kerbside recycling rate

Table 55: Tonnes collected and kerbside recycling rate<sup>52</sup> for current service and scenarios 1-5

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Residual	24,506	20,186	16,914	17,668	17,670	18,666
Dry recycling	15,921	15,921	17,379	17,379	17,379	17,379
Food	0	5,373	6,980	6,981	6,980	7,784
Garden	18,929	17,663	17,663	17,663	17,663	11,481
Contamination	2,218	2,431	2,638	1,882	1,882	1,008
K/S recycling rate	57%	63%	68%	68%	68%	65%
<b>Total</b>	<b>61,574</b>	<b>61,574</b>	<b>61,574</b>	<b>61,574</b>	<b>61,574</b>	<b>56,318</b>
<b>Difference between kerbside recycling tonnage</b>	<i>0</i>	<i>4,107</i>	<i>7,172</i>	<i>7,174</i>	<i>7,172</i>	<i>1,794</i>

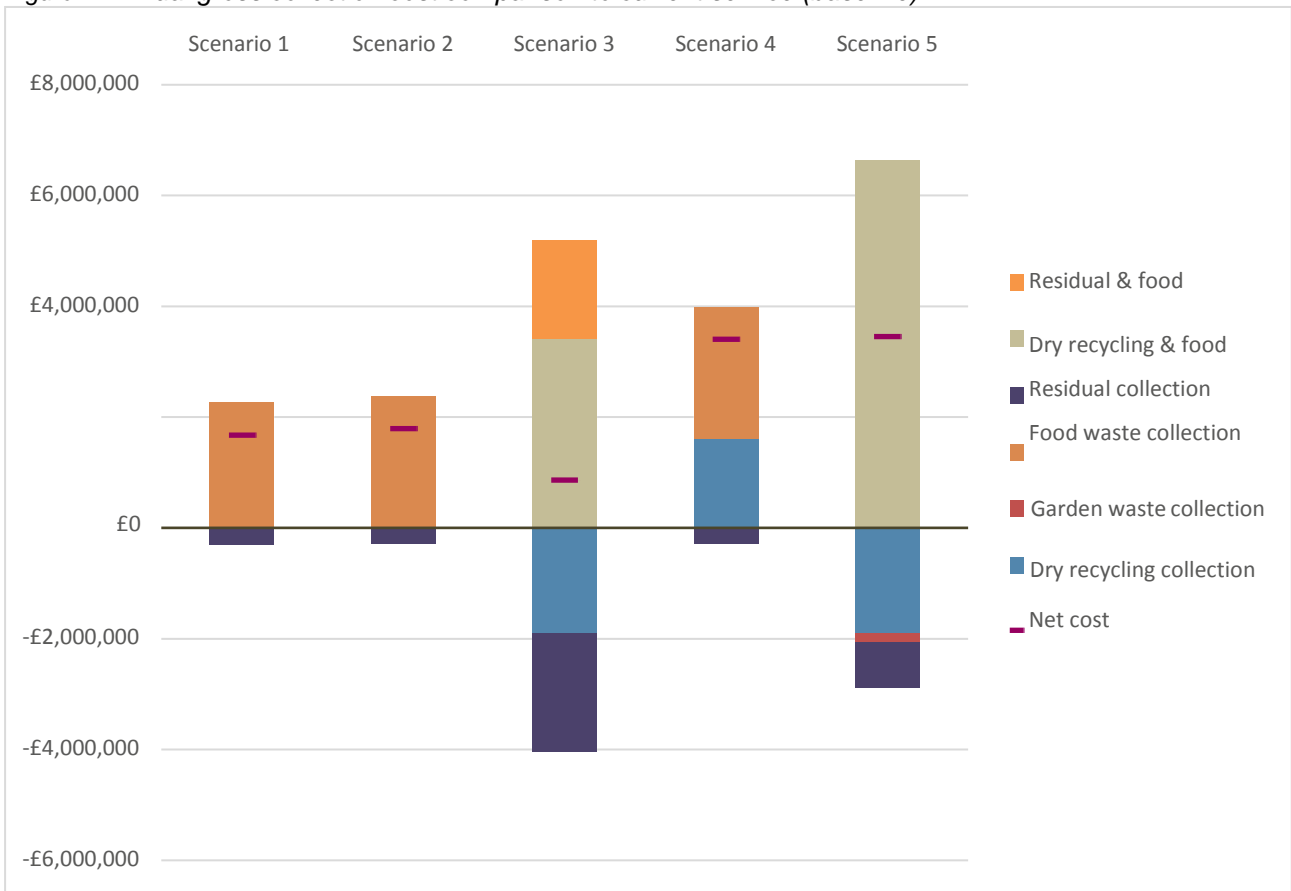
<sup>52</sup> Note that kerbside recycling rate will differ from local authority recycling rate, which will be influenced by other waste collected and recycled / disposed by the local authority

Figure 1: Tonnes collected and kerbside recycling rate



### Annual gross collection cost comparison to current service

Figure 2: Annual gross collection cost comparison to current service (baseline)



Please note, that in Scenario 3 food waste is collected on an RCV with a pod, and in scenario 5, food waste is collected in a dedicated compartment of a sideloading kerbsider vehicle. Therefore, the cost of food waste collection cannot directly be extracted from the costings as the tonnage is split proportionality.

## Cost of change (additional CAPEX)

Operating cost savings are shown in the annualised KAT model results however no account has been taken of the residual value of any redundant vehicles. We have only accounted for the cost of new containers and vehicles not previously used in the Council. Any movement of bins or vehicles between different collection types has also not been accounted for.

Table 56: Additional CAPEX required to operate the service for scenarios 1-5<sup>53</sup>

Scenario 1	No. additional vehicles	Vehicle type	Cost per vehicle	Total cost (vehicles)	No. additional containers	Container type	Cost per container	Total cost (containers)	Total additional CAPEX cost
Dry	0	n/a	n/a	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	<b>£1,522,336.83</b>
Garden waste	0	n/a	n/a	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	
Food waste	20	Dedicated food	£60,000	<b>£1,200,000</b>	77299	Kitchen caddy	£4.17	<b>£322,336.83</b>	
Residual	0	n/a	£0.00	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	

Scenario 2	No. additional vehicles	Vehicle type	Cost per vehicle	Total cost (vehicles)	No. additional containers	Container type	Cost per container	Total cost (containers)	Total additional CAPEX cost
Dry	0	n/a	n/a	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	<b>£2,977,583.78</b>
Garden waste	0	n/a	n/a	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	
Food waste	21	Dedicated food	£60,000	<b>£1,260,000</b>	77299	Kitchen caddy	£4.17	<b>£322,336.83</b>	
Residual	0	n/a	£0.00	<b>£0.00</b>	77299	180l bin	£18.05	<b>£1,395,246.95</b>	

<sup>53</sup> Note that this includes the Capex for new vehicles and containers only. It does not include any other costs associated with a change of service, for example take back of redundant containers, procurement, communications, enforcement or other infrastructure requirements such as additional depot space. However if the overall costs of the service have increased, the annualised costs will have more overheads included within them (as this is a percentage applied on top of the total annual service costs), which may account for some of these elements.

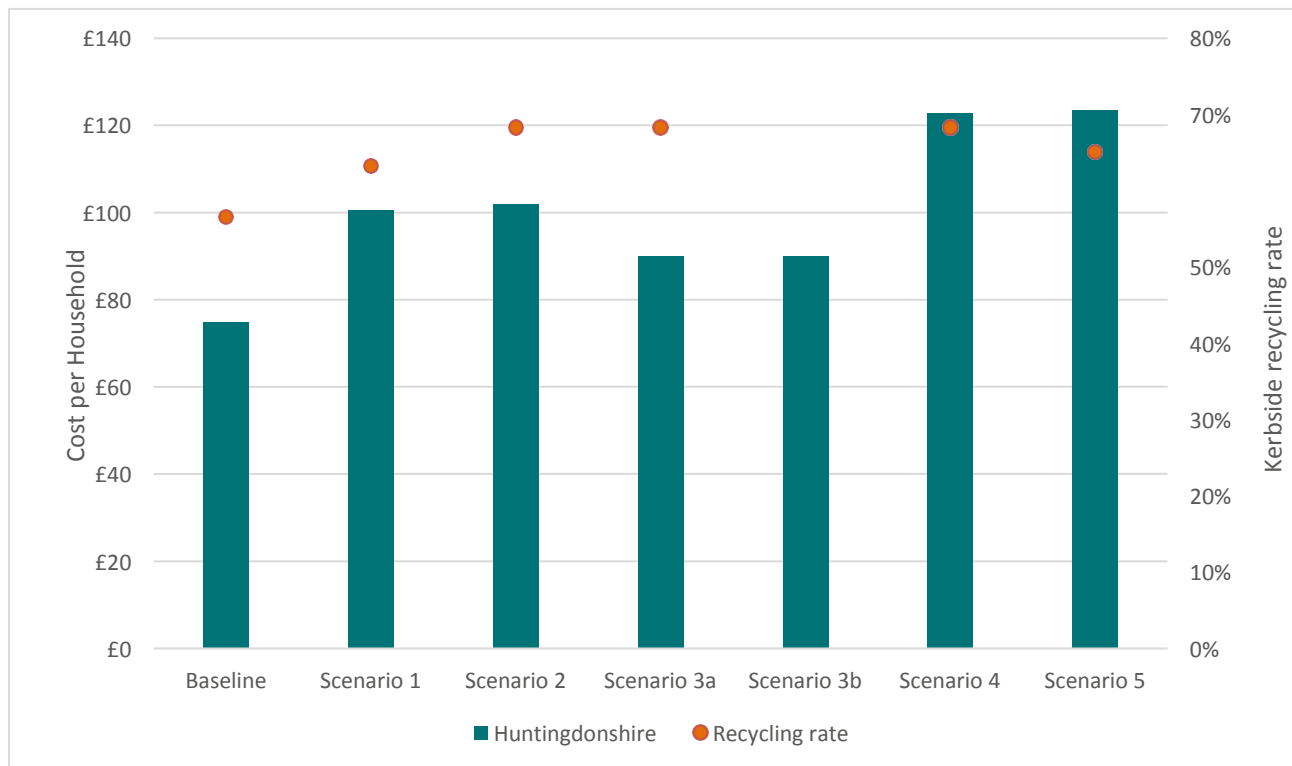
Scenario 3	No. additional vehicles	Vehicle type	Cost per vehicle	Total cost (vehicles)	No. additional containers	Container type	Cost per container	Total cost (containers)	Total additional CAPEX cost
Dry	10	REL + pod	£215,000	<b>£2,150,000</b>	77299	180l bin	£18.05	<b>£1,395,246.95</b>	<b>£3,867,583.78</b>
Garden waste	0	n/a	n/a	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	
Food waste	0	n/a	n/a	<b>£0.00</b>	77299	Kitchen caddy	£4.17	<b>£322,336.83</b>	
Residual	0	n/a	£0.00	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	

Scenario 4	No. additional vehicles	Vehicle type	Cost per vehicle	Total cost (vehicles)	No. additional containers	Container type	Cost per container	Total cost (containers)	Total additional CAPEX cost
Dry	12	REL 65/35%	£250,000.00	<b>£3,000,000</b>	77299	180l bin	£18.05	<b>£1,395,246.95</b>	<b>£7,372,830.73</b>
Garden waste	0	n/a	n/a	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	
Food waste	21	Dedicated food	£60,000	<b>£1,260,000</b>	77299	Kitchen caddy	£4.17	<b>£322,336.83</b>	
Residual	0	n/a	£0.00	<b>£0.00</b>	77299	180l bin	£18.05	<b>£1,395,246.95</b>	

Scenario 5	No. additional vehicles	Vehicle type	Cost per vehicle	Total cost (vehicles)	No. additional containers	Container type	Cost per container	Total cost (containers)	Total additional CAPEX cost
Dry	34	Sideloadng	£150,000.00	<b>£5,100,000</b>	231897	50l (x3)	£2.98	<b>£691,053.06</b>	<b>£6,113,389.89</b>
Garden waste	0	n/a	£0.00	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	
Food waste	0	n/a	n/a	<b>£0.00</b>	77299	Kitchen caddy	£4.17	<b>£322,336.83</b>	
Residual	0	n/a	£0.00	<b>£0.00</b>	0	n/a	n/a	<b>£0.00</b>	

## Collection cost per household vs recycling performance

Figure 3: Collection cost per household vs recycling performance





## Quantitative assessment

Table 57: Quantitative scored assessment of scenarios 1-5 based on a 50:50 weighting of cost (annual) and tonnes recycled

<u>Huntingdonshire</u>				Separate food (weekly)	Separate food plus restricted residual (180l fortnightly)	Two stream (fibres separate), 3W rolling basis with residual, separate food & free garden	Two stream (fibres separate), separate food, garden 'as is', restricted residual (180l fortnightly)	Kerbside sort (including food) plus monthly residual and charged garden	
Category	Weighting	Considerations	Guide	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
<i>Financial</i>	50%	<i>Annual cost</i>	Annual cost in addition to Baseline. Score as deviation from the baseline.	£0	£1,977,456	£2,089,856	£1,164,431	£3,704,491	£3,754,572
				<b>10.0</b>	<b>4.7</b>	<b>4.4</b>	<b>6.9</b>	<b>0.1</b>	<b>0.0</b>
<i>Recycling performance</i>	50%	Tonnes recycled per annum	Tonnes recycled (dry recycling, food and garden excluding contamination) in addition to baseline	0	4107	7172	7174	7172	1794
				<b>0.0</b>	<b>5.7</b>	<b>10.0</b>	<b>10.0</b>	<b>10.0</b>	<b>2.5</b>
<b>Total score unweighted</b>				<b>10.0</b>	<b>10.5</b>	<b>14.4</b>	<b>16.9</b>	<b>10.1</b>	<b>2.5</b>
<b>Weighted score</b>				<b>5.0</b>	<b>5.2</b>	<b>7.2</b>	<b>8.4</b>	<b>5.1</b>	<b>1.3</b>
<b>Rank</b>				5	3	2	1	4	6

## RAG (Red, Amber, Green) assessment

	Meets 1 or less of the requirements set out within the National Resources and Waste Strategy
	Meets less than half of the requirements set out within the National Resources and Waste Strategy
	Meets at least half of the requirements set out within the National Resources and Waste Strategy
	Meets the majority of the requirements set out within the National Resources and Waste Strategy

Table 58: RAG assessment of the scenarios compared to the requirements within the national Resources and Waste Strategy

<i>Resources and Waste Strategy proposal</i>	<b>Baseline</b>	<b>Scenario 1</b>	<b>Scenario 2</b>	<b>Scenario 3</b>	<b>Scenario 4</b>	<b>Scenario 5</b>
<b>Collection of a core set of materials</b>	PTT and cartons are collected at the kerbside					
<b>Effective collection system to preserve material quality</b>	All materials collected co-mingled. Risk associated with collecting glass with fibres (paper and card)	All materials collected co-mingled. Risk associated with collecting glass with fibres (paper and card)	All materials collected co-mingled. Risk associated with collecting glass with fibres (paper and card)	Fibres (paper and card) collected separately to glass and other containers (metals and plastics)	Fibres (paper and card) collected separately to glass and other containers (metals and plastics)	All materials collected separately
<b>Weekly separate food waste collection</b>	No but could be added to the service profile as a separate collection at additional cost	Yes				

Free garden waste collection to all households with a garden	Yes to all households with a garden	Charged garden waste service
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## Key assumptions

### Garden waste

The following assumption was applied in order to calculate the potential tonnage that could be collected through a charged garden collection scheme. The number of subscribers is based on benchmarking/rurality and that approximately 65% of the 'free tonnage' would be collected through the free garden waste service. Of the remaining 35% tonnage (not collected) we assume 15% is diverted into the residual collection and of the remaining 85%, 50% lost within the system to home composting, 35% to HWRC green waste composting.

Assume 50% take up of service, tonnage as follow:		Huntingdonshire
Free tonnage collected as garden	65%	<b>11481</b>
<i>15% of the difference in tonnage (35%) moves to residual</i>	15%	927
<i>85% of the difference in tonnage is lost (i.e. homecomposting, HWRC)</i>	85%	5255

## WRAP ready reckoner

The model uses the percentage of households in Social Groups D and E in a local authority area (derived from the 2011 Census) as a measure of deprivation and applies it to the following formulas:

- For areas with fortnightly residual waste collection (i.e. alternate weekly collection): = 2.1614 – (% Social Groups D and E  $\square$  2.2009)  $\pm$  0.40 kg/hh/week

<i>WRAP ready reckoner</i>	<b>kg/hh/week</b>
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<b>LA</b>	<b>Social Grade D &amp; E 2011 (%)</b>			<b>Medium</b>	<b>High</b>	<b>Low</b>
Huntingdonshire	19.3%	2.1614	0.424773 7	1.73663	2.1366263	1.3366 3

	<b>Number of households</b>	<b>Tonnage/year</b>			<b>Medium - High</b>
		<b>Medium</b>	<b>High</b>	<b>Low</b>	
Huntingdonshire	77,299	6980	8588	5373	7784

## KAT outputs

### Type of Collection

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Scenario Name	Baseline	Separate food waste	Restricted residual	3 weekly	2 stream, restricted residual	Kerbside sort	Vehicle capacity sensitivity	Vehicle utilisation sensitivity
Dry recycling	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Co-collected dry recyclables and compost	Co-collected 2 dry recyclable streams	Kerbside sorted (more than 2 streams)	Kerbside sorted (more than 2 streams)	Kerbside sorted (more than 2 streams)
Garden waste	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream
Food waste	select from list	Kerbside co-mingled or single stream	Kerbside co-mingled or single stream	Co-collected dry recyclables and compost	Kerbside co-mingled or single stream	select from list	select from list	select from list
Dry recycling	select from list	select from list	select from list	Kerbside co-mingled or single stream	select from list	select from list	select from list	select from list
Refuse	Refuse collection	Refuse collection	Refuse collection	Refuse collection	Refuse collection	Refuse collection	Refuse collection	Refuse collection

### Collection Frequency

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	every fortnight	every fortnight	every fortnight	every 3 weeks	every fortnight	once a week	once a week	once a week
Garden waste	every fortnight	every fortnight	every fortnight	every fortnight	every fortnight	every fortnight	every fortnight	every fortnight
Food waste	select from list	once a week	once a week	every 3 weeks	once a week	select from list	select from list	select from list

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	select from list	select from list	select from list	once a week	select from list	select from list	select from list	select from list
Refuse	every fortnight	every fortnight	every fortnight	every 3 weeks	every fortnight	monthly	monthly	monthly

### Collection Vehicle

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	RCV, 20m3	RCV, 20m3	RCV, 20m3	REL + front pod 75%/25% 22m3 total	REL 65%/35% , 21 m3 total	side loading, lift, 21m3	side loading, lift, 28m3	side loading, lift, 21m3
Garden waste	RCV, 20m3	RCV, 20m3	RCV, 20m3	RCV, 20m3	RCV, 20m3	RCV, 20m3	RCV, 20m3	RCV, 20m3
Food waste	select from list	Dedicated food 7.5T GVW	Dedicated food 7.5T GVW	REL + front pod 75%/25% 22m3 total	Dedicated food 7.5T GVW	select from list	select from list	select from list
Dry recycling	select from list	select from list	select from list	Dedicated food 7.5T GVW	select from list	select from list	select from list	select from list
Refuse	RCV, 20m3	RCV, 20m3	RCV, 20m3	RCV, 18m3	RCV, 20m3	RCV, 20m3	RCV, 20m3	RCV, 20m3

### Collection crew size including driver

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	3	3	3	4	3	3	3	3
Garden waste	3	3	3	3	3	3	3	3
Food waste	#DIV/0!	2	2	4	2	#DIV/0!	#DIV/0!	#DIV/0!
Dry recycling	#DIV/0!	#DIV/0!	#DIV/0!	2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Refuse	3	3	3	4	3	3	3	3

### Number of households served

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	77,299	77,299	77,299	77,299	77,299	77,299	77,299	77,299
Garden waste	68,368	68,368	68,368	68,368	68,368	77,299	77,299	77,299
Food waste	0	77,299	77,299	77,299	77,299	0	0	0

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	0	0	0	77,299	0	0	0	0
Refuse	77,299	77,299	77,299	77,299	77,299	77,299	77,299	77,299

### Percentage set out

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	75%	75%	75%	75%	75%	75%	75%	75%
Garden waste	75%	75%	75%	75%	75%	40%	40%	40%
Food waste	select from list	45%	55%	75%	55%	55%	55%	55%
Dry recycling	select from list	select from list	select from list	55%	select from list	select from list	select from list	select from list
Refuse	80%	80%	85%	90%	85%	90%	90%	90%

### Percentage set out (2nd stream)

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	select from list	select from list	select from list	55%	75%	75%	75%	75%
Garden waste	select from list	select from list	select from list	select from list	select from list	select from list	select from list	select from list
Food waste	select from list	select from list	select from list	55%	select from list	select from list	select from list	select from list
Dry recycling	select from list	select from list	select from list	select from list	select from list	select from list	select from list	select from list

### Average Participation

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	85%	85%	87%	87%	87%	87%	87%	87%
Garden waste	82%	82%	82%	82%	82%	44%	44%	44%
Food waste	100%	55%	65%	87%	65%	65%	65%	65%
Dry recycling	100%	100%	100%	65%	100%	100%	100%	100%

### Average Capture

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	75%	75%	80%	50%	80%	76%	76%	76%
Garden waste	114%	256%	256%	256%	256%	273%	273%	273%
Food waste	100%	73%	80%	48%	80%	0%	0%	0%
Dry recycling	100%	100%	100%	27%	100%	100%	100%	100%

### Tonnes collected excluding contamination

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	15,921	15,921	17,379	11,855	17,379	25,163	25,163	25,163
Garden waste	18,929	17,663	17,663	17,663	17,663	11,481	11,481	11,481
Food waste	0	5,373	6,980	10,179	6,980	0	0	0
Dry recycling	0	0	0	2,327	0	0	0	0
Refuse	24,506	20,186	16,914	17,668	17,670	18,666	18,666	18,666
Dry recycling	0	0	0	0	0	0	0	0
Garden waste	0	0	0	0	0	0	0	0
Food waste	0	0	0	0	0	0	0	0
Dry recycling	0	0	0	0	0	0	0	0

### Tonnes of contamination collected

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	1,385	1,385	1,512	531	756	503	503	503
Garden waste	833	777	777	777	777	505	505	505
Food waste	0	269	349	458	349	0	0	0
Dry recycling	0	0	0	116	0	0	0	0

### Utilisation of each

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling (small)	N/A	N/A	N/A	74%	95%	N/A	N/A	N/A



### Compartment in 2 stream

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling (large)	N/A	N/A	N/A	100%	100%	N/A	N/A	N/A
Garden waste (small)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Garden waste (large)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Food waste (small)	N/A	N/A	N/A	39%	N/A	N/A	N/A	N/A
Food waste (large)	N/A	N/A	N/A	100%	N/A	N/A	N/A	N/A
Dry recycling (small)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dry recycling (large)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

### Tonnes of biodegradable material collected

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	8,727	8,727	9,528	11,855	9,528	17,311	17,311	17,311
Garden waste	18,929	17,663	17,663	17,663	17,663	11,481	11,481	11,481
Food waste	0	5,373	6,980	2,327	6,980	0	0	0
Dry recycling	0	0	0	2,327	0	0	0	0

### Number of collection vehicles required

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	7.9	7.9	7.9	4.7	11.7	33.2	33.2	34.9
Garden waste	7.5	7.5	7.5	7.5	7.5	6.8	6.8	6.8
Food waste	0.0	19.7	20.6	4.8	20.6	0.0	0.0	0.0
Dry recycling	0.0	0.0	0.0	20.6	0.0	0.0	0.0	0.0
Refuse	8.3	7.4	7.1	5.8	7.1	4.1	4.1	4.1

### Collection limited by weight or volume

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	volume	volume	volume	weight	volume	volume	volume	volume

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Garden waste	volume	volume	volume	volume	volume	volume	volume	volume
Food waste	volume	weight	weight	volume	weight	volume	volume	volume
Dry recycling	volume	volume	volume	weight	volume	volume	volume	volume
Refuse	weight	weight	weight	weight	weight	weight	weight	weight

#### Number of loads collected per vehicle per day

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	1.4	1.4	1.6	1.1	1.0	1.4	1.0	1.9
Garden waste	1.5	1.4	1.4	1.4	1.4	1.0	1.0	1.0
Food waste	1.0	0.4	0.5	2.0	0.5	0.5	0.5	0.5
Dry recycling	1.0	1.0	1.0	0.2	1.0	1.0	1.0	1.0
Refuse	1.1	1.0	0.9	1.2	0.9	1.7	1.7	1.7

#### Number of households passed per vehicle per day

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	980	980	980	1,101	660	465	465	443
Garden waste	916	916	916	916	916	1,129	1,129	1,129
Food waste	0	785	751	1,063	751	0	0	0
Dry recycling	0	0	0	751	0	0	0	0
Refuse	932	1,045	1,085	889	1,085	889	889	889

#### Number of households collected from per vehicle per day

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	735	735	735	825	495	349	349	332
Garden waste	687	687	687	687	687	451	451	451
Food waste	0	353	413	798	413	0	0	0
Dry recycling	0	0	0	413	0	0	0	0
Refuse	746	836	922	800	922	800	800	800

#### Pass rate

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	203	203	203	236	141	103	103	98
Garden waste	183	183	183	183	183	226	226	226





### Total capital cost of vehicles

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	£1,568,720	£1,568,720	£1,568,720	£1,075,000	£3,000,000	£5,100,000	£5,440,000	£5,250,000
Garden waste	£1,568,720	£1,568,720	£1,568,720	£1,568,720	£1,568,720	£1,372,630	£1,372,630	£1,372,630
Food waste	£0	£1,200,000	£1,260,000	£1,075,000	£1,260,000	£0	£0	£0
Dry recycling	£0	£0	£0	£0	£0	£0	£0	£0
Refuse	£1,764,810	£1,568,720	£1,568,720	£1,176,540	£1,568,720	£980,450	£980,450	£980,450

### Annual vehicle operating costs

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	£1,081,597	£1,081,597	£1,081,597	£965,890	£1,955,243	£4,173,125	£4,173,125	£4,289,764
Garden waste	£986,863	£986,863	£986,863	£986,863	£986,863	£876,996	£876,996	£876,996
Food waste	£0	£1,511,822	£1,584,659	£962,559	£1,584,659	£0	£0	£0
Dry recycling	£0	£0	£0	£0	£0	£0	£0	£0
Refuse	£1,188,377	£990,559	£999,784	£1,002,135	£999,784	£663,850	£663,850	£663,850

### Annual overheads

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	£324,479	£324,479	£324,479	£289,767	£586,573	£1,251,938	£1,251,938	£1,286,929
Garden waste	£296,059	£296,059	£296,059	£296,059	£296,059	£263,099	£263,099	£263,099
Food waste	£0	£453,546	£475,398	£288,768	£475,398	£0	£0	£0
Dry recycling	£0	£0	£0	£0	£0	£0	£0	£0
Refuse	£356,513	£297,168	£299,935	£300,641	£299,935	£199,155	£199,155	£199,155

### Annual gross collection cost

	Baseline	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5a	Scenario 5b	Scenario 5c
Dry recycling	£1,908,780	£1,908,780	£1,908,780	£1,759,333	£3,518,386	£6,638,083	£6,698,989	£7,319,410











