

Subject:	Food Waste Collection Service Update		
Date of Meeting:	22 June 2021		
Report of:	Executive Director – Economy, Environment & Culture		
Contact Officer:	Name:	Lynsay Cook	Tel: 01273 292448
	Email:	Lynsay.cook@brighton-hove.gov.uk	
Ward(s) affected:	All		

FOR GENERAL RELEASE**1. PURPOSE OF REPORT AND POLICY CONTEXT**

- 1.1 Through the City Environment Modernisation Programme, Cityclean has been working with the Waste & Resources Action Programme (WRAP) and consultants Eunomia on the relative cost and performance of different collections options to help inform the future development of household waste collections in the city, including the introduction of a food waste collection service.
- 1.2 This report provides Members with the outcome of this research and high-level options appraisal, plus an update on associated matters. It is seeking approval to complete a feasibility study and business case on the preferred option, which will be subject to engagement and consultation with residents, trade unions and staff before a report is brought to a future committee for a decision.

2. RECOMMENDATIONS:

- 2.1 That Environment, Transport & Sustainability Committee note the report and options appraisal at Appendix 1.
- 2.2 That Environment, Transport & Sustainability Committee agree that a full feasibility study and business case is developed exploring Option 1b for the future delivery of refuse and recycling services.
- 2.3 That Environment Transport & Sustainability Committee agrees that the feasibility study and business case are consulted on with residents, trade unions and staff before being presented back to a future committee for decision.
- 2.4 That Environment, Transport & Sustainability Committee note the dependent work taking place both locally and nationally, which will be used to inform the feasibility study and business case.

3. CONTEXT/ BACKGROUND INFORMATION

- 3.1 Over the last six months, Cityclean has been working with WRAP and Eunomia on an options appraisal regarding food waste collections across Brighton & Hove. The executive summary is in Appendix 1.

- 3.2 The purpose of the options appraisal was to assess the possible changes to the collection of household waste across the different property types in Brighton & Hove, to provide a high-level analysis of the cost and the operational and performance impacts of each of the options.
- 3.3 The work was completed in two stages: firstly, a high-level assessment of the options available was undertaken to review the relative differences of each option compared with the current baseline. Secondly, variants and sensitivities were tested for the preferred option, to determine how additional changes may impact cost and performance. The baseline model was built to reflect the current operations and closely replicate the costs of the service. This is not 100% accurate and the aim of the modelling is to allow a relative comparison to be made against each of the options modelled. The feasibility study and business case will refine the work completed to date to understand true performance and cost impacts.
- 3.4 Five options were modelled in stage 1:
- Baseline: weekly residual, fortnightly two-stream recycling with separate glass (split-body RCV), no food waste and fortnightly charged garden waste
 - Option 1a: weekly residual, fortnightly two-stream recycling with separate glass (separate vehicles), weekly food waste and fortnightly charged garden waste.
 - Option 1b: fortnightly residual, fortnightly two-stream recycling with separate glass (separate vehicles), weekly food waste and fortnightly charged garden waste
 - Option 1c: fortnightly residual, fortnightly mixed recycling & four-weekly glass two-stream (separate vehicles), weekly food waste and fortnightly charged garden waste
 - Option 2: fortnightly residual, alternate fortnightly mixed recycling and paper & card, four-weekly glass three-stream (separate vehicles), weekly food waste and fortnightly charged garden waste
 - Option 3: fortnightly residual, weekly multi-stream recycling, weekly food waste and fortnightly charged garden waste
- 3.5 It was decided not to include the impact of comingled glass with other materials as this was considered a step backwards and not aligning to the potential changes in legislation as proposed in the government's Resources & Waste Strategy and subsequent Environment Bill.
- 3.6 From the options modelled, a preferred option – option 1b – was selected to be taken forward into stage 2 for further modelling. The following variants and sensitives were modelled in addition to option 1b:
- Free garden waste
 - Separate collection of glass in a 26 tonne Toploader and food waste in a 7.5 tonne Toploader
 - Treatment of food waste through anaerobic digestion (AD)
- 3.7 Option 1b demonstrates that the introduction of food waste, and the reduction of residual collection frequency, when undertaken together, can provide a balanced approach to delivering performance change and maintaining costs.

4. Composition analysis

- 4.1 In September 2020, Cityclean undertook a composition analysis to understand the composition of waste in bins across the city. The results were presented to Environment, Transport & Sustainability Committee on 16 March 2021.
- 4.2 The results showed:
- 37% (2.8kg/hh/wk) of the contents of kerbside residual bins across Brighton & Hove consisted of food and drink waste. Around 60% of food waste was deemed avoidable – 53% of this was packaged.
 - 33.4% of the contents of residual waste from shared bins consisted of food and drink waste. Around 66% of food waste was deemed avoidable – 52% of this was packaged.
 - 31.9% of the contents of residual waste from communal bins consisted of food and drink waste. Around 60% of food waste was deemed avoidable – 56% of this was packaged.
 - 8% of kerbside residual waste consisted of garden vegetation. This compares with less than 3% for shared bins and 10.7% for communal bins.
- 4.3 These volumes were used to inform the modelling within the options appraisal and demonstrate the potential opportunities for 1) minimising food waste and 2) processing food waste in a different way.

5. Option 1b

- 5.1 For kerbside collections, Option 1b provides:
- Fortnightly residual collections (a change from weekly)
 - Fortnightly two-stream with separate glass (as per current arrangements)
 - Weekly food waste (new collection service)
 - Fortnightly charged garden waste (as per current arrangements)
- 5.2 For communal areas, collection arrangements will remain as they are, with the inclusion of a food waste service.
- 5.3 The Eunomia report recommends that any move to introduce separate collection of food waste should be alongside a reduction in kerbside residual collection frequency. This would maximise both the capture of food waste and recycling and minimise service delivery costs.
- 5.4 It should be noted that, the information in the following sections on performance and costs are modelled options to allow a relative comparison to a modelled baseline. The feasibility study and business case will refine the work completed to date to understand true performance and cost impacts.

6. Performance impact of Option 1b

- 6.1 The introduction of a food waste collection service will increase the kerbside recycling rate by 17% taking the overall recycling rate up to 41%¹. This is due to

¹ This is calculated based on material collected at the kerbside only and therefore does not correlate to the published ex-NI192 recycling rate.

the change in collection frequencies of residual waste and the introduction of a separate food waste collection service. For the communal service, there will be a 5.9% increase in the recycling rate.

- 6.2 From the modelled data, the introduction of a food waste collection service is projected to have the following impact on waste performance:

Kerbside	Current tonnage	Projected tonnage	Projected percentage change
Food waste	0	5,523	N/A
Garden waste	2,349	2,349	No change
Glass	2,883	3,716	+28.9%
Dry mixed recycling	7,657	9,750	+27.3%
Residual	40,310	30,551	-24.2%
Input contamination	1,001	1,279	+27.7%
Indicative recycling rate	24.0%	41.1%	+17.1 percentage points

Communal	Current tonnage	Projected tonnage	Projected percentage change
Food waste	0	1,396	N/A
Glass	1,288	1,288	No change
Dry mixed recycling	3,128	3,128	No change
Residual	18,490	17,094	-7.5%
Input contamination	696	696	N/A
Indicative recycling rate	18.7%	24.6%	+5.9 percentage points

7. Cost impact of Option 1b

- 7.1 Changing from weekly to fortnightly residual waste collections allows the projected net cost of introducing a separate kerbside food waste collection to be fully offset:

Kerbside	Current cost ²	Projected cost ³	Projected cost change
Residual treatment	£5.102m	£3.867m	-£1.235m
Recycling treatment	£1.285m	£2.147m	£0.862m
Container replacement	£0.148m	£0.164m	£0.016m
Staff	£2.550m	£3.001m	£0.450m
Vehicles	£1.401m	£1.281m	-£0.120m
Income from garden waste	-£0.418m	-£0.418m	£0.000m
Totals	£10.069m	£10.042m	-£0.027m

² Recycling treatment includes dry mixed recycling and garden. Container replacement, staff and vehicles includes residual, dry recycling and garden

³ Recycling treatment includes dry mixed recycling, garden and food. Container replacement, staff and vehicles includes residual, dry recycling, garden and food

- 7.2 Option 1a, which retained weekly residual collections, shows an increased cost of £1.000m per annum.
- 7.3 There is limited scope to change the current communal service in order to offset the net costs of introducing a food waste service. The feasibility study and business case will consider whether the service can be remodelled to take account of the changes in volumes of waste in communal refuse bins. Furthermore, through projects within the Modernisation Programme, other activities are being delivered to address communal recycling performance, which may impact on some of the projections in the table below:

Communal	Current cost ⁴	Projected cost ⁵	Projected cost change
Residual treatment	£2.340m	£2.164m	-£0.177m
Recycling treatment	£0.422m	£0.568m	£0.145m
Container replacement	£0.229m	£0.230m	£0.001m
Staff	£0.647m	£0.858m	£0.211m
Vehicles	£0.458m	£0.543m	£0.085m
Totals	£4.097m	£4.363m	£0.265m

- 7.4 The container replacement costs include the estimated costs for the provision of replacement food waste bins and caddies, based on current acceptable replacement rates for kerbside properties. It does not include the start-up costs of providing every kerbside household with a bin and caddy, nor communal food bin costs, nor the provision of a caddy to each household in the communal bin area. This is detailed in the table in 7.6 below.
- 7.5 In the consultation on consistency of collections (see section 12), the government propose that the provision of caddy liners should be promoted as good practice. The cost of caddy liners is not included in the table above and would need to be costed if Brighton & Hove decided to provide the liners, to encourage take up.
- 7.6 The costs set out above incorporate an annualised cost for vehicles and container replacement. Upfront capital costs are modelled to be:

	Capital kerbside cost	Capital communal cost
18 tonne RCV	£0.800m	£0.000m
7.5 tonne food vehicle	£0.500m	£0.260m
RRV	£0.000m	£0.000m
26t RCV	£0.180m	£0.000m
Food caddies / containers	£0.564m	TBC
Total	£2.044m	£0.260m + container costs

⁴ Recycling treatment includes dry mixed recycling only. Container replacement, staff and vehicles includes residual and dry recycling

⁵ Recycling treatment includes dry mixed recycling and food. Container replacement, staff and vehicles includes residual, dry recycling and food

7.7 For Option 1b, it is assumed that the 26 tonne RCVs currently used to deliver the residual collections can transfer to collect dry recycling.

8. Vehicle impact of Option 1b

8.1 There will be an impact on the number of vehicles required to provide kerbside refuse and recycling services:

Kerbside	Current number of vehicles	Projected number of vehicles
Residual	13.4	7.1
Dry recycling	8.3	6.8
Glass		5.1
Garden	3.0	3.0
Food	0.0	7.8
Totals	24.7	29.4

8.2 Overall, there will be an increase. The need for separate vehicles for food waste and glass collections is partially offset by the reduction in the number of vehicles required for residual collections, due to the change in frequency of collections.

8.3 There will also be an increase in the number of vehicles required for the communal service:

Communal	Current number of vehicles	Projected number of vehicles
Residual	3.0	3.0
Dry recycling	4.0	4.0
Glass	2.0	2.0
Food	0.0	3.0
Totals	9.0	12.0

8.4 Due to the limited options available to change the frequency of residual communal collections, Option 1b is projected to still require three residual vehicles. To obtain some efficiencies from the introduction of food waste, the feasibility study and business case will consider whether the service can be remodelled to take account of the changes in volumes of waste in communal refuse bins.

8.5 Please note, the modelling provides vehicle requirements as non-integer numbers. This allows for the potential available capacity on vehicles to be assessed, for example 6.8 dry recycling vehicles would suggest 0.8 of a vehicle is likely only to be used 4 days out of 5. The assessment of capital costs rounds up the vehicle requirements (i.e. as integers) to provide an assessment of the full costs to purchase vehicles. More work will be completed as part of the feasibility study to determine the stand-by vehicle requirements in the event of breakdowns, for example.

9. Carbon impact of Option 1b

9.1 Option 1b projects a 3000-tonne reduction in CO₂ emissions per annum for kerbside collections and a 41-tonne reduction for communal. These will be realised through a reduction in the amount of residual waste requiring treatment via the energy recovery process and an increase in dry recycling. The change for communal is minor in comparison to kerbside due to the limited scope of change

from the baseline position and the need for additional collection vehicles for communal food waste, which comes with associated higher transport emissions. The projected figures do account for reductions in CO₂ emissions as the fleet moves from diesel to electric.

9.2 It should be noted that the Energy Recovery Facility has enabled the council to make a massive shift away from landfill and this has made a huge contribution to reducing greenhouse gas emissions. In 2019/20, 2.5% of waste from Brighton & Hove was sent to landfill. The provisional result for 2020/21 suggests even less waste has been sent to landfill (Cityclean is awaiting the official publication of 2020/21 data). Increasing recycling will build on this since it also replaces the need for carbon intensive extraction and refining of raw materials.

10. Variant: free garden waste

10.1 As part of the National Waste & Resources Strategy, the government is currently consulting on changes to garden waste collections.

10.2 At the time the options appraisal was completed, it was expected the consultation would propose free garden waste collections. Therefore, the modelling reflected this and projects that a free garden waste service, for households with gardens, will increase recycling rates to 45% for option 1b.

	Recycling rate ⁶
Baseline	24%
Option 1b (<i>paid for garden waste; food waste, fortnightly residual</i>)	41%
Option 1b with sensitivity (<i>free garden waste; food waste, fortnightly residual</i>)	45%

10.3 It will also result in an overall net service cost increase of approximately £1.000m from additional collection vehicles and the cost of treatment, as well as a loss in income from garden waste subscriptions.

10.4 The consultation now contains other proposals in relation to garden waste, including:

- introducing a free fortnightly garden waste collection throughout the growing season (with the duration of the growing season to be defined in further guidance)
- providing updated guidance on reasonable charges for garden waste
- supporting the increased take up of home composting

10.5 In taking this work forward, the appropriate modelling will take place to understand the impact of changes to garden waste services, when the outcome is known.

11. Variant: separate collection of glass in a 26 tonne Toploader and food waste in a 7.5 tonne Toploader

⁶ Kerbside properties only

11.1 The stage 2 modelling found that the use of a Toploader to collect glass and food waste had minimal impact overall on the resource requirements and cost for the service, when compared with option 1b.

11.2 Further work will take place to determine the appropriate vehicle type in line with section 14 below.

12. Variant: treatment of food waste through anaerobic digestion

12.1 Treating food waste through AD has emerged as a preferred treatment option for food waste as it is typically lower cost option than In-Vessel Composting (IVC). However, without a local AD plant, any savings to be made through a different treatment method need to be offset against the travel to an AD plant.

12.2 As part of the full feasibility study and business case, Cityclean will work with Veolia to explore whether it is cost-effective to utilise a third-party AD alongside the existing IVC facility. Conversations have also started with BHECSO (the Brighton & Hove Energy Services Co-operative) to explore options for the future.

13. National Waste & Resources Strategy

13.1 On 7 May 2021, the government published the second consultation seeking views on consistency in household and business recycling in England. The proposals in the consultation document will have a fundamental impact on City Environment service delivery, particularly in relation to food waste, foil, cartons, film and Pots, Tubs & Trays (PTT) collections.

13.2 The table in Appendix 2 indicates the change to service delivery in Brighton & Hove, should the proposals become law. The inclusion of one or more of the additional materials in the recycling stream, including food waste, will require significant reconfiguration of rounds as a result of the different materials being placed in a recycling bin or box, rather than a refuse bin.

13.3 The consultation also proposes that some dry recyclable materials are collected separately from each other. This presents a divergence from the preferred 1b model. Therefore, once the outcomes of the consultations are known, there may be a requirement for Brighton & Hove to complete a Technically, Environmentally or Economically Practicable (TEEP) Assessment to explain why it is not practical to collect the materials separately.

13.4 The consultation also addresses the frequency of residual collections. As the quantity of materials collected for recycling increases, the government expects the amount of residual waste to decrease. Reductions in the amount of residual waste mean that many local authorities now provide alternate weekly collections of residual waste, with a small number of councils providing collections of residual waste once every three weeks.

13.5 The government, therefore, is proposing to mandate a weekly separate food waste collection and will consider whether a recommended minimum service standard of alternate weekly collection for residual waste (alongside weekly food waste collection) might be appropriate.

- 13.6 The government recognises that these new duties will impose additional costs on local government, and it will follow the [new burdens guidance](#) to ensure the costs of new statutory duties for local authorities are covered. It is not clear what costs will be paid to Brighton & Hove, nor whether it will cover any contractual compensation payments needed, nor compensating for any income lost due to changes to the materials recycled, their quality and/or their end markets.
- 13.7 The government has also recently consulted on the introduction of a [Deposit Return Scheme](#) and on [Extended Producer Responsibility](#) (EPR). Again, both of these will impact on the volumes and types of waste to be collected across the city. The proposals contained within EPR may potentially cover some of the costs of dealing with packaging, detailed in 13.5. The outcomes of these are required in order to plan the collection service accordingly.

14. Dependencies in the City Environment Modernisation Programme

- 14.1 The decision to introduce a food waste collection service cannot be taken in isolation. In addition to the significant proposals contained within the National Waste & Resources Strategy, a number of projects within the Modernisation Programme are impacting the way waste collections services are being delivered, and therefore need to be considered before a food waste service can be delivered. Phasing and timing the dependent changes are crucial and requires significant planning.
- 14.2 A feasibility study is being completed to determine the costs to retrofit the Materials Recovery Facility to collect Pots, Tubs & Trays (PTT) in order for it to be collected as dry recycling. This will assist in changing the frequency of residual waste collections as by allowing PTT to be placed in recycling bins and boxes, capacity will be created to assist to fortnightly residual collections. PTT is included as a core material in the consistency consultation and so all these streams need to be considered together.
- 14.3 A review of rounds will shortly commence to restructure collections to incorporate a range of potential changes to collection methods, materials and schedules, as well as ensure a fairer distribution of work. This will lead to a series of options and recommendations for the optimum efficient collection of refuse and recycling. Decisions from other Modernisation Programme projects will impact this work and in turn, the implementation of the changes.
- 14.4 A significant amount of work has already taken place to improve the communal bin system as reported to previous committee meetings. The type, number and placement of communal bins will impact on the number and type of vehicles required to empty them and therefore forms a significant part of the project described in 14.3. Furthermore, this project will also consider how food waste can be incorporated into the communal collection service.
- 14.5 A 10-year Fleet Strategy has been agreed by this Committee and is central to both the Modernisation Programme and the council's ambitions to be carbon neutral by 2030. Changes need to be planned in line with vehicle procurement to ensure the right trucks are available to collect the right material at the point of implementing the changes. The service also needs to ensure it continues to comply with the requirements of the Operator's Licence.

14.6 The complementary work will be considered as the feasibility study and business case are developed.

15. ANALYSIS & CONSIDERATION OF ANY ALTERNATIVE OPTIONS

15.1 Appendix 1 details the options available for collecting food waste across Brighton & Hove. Option 1b was chosen as the preferred options as the analysis demonstrates that this configuration of services can provide a balanced approach to delivering performance change and maintaining costs. In addition, the report recommends that any move to introduce separate collection of food waste should be alongside a reduction in kerbside residual collection frequency, in order to maximise both the capture of food waste and recycling and minimise service delivery costs.

15.2 Through the consistency in household and business recycling in England consultation, the government is seeking views from all stakeholders on waste collection, the outcomes of which will impact the service delivery in Brighton & Hove.

16. COMMUNITY ENGAGEMENT & CONSULTATION

16.1 This report is seeking high-level endorsement for the direction of travel of refuse and recycling services in Brighton & Hove.

16.2 If the recommendations are agreed, a feasibility study and business case will be prepared and consulted on with residents, trade unions and staff, with a report brought to a future committee for decision.

17. CONCLUSION

17.1 This report presents the outcomes of an options appraisal on the relative cost and performance of different collections options for the future household waste collections in the city, including the introduction of a food waste collection service. The information provided is a high-level analysis and further work is needed, subject to the recommendations being agreed, to refine this.

17.2 The report also contains information on dependent pieces of work as a food waste collection service cannot be introduced in isolation from other planned work.

17.3 If the recommendations are agreed, a feasibility study and business case will be prepared and consulted on with residents, trade unions and staff, with a report brought to a future committee for decision.

18. FINANCIAL & OTHER IMPLICATIONS:

Financial implications:

18.1 This report sets out a high-level analysis of the preferred option - Option 1b of implementing a food waste collection service. Outcomes from the Government's national Resources and Waste Strategy may impact the service for any new

duties imposed, though new burdens funding would be required to ensure costs of statutory duties are covered. By developing a full feasibility and business case for Option 1b, the financial impact of implementation will be recognised and brought to a future committee for a decision.

- 18.2 Costs associated with developing a full feasibility and business case will be contained within existing City Clean Budgets

Finance Officer Consulted: John Lack

Date: 09/06/2021

Legal implications:

- 18.3 There are no direct legal implications arising from the report's recommendations.

Lawyer Consulted: Hilary Woodward

Date: 27/05/2021

Equalities implications:

- 18.4 Assisted Collections for food waste will be included when planning the new service and changes to collections.

Sustainability implications:

- 18.5 These are detailed in the main body of the report.

SUPPORTING DOCUMENTATION

Appendices:

1. Options appraisal: relative cost and performance of different collections options
2. Consistency in household recycling: impact on current service delivery

Background Documents

1. City Environment Modernisation Update presented to Environment, Transport & Sustainability Committee on 16 March 2021
1. City Environment Modernisation Update to Environment, Transport & Sustainability Committee on 29 September 2020
2. Fleet Procurement Options to Environment, Transport & Sustainability Committee on 26 November 2019
3. City Environment Modernisation Update to Environment, Transport & Sustainability Committee on 8 October 2019
4. City Environment Modernisation Update to Environment, Transport & Sustainability Committee on 25 June 2019
5. City Environment Modernisation Update to Environment, Transport & Sustainability Committee on 22 January 2019
6. City Environmental Management – Modernisation Programme Update Report to Environment, Transport & Sustainability Committee on 9 October 2018
7. City Environmental Management – Modernisation Programme Update Report to Policy, Resources & Growth Committee on 12 July 2018

