



REPORT TO: Environmental Services Portfolio Holder
LEAD OFFICER: Director Health and Environmental Services

29 August 2017

FUTURE APPROACH TO DRY RECYCLING COLLECTION

Purpose

1. The purpose of this report is to present the future options for recycling in SCDC and promote discussion and feedback before a cabinet discussion and decision in September. This is a key decision because it is significant in terms of its effects on communities in SCDC. It was first published in the August 2017 Forward Plan.

Recommendations

2. It is recommended that the portfolio holder seeks the views of the committee in order to inform a recommendation to Cabinet.

Reasons for Recommendations

3. Two external technical assessments and in-house analysis have narrowed the myriad options of recycling collection regimes in South Cambridgeshire down to two presented here. A comparison of the ongoing costs of operating these options and their respective recycling rates show no significant difference. Given that there are differences in the number vehicles required to run each option a seven year life profile is being prepared. An independent expert has reviewed these assessments.

Background

4. Domestic waste collection in SCDC and Cambridge City is a core activity of the Single Shared Waste Service, and residents achieve a recycling rate of over 50%. At present SCDC policy is to operate a 'paper-out' recycling collection service where residents are encouraged to present paper for collection separately to other materials using caddies. This paper is then sold separately. The recycling service operates using 12 trucks; in October 2017 eight 'split bodied' vehicles are due for renewal – these are the vehicles used for collecting blue bin contents alongside paper on the same round in SCDC. Any replacement vehicles will have a lifetime of 7 years; the specification for the vehicles is determined by the materials they are transporting, effectively fixing the collection service for that period.

The Shared Waste Service is also continually reviewing good practice, industry guidance, safe operating techniques and cost effectiveness, and all of these inform our recommended collection regimes, charges and policies.

This report summarises work undertaken to evaluate the costs and benefits of the different options for dry recycling collections. It draws on external review and our own experience in operating a major domestic recycling service, and puts a case for change to the current collection regime.

Note that the newly operating underground bin scheme in NW Cambridge is excluded from this options appraisal; the site operates using a bespoke vehicle as part of an agreement with the University and will continue to do so.

Considerations

5. Approach taken to assess options:

5.1 Modelling Study - background

The national Waste & Resources Action Programme (WRAP) and Ricardo Environmental were commissioned to assess a number of different service options for our shared waste and recycling services to improve kerbside recycling levels, and compare their comparative costs and performance. The approach compares the options by calculating likely performance, resource levels and comparative costs against the current service using our data, WRAP benchmarking data and agreed operational and financial assumptions. The tool used is not a budget tool – it is a cost comparison tool.

The wide range of initial options included recycling co-mingled, two stream (with paper collected separately), multistream (separate materials, multiple containers), separate food waste and (chargeable) garden waste. Sensitivity modelling was also carried out on separate paper collections relating to paper price/tonne and tonnage.

5.2 Modelling study - outcomes

The outcome concluded that the current service was already a high performing service and that separate food waste collection would significantly increase relative costs, with limited impact on recycling performance. The most cost effective options in terms of cost and recycling performance involved co-mingled and two stream (paper out). The least cost effective were likely to be multistream collections. However,

- Neither of the proposed new options (paper out everywhere; co-mingle everywhere) are likely to result in financial savings compared to the current baseline (paper out in SCDC, co-mingled in CCC).
- None of the three services show significant difference in recycling rates.
- They have no significant difference in new or whole system costs.
- There are no significant savings in moving to a uniform (single) service across the whole area.

Note that this represents a snapshot in time and does not account for future growth.

5.3 Modelling study - sensitivity analysis

For the 'paper out' service to operate across SCDC and CCC the work looked at changes to paper price, paper tonnage and service accessibility within Cambridge City.

- Paper price – The paper market can be highly volatile and fluctuations will have a direct impact on the Net income of the service. This reflects the higher risk profile of the paper out service. The options analysis was based on £106.50/tonne. The value over the past year has ranged from £70/tonne to £120/tonne (it is currently £112/tonne).

- Paper tonnage – paper tonnages have been in long term decline, but paper processors believe this is likely to stabilise and the effects will to a degree be offset by continued demand for high quality paper. A decline in paper tonnage of 5% does not have a substantial impact on Net collection costs.
- Accessibility – The paper out service modelling assumed 100% of Cambridge City properties had access to the service. A reduced access rate as a result of narrow streets will reduce Net income and increase Net collection costs partially offset by reduced fuel (mileage).

5.4 Second stage assessment

The modelling work effectively filtered many options down to a few which were likely to be viable in terms of outcomes, operational viability and financial implications. After discussion with Directors at SCDC and CCC the potential for collecting paper-out across the whole service was discounted; with no expected increase in recycling rate, significant start-up costs for introducing this in the City, a phased introduction to account for vehicle types, and limited ability to operationalise it in flats and some narrow City streets being inaccessible to split body vehicles, it was not supported. It was felt reaching operational agreement to collect side waste, and increasing information to residents on recycling opportunities, may reap more reward in terms of recycling rates.

The two options remaining for second stage assessment were co-mingled collections everywhere, and current policy (comingled in City, paper-out in SCDC).

As it is a broad *comparative* cost tool, a recommendation of the initial modelling work was that a more detailed cost assessment was conducted on any preferred options.

The main determinant of the cost of options is the number of vehicles (requiring capital investment, maintenance and operational costs, and staffing costs); the determinant of the number of vehicles is the number of rounds. These were then modelled by Webaspex, based on data from the current service and including set criteria such as collection days, working day duration, vehicle speed, and variation in vehicle types, and allowances for growth.

In addition assessment of the wider impacts and opportunities of the options (largely qualitative analysis) was needed. This work was undertaken in-house by the Shared Waste Service and Finance using our accounts, knowledge of operational and policy constraints and opportunities, and evidence from residents' surveys. Our findings and reasoning were then discussed with an industry expert to quality assure our process of assessment and challenge our assumptions.

Aspects considered by SSWS included:

- Resident acceptability – ease of use
- Operational impact (flexibility and resilience of a single fleet, use of boxes/caddies)
- Legislative resilience
- Financial implications
- Contractual impact
- Environmental impact (CO₂, waste hierarchy)
- Health & Safety considerations (relating to lifting and handling)
- Materials quality

- Resilience and capacity (planning for growth).

Options

6. Table 1 below details the main differences and implications of each option. Financial comparison is the subject of Table 2.

TABLE 1 – comparison of options		
Aspect considered	Co-mingle all recycling	Paper-out SCDC (current policy)
Modelled diversion from landfill (from Ricardo assessment)	53.8%	53.5%
Resident acceptability	<p>+Feedback from informal discussion with Parishes and individuals has been neutral.</p> <p>+Simplification is often supported by residents, and is easier to communicate.</p>	<p>+Feedback from informal discussion with Parishes and individuals has been neutral.</p> <p>+ In the 2015/16 residents' survey 90% of residents felt the blue bin and caddy service had stayed the same or improved.</p> <p>- Of those residents who expressed dissatisfaction with the waste service, issues with the paper caddy were the second most cited reason (13% raised this).</p> <p>-Typically 3250 caddies are reported lost or damaged each year.</p>
Resident participation	<p>+Easy to use and familiar system (blue bin).</p> <p>+Easy to understand.</p> <p>+Easy to communicate</p> <p>Would need an initial communication 'push' and then ongoing communications activities are business as usual.</p> <p>+Aligns with our RECAP partners' collection regimes in neighbouring authorities.</p>	<p>+This is a known service.</p> <p>-Quantities of paper collected are declining but this may be a reflection of decreased paper use rather than lack of uptake by residents, which is not routinely monitored.</p> <p>-Requires more understanding and involvement from resident and requires additional explanation.</p> <p>Needs a communications 'push' to increase rates and decrease contamination, and then ongoing communications activities as part of business as usual.</p>
Operational impact (staff)	<p>Fewer permanent staff (2 x driver and 4 x loaders compared to paper-out resources needed – we currently have vacancies and turnover of qualified drivers so this will not lead to redundancy).</p> <p>+Co-mingling will simplify the collection process for crew members, especially those who work across the</p>	<p>This option requires more permanent staff (2 x drivers and 4 x loaders) compared to co-mingled option.</p> <p>See also H&S considerations.</p>

	<p>boundary and so operate two different collection regimes.</p> <p>+Co-mingling will slightly increase productivity by increasing number of bins collected as crew members will only have a bin to empty rather than bin and an additional separate caddy.</p> <p>-Some residents may ask for an additional blue bin to take the paper and this will represent extra 'lifts' for crews; this is not anticipated to be a significant proportion as most who use caddies store them inside the existing bin and withdrawing the use of the caddy will free up that space; 10% take-up has been allowed for in financial calculations.</p>	
Operational impact (rounds and vehicles)	<p>+ Fewer vehicles. 11 vehicles needed in total, plus 0.5 spare (shared across waste streams).</p> <p>+For all new 26 tonne vehicles narrower vehicles can be specified (with no loss of capacity) which will make them suitable for use everywhere – increased operational flexibility.</p> <p>+Commingled vehicles have larger capacity will enable larger rounds to be completed without revisiting the tip as often; reduced fuel costs and CO₂.</p> <p>+Ready availability of standard collection vehicles to hire should operational problems arise.</p>	<p>- More vehicles. 13 vehicles needed in total, plus 1 spare (can not be shared across waste streams). Note this is an increase by 1 on current vehicle numbers.</p> <p>- Split-bodied trucks will be required, which do not work across the border due to the difference in collection regime and vehicle size.</p> <p>_smaller capacity vehicles will increase number of visits to the tip; increased fuel costs and CO₂.</p> <p>-Limited ability to hire split body vehicles should operational problems arise.</p>
Operational impact (other)	<p>+Eliminates dealing with 3250 caddy issues per year. Reduced calls and handling by service centres and business support staff as a result.</p> <p>+Simpler contract management for disposal and</p>	See H&S considerations.

	reporting. +Can be operationalised quickly.	
Resilience and capacity	+This option is anticipated to accommodate projected growth until 2021/2. This is based on forecast completions of approximately 18,500 properties. +Vehicles can be used across waste streams and fewer spares and repair issues with fewer vehicle options.	This option requires the purchase of an additional vehicle now to bring the current policy into effect (ie to provide a paper-out service to the 10,000 houses currently temporarily co-mingling their recycling. Cost included in Table 2). -It is estimated that at least one other refuse vehicle will be required in 2019/20 to accommodate growth. This will be dependent on the location of the growth and it is possible another vehicle would be needed in the city at the same time.
Contractual impact	The paper sales contract with Palm Paper would be on the basis of supplying paper from NW Cambridge development (only). This would require a revision to the contract. If this is not supported by Palm Paper or Amey (storage facility) then recycling in NW Cambridge can be converted to co-mingled with support from the University. -A variation would be required for the MRF contract with Amey for the blue bin recycling.	+ A one year extension to the paper sales contract with Palm Paper has been negotiated as planned; this now runs to October 2018.
Environmental impact	+Fewer vehicles required (embodied carbon; lifecycle of materials). +Fewer miles driven as more cross-border efficiency and fewer tips with larger vehicles. The figure can not be calculated until detailed round modelling is undertaken if this option is agreed.	- Additional vehicle required (embodied carbon; lifecycle of materials).
H&S considerations	+All collections are handled in a consistent way in bins or side waste; manual handling risks minimised.	-Continued use of paper caddies is being evaluated as sampling has shown excessive weights being presented. This this is the subject of an ongoing H&S assessment.
Materials quality	-Co-mingling of waste is understood to lead to reduced quality of recyclates, regardless of the ability of the MRF (Materials Recycling Facility) to separate waste.	+The good quality paper supply will be retained.

	<p>- While paper will be separated out, it will not be of such high quality and its end use may not be as beneficial environmentally; there are some concerns over markets for this material as quality standards are being tightened (for example in China).</p>	
--	---	--

7. Financial assessment

Wherever possible this assessment has been based on actual costs from the last financial year, or current purchase costs (for vehicles and bins).

These costs are not exhaustive; that is they do not represent the full costs of the recycling service as they exclude the costs of disposal and income from materials other than the 3200 tonnes of paper collected annually (MRF recycling)

There are many other variables that will affect the finances of the service over the coming years; key costs out of our direct control include waste disposal, recycling and storage costs (contracts will be re-tendered within the lifetime of new vehicles), fuel, paper prices. The final detailed costing of these two options has been subject to sensitivity analysis of the paper price only, as this is the most significant difference between the two options.

	Co-mingle service annualised costs (£k)	Current policy service annualised costs (£k)
Vehicles - total operating cost ¹	1,625	2,023
Caddy supply and replacement	0	20
MRF gate fee	115	0
Paper bulking fee	0	32
Additional blue bin provision	18	0
Additional communications	3	3
Income from paper sales	0	358(based on £112 tonne)
Total	1761	1720

¹This includes vehicle cost, in-cab technology, depreciation, fuel, maintenance, insurance, fleet management, crew including overheads, materials and PPE.

If the cost of paper fell to previous rate of £80 / tonne the co-mingled service would be £60k per year less than current policy.

If the cost of paper rose to £130/ tonne the co-mingle service would cost £99k per year more than the current policy.

Capital investment needed

If co-mingling recycling, one less vehicle is needed from the current number (a saving against planned capital expenditure of £180k in 2017/18). It is anticipated (depending on household completions) that the next capital investment in a vehicle will instead be in 2021/22. In broad terms this means the capital investment already planned for will be sufficient for delivering this service for the next 7 years.

If continuing to collect paper separately, a new vehicle will be needed in 2017/18 (£180k) and it is anticipated that a minimum of one additional vehicle will be needed in 2019/20 (£180k). The exact location of any new households across the boundary of Cambridge City and South Cambridgeshire will determine the vehicle required to collect waste; it is possible that some vehicles of one type will have capacity while others are required. Total minimum £360k capital, which increases the cost of operating vehicles for future years.

Implications

8. In the writing of this report, taking into account financial, legal, staffing, risk management, equality and diversity, climate change, community safety and any other key issues, the following implications have been considered: -

Financial

9. See section 7 – in summary providing a comingled service will cost £41k a year more than a paper-out service initially.
However the paper-out service will require more vehicles and so capital investment over time and is subject to more fluctuation in costs due to the paper price.

10. **Legal**

There is a legislative requirement that if any changes to collection regime are fundamental, that the current TEEP (technically, environmentally, economically practicable) assessment is reviewed. The work completed to assess these options would be suitable to complete this review and it is felt these options are compliant.

Risk Management – of delivering either option

11. Service performance - both options require changes to current rounds and these will be planned and introduced with regards to lessons learned from February 2017 to minimise the risks of missed bins. See also table 2 operational implications for risk reduction with regards fleet operation.

Impact for residents during changes – neither option required bin day changes. Communications programmes will be designed to keep residents fully informed of any changes to service / to encourage improved uptake.

Climate Change

12. See Environmental impact in table 2.

Consultation responses (including from the Youth Council)

13. It is recommended the Youth Council is consulted if any change is to be recommended to Cabinet.

Effect on Strategic Aims

14. **Aim 1 - An Innovative and Dynamic Organisation – adopting a more commercial and business-like approach to ensure we can continue to deliver the best possible services at the lowest possible cost**

What success will look like:

Single Shared Waste Service achieves savings targets, income surpluses, improved customer satisfaction and increased recycling

Shared services realise business benefits around savings, service quality and resilience.

These options both provide opportunities and benefits across a range of outcomes (cost, sustainability, resilience) which can be maximised through the method of implementation.

Report Author: Jane Hunt – Interim Head of Service
Telephone: (01954) 713154