



Shared Waste Service ABCD (Alternative Bin Collection Day) initial project review – planning and design to month 3 of operations.

1.0 Background to project

The Shared Waste Service for Cambridge City and South Cambridgeshire District Council has been operating since 2015. The Service has recruited senior managers, moved to a shared depot, transferred employees to SCDC, and restructured the majority of the office based teams. Another major step in the original business case to create a truly shared service was the harmonisation of domestic bin rounds across the boundaries. The new bin collection rounds were devised to ensure they are efficient (helping to achieve savings of £700k over 3 years), resilient, and improve our ability to deal with growth. The collection arrangements in SCDC and CCC are different – for example the frequency of green bin collections, the recycling collections (SCDC separating paper), and so the nature of some of the vehicles also differs. This has been built into the design of the changes. The new rounds make the boundary invisible to our refuse vehicles, and will save an estimated 20,000 refuse vehicle miles per year. These changes meant that 82% of residents had a change in day and / or sequence of bin collections, starting on 27th February 2017. While the vast majority of residents have had a continued good service through this period, there are some who have not received the service we aim for and have been frustrated by this process. We are sorry for any resident who is inconvenienced – every one of their bins is important to us and we will continue to work hard to achieve the normal standard of service and learn from this change.

2.0 Staffing of the project

The vast majority of the work undertaken on the project (design to delivery) has been undertaken in-house. The Service benefits from its own data and modelling team and communications resource, and the operations managers and crews have experience of previous day change projects in City and SCDC. The project was a major part of the Service work plan for 2016/17, led by the Head of Service (Paul Vanston) to September and then Jane Hunt (interim HoS) from October. In addition after the initial planning stages the team worked with customer service and communications staff in City and SCDC, and the resources team in SCDC which provides business support to the Service. Webaspex, a specialist company which designs and optimizes rounds for other authorities, was commissioned to quality

assure the final round plans and test some assumptions, and is now undertaking some ongoing evaluation work.

3.0 Planning the day changes

Design and planning work on the bin round changes started in early 2016. The combined domestic operations represent an extremely large and diverse service, with over 100 operatives typically operating 40 vehicles each day, collecting up to 30,000 domestic bins. The services offered in each Authority are different, and the patch covered includes dense urban areas of Cambridge with narrow streets and many flats, through to isolated individual rural properties, with travel across a range of roads from fen tracks to the M11. This presents a challenge for planning changes and for achieving rounds on a daily basis; our collection rates are traditionally extremely good and crews have vast experience. The design and planning process included:

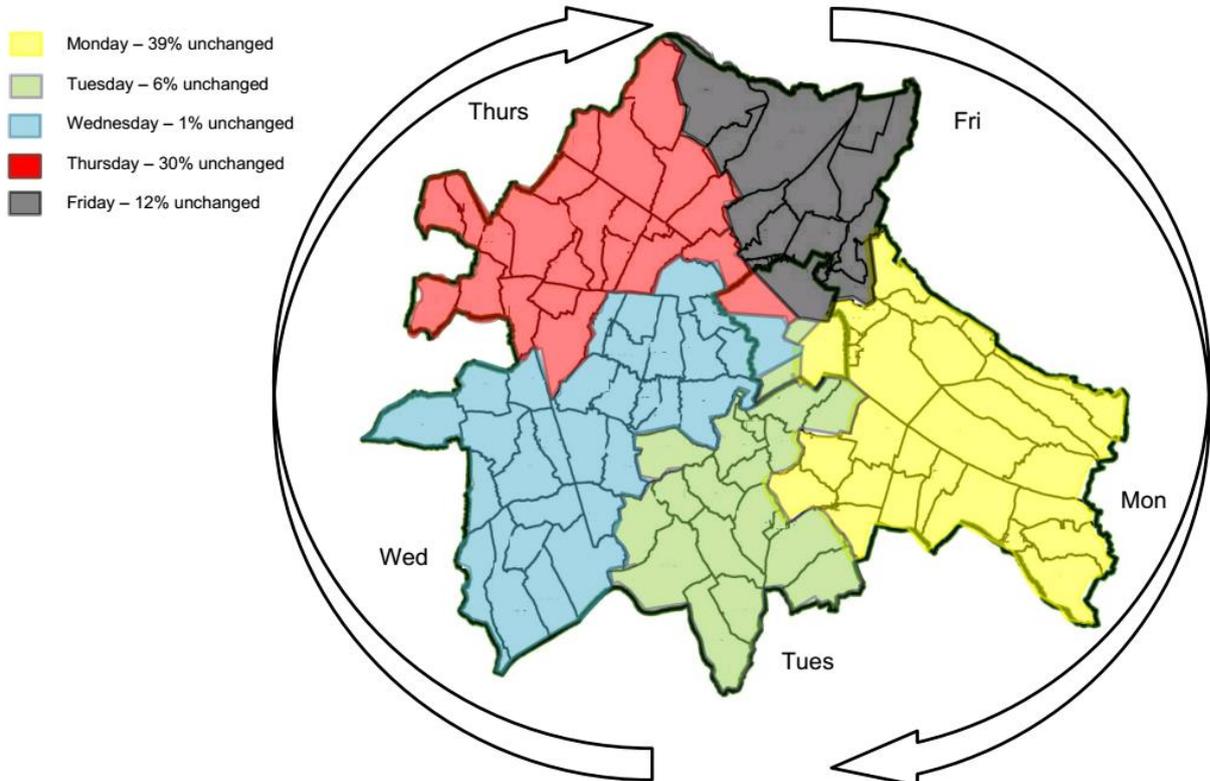
- Ensuring the quality of various datasets across 2 authorities in 2 data management systems (address data; waste quantities; vehicle capacity and journey data; crew pick rates and so on)
- Using bespoke modelling software to design rounds to optimize collections
- Selecting a go-live date which avoided known likely problems (winter frozen bins / snowfall, summer heavier bin weights and odour, holiday periods, etc).
- Consulting with crews and supervisors to check the 'draft' rounds for achievability and logic (for example to spot access details, to challenge geographical splits, to check total property numbers), and making subsequent changes.
- Resource planning for the lead-up and immediate delivery of day changes, including extra vehicles, drivers and loaders, and options to borrow supervisors from Streets and Open Spaces.
- Planning communications for residents using multiple media, including bespoke approaches to the different geographies and therefore different sets of issues. For example use of village signs and leaflets in SCDC, use of individual letters to residents of houses in City, use of corporate magazines in both.
- Consulting members of SCDC and CCC on planned changes and options for communications to residents (written briefings and face to face opportunities, December 2016).
- Briefing crew members on the lead-up to day changes and working with them on ensuring bin codes and keys for bin stores were transferred to new rounds.

The final 320 rounds are arranged in collection zones which have clearer round boundaries between collection days, and collection areas more logically grouped together. This means that crews are closer to each other and can work across rounds when necessary, and as new developments come on-line we can include

these in existing or new rounds more easily. They are also optimised for driving time, so for example on a Friday more bins are collected in the north of the City, which reduces driving time as crews are working closer to the depot and tipping site at Waterbeach. A prerequisite was that residents had one bin day, which did not change whether we operate week 1 or week 2 of the cycle.

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New Combined Collection Days and % properties unchanged



The design was also intended to lead to more balanced rounds for the collection crews, as evolution of rounds over time had led to a position where some were and some were not achievable within a normal working day. Minimising unplanned (and unwanted) requirements for overtime remains an important aim for the Service and is important for crew members' safety and wellbeing in what is a physically demanding job in a dangerous working environment.

The rounds operate on a two week cycle, with residents having domestic refuse (black bins) collected one week, and blue and green bins the next.

4.0 Go-live phase

The communications plan went live from December 2016, once the day changes had been signed off. This was dictated by lead-in times for Parish magazines, printing of leaflets, letting contracts for letter delivery and so on. Communications were delivered as originally planned, with additional opportunities to raise awareness taken where possible and feedback from councillors acted on.

The operational phase started two weeks before day changes, when extra vehicles were deployed to clear recycling points and some flat stores in advance of the changes (particularly in areas where the gap between collections was likely to lead residents to have excess waste).

In addition the keys and codes for bin stores were collected from the date of the last 'old' collection to redistribute them to the new rounds.

From February 23rd a daily 'situation reporting' phone conference was held between the Shared Waste Service teams, the customer service and communications teams, and senior staff. This ensured at one point in the day all teams shared their updates which enabled swift communication to residents of any problems in service, identified any ways of working across the teams which could be improved, and highlighted what was going well and could be fed back to teams.

From 27th February (when new rounds went live) feedback from crews (from in-cab devices and round sheets) was collated to get quick indications of numbers of houses presenting bins of the right colours on the right days. This quickly showed that residents had responded well to the communications campaign and knew which colours to present when.

Because some sequences were changed, and some crews had entirely new rounds to learn, it meant that the first 4 weeks of weight and round duration data could not be relied on or used as the basis for any significant round changes. For example as part of the planned changes, some residents would not be asked to present a bin for 3 weeks, and others presented the same colour on two consecutive weeks, as sequences changed. This affects weights of refuse and recycling collected for that round, and so the time it takes to complete. However during these first weeks we could learn from crews what they felt would and would not work, and spotted some smaller anomalies in rounds which could easily be corrected with no impact for residents.

Call volumes – customer service centres at SCDC and City handled their largest call volumes during week 2. Measured as a % increase on the baseline week (2 weeks before the changes), City took 300% more calls (1168 calls) and SCDC 200% (815 calls). These calls also included routine calls (such as extra bin requests, and calls for Streets and Open Spaces), but the day changes are assumed responsible for the increases.

Problems identified in the first few weeks included:

- Some missing 'collect and return' or 'assisted collection' addresses. The majority of these addresses were up to date in the in-cab displays used in most vehicles. However, those added since May 2106 (the data of the modelling data cut) were on manual lists and could be more easily missed. Also the hired extra vehicles which helped crews out where necessary do not have the in-cab technology, and crews did not always exchange this information. Where these were missed, their re-collection was prioritised as these residents can be the most vulnerable. Crews were reminded of those which had been missed. We created an A-Z of these addresses.

- Collections from flats:
 - Making the collection on the due date – the round dedicated to many of the City centre flats is large and had many changes. We felt this may need adjusting, and there was the option to swap some bins onto nearby domestic rounds, but that the new round should be tested. The round did not get completed on all days and in high volume stores these delays could quickly cause problems such as backed-up chutes. In week 2 we worked with City Housing team to direct extra crews to problem areas to minimise the impact on residents.
 - Communications - in addition we had not issued communications to flat residents on their collection days as experience told us the majority of residents were not aware of or particularly interested in the collection day as long as capacity was available. Because we did not always clear the flats on the due date, and as residents did not always know which day we were coming, calls to the call centre increased and complaints were made.
 - Access – over the years and with limited authority over the issue we have seen a proliferation of different bin stores use different means of securing access (keys, electronic fobs, codes). As the dedicated crews for flats have not always been the crew attending, ensuring the right means of access has not always been possible. We are working with planning colleagues and housing agents to try and ensure this problem does not continue in future. We will also look into changing locks and standardising codes where they are already in place; this would be a major project and would have cost implications for the Service and possibly for managing agents so will not be an overnight solution. However, it would make the collection operations easier and more flexible in future, with advantages for residents and the Service alike.
 - Updating changes – where we have moved flat collection onto different rounds, this data has not yet been updated onto the in-cab units so we rely on crews using rounds sheets as a prompt to collect. This problem was not anticipated; the combining of SCDC and CCC data into one updated data set has not been completed before and has been problematic. We now have the software companies work with us on a solution to go live in June, after which we will also invest in the data processing needed to get flat postcodes on the bin day search web sites that currently do not host them.
- Some of these problems for flats could have been pre-empted and while we would not undertake the initial round planning differently, we would involve more crew members in a different way looking at draft rounds (around 15% of crew members commented this time); we would involve different team members involved in new-builds and flats earlier in the process; we would have communicated directly to residents of flats, even if we could not have specified a set day from the outset.

- Differences in crew approach. Some residents fed back that bins were not left in the same places; that some food caddies were being rejected for contamination through use of liners which had previously been accepted; that recycling contamination was now being reported, and so on. The differences in crew members spotting and refusing bins (as we request) has been highlighted. We have explained to residents affected that we have not changed policy but we are now working to it. We are also revisiting to collect contaminated bins on the first occasion whenever possible. We have clarified some of the web content on caddy liners. We raise issues with crews when necessary.

5.0 Outcomes to date

This is a major operational change project which has had both predictable and unexpected outcomes, many positive and some negative. Key criteria for the changes were to:

- Minimise the impact for residents
- Ensure residents who present their own bins or who have an assisted collection have one bin day (eg Tuesday week 1 and Tuesday week 2)
- Minimise any subsequent day changes
- Rectify any problems within normal service periods
- Deliver the project to time and budget

During the first fortnight there were 2 key priorities – to ensure residents knew which bins to present on which days and to collect the bins as planned. The communications were very successful - only a few hundred addresses presented the wrong bins and the various media used (at an average cost of 13p per household in SCDC and 32 p per household in City) reached a wide and diverse target audience.

Since 27th February (to 26/05/17) 98.03% of bins have been collected as planned. Each week the Service aims to collect between 155,000 bins (week 1) and 153,000 bins (week 2). The most challenging week was the second week of day changes; 94.21% were collected as planned, and all collections were badly affected on 2 days by problems on the A10 (unplanned roadworks and a fatal accident). The overall trend is encouraging; we can see more rounds being achieved in full and dips in performance are linked to unusual but unavoidable operational issues such as 3 vehicle breakdowns (week 12), and staff absence (week 14) and the knock-on impacts of these. Our KPI remains 99.95% of collections completed as planned, so we are not yet back to achieving that. 100% is rarely achieved; human error is inevitable and vehicle and traffic problems do happen. In the 6 weeks leading up to day changes, vehicle problems and resurfacing affected collections from over 80 streets (64 on one day due to failure of one vehicle).

Missed bins are categorised as either due to missed streets (a round did not complete as it was out of time / out of capacity) or individual missed bins (where the street was visited but that property was unintentionally missed). Within the statistics reported below some bins may have been counted twice (an individual bin is logged as missed by a resident before it is known that the street was entirely missed). Numbers of bins are reported as 240 litre equivalents; these are not necessarily individual households but better reflect the impact on residents as, for example, one missed block of flats is represented by 10 x 240 litre equivalents rather than one missed bin. This period includes Easter and May Bank Holiday.

Week	% collected as planned	City total missed	City individual missed	SCDC total missed	SCDC individual missed
1	98.61	1495	371	659	219
2	94.21	7021	366	1843	348
3	97.66	2997	276	641	291
4	95.85	5384	250	970	253
5	97.89	2530	183	752	289
6	96.49	2862	202	2520	341
7	97.35	2647	198	609	276
8	99.45	466	177	368	179
9	99.14	1293	219	526	335
10	99.55	484	156	203	184
11	99.77	165	165	188	188
12	98.4	2259	166	195	180
13	99.59	444	106	203	193
14	97.48	3644	138	215	182
15	98.18	2274	172	553	201

Week 15 ended 09/06/17; this is the latest available data on finalising this report.

When reported missed, the majority of missed bins were collected within a 4 day period (this was extended from the CCC normal 3 day period for a number of weeks).

Some resident reported difficulties getting through to the City customer call centre. Overall service was good, with the average voice call wait time for the period 1st March to 31st May being 1 minute 17 seconds. Other statistics for the period include:

Voice (calls):

- Maximum wait time: 11mins 44secs
- Answer rate: 83.5% (KPI 90%)
- Abandon Rate: 16.5%

Callbacks:

- Average wait time for a callback: 55 min 37secs (KPI 24 hours)

E-mails:

- Average wait time for an e-mail response: 5 hours 5 secs (KPI 4 hours).

Residents of individual properties do have consistent collection days. Residents in flats do not all have consistent collection days; changes are still being made to the flat / domestic rounds to balance them, and it may be that these are not all consistent in future.

Excluding flats, fewer than 300 addresses out of 121,000 have had a further day change, and this has often been in response to suggestions made by residents, for example in an area where bins are presented on different streets to their postal address, and where access is easier from a different route which is collected on a different day.

In addition to the early issues raised, a problem emerged with some repeatedly missed individual bins. These are not routinely flagged using either of the 2 customer reporting systems and after feedback from complaints and from customer service centre call handlers, data was extracted from SCDC systems and logged at CCC call centre to start to pick up on these very specific repeat problems. A log is held of these addresses and team managers and crews are reminded of frequently missed addresses on a daily basis for those collections due that day. We do recognise that the problem was in part caused by our use of the extra vehicles and crews to 'catch up' on missed streets and individual missed bins. The latter tend only to be repeatedly missed if there is a problem (visibility, access, etc) which the regular crew needs to be aware of and learn from. If alternative crews are visiting properties then the learning has not necessarily passed on. In these cases supervisors are meeting crews on site or using digital mapping and imagery to illustrate the issues.

In 2014 it was envisaged that the day change project would be delivered in early 2016. In October 2016 the indicative date for changes was February 2017, and that was achieved. The communications budget for the work was revised and agreed at £30k and this was underspent by £4k.

Data on other Local Authority refuse change projects is not generally widely circulated or promoted; from the past experience of the two authorities on smaller change projects these collection rates are high and the vast majority of residents have continued to review a good service throughout.

6.0 Ongoing activity

Operational work on improving rounds is ongoing. On a daily basis team managers track the progress of rounds and send early completing crews to assist where possible; we also aim to minimise the repeat of missed streets by asking crews to start in different locations. We are issuing drivers with detailed maps and reminders of individual repeat missed bins and keep this under review; supervision of crews on the road is also increasing.

In terms of project work:

- In the Chesterton / Kings Hedges / Arbury area we have moved streets to different rounds to make them more balanced.
- We have changed drivers on some rounds to see if different experience and approaches will make a difference. We will continue to swap drivers to test achievability of rounds.
- We ask crews for feedback and have made smaller changes to make logistics and timings easier.
- Earlier problems with completing collections at flats have largely been resolved as these rounds were altered with input from crew members; we are now reviewing the vehicles needed on an ongoing basis.
- We are analysing the results of the 'meaningful' round data (week 6 onwards, durations, number of tips and weights collected).
- As planned, some further changes to rounds will be made based on how they are operating; we will be using internal and external support to review this. Areas we are looking at include Trumpington Meadows and Clay Farm (blue and green), Paragon Estate, Chesterton (domestic), Queen Ediths / Hills Road (green and blue), Sawston (SCDC) (green and blue).
- Based on crew feedback, missed bins and resident feedback we will continue to identify any odd spots where changing the day for a few addresses will solve problems.
- We have our 3 software suppliers supporting us on data changes and getting us ready for an update to the in-cab data which crews see; this will also update latest new builds to the rounds.
- This data set will then also be used to update web sites so residents have access to the full updated data set.
- Collect and returns (or 'assisted collections') and flats remain high priority to prevent repeated missed bins.
- While we are not using spare vehicles every day, we will keep these available while we make further changes to ensure we have resources available if needed; we will continually review the need for spare vehicles and remove them as soon as possible.

- The costs of additional vehicles and crew members is being collated to ensure the overall project cost is accounted for outside ongoing operational costs and savings / cost mitigation is understood.
- We have run one of two planned lessons learnt sessions with project team members and others (within and outside the Waste Service) to capture feedback and learning. The evaluation report from both sessions will feed into the next review phase.

7.0 Recommendations

That we present further analysis to the Waste Board in 3 months (costs, wider lessons learnt feedback, webaspex modelling review results, summary of complaints and commendations).

That the learning points below, which represent a selection of those logged to date, are adopted or avoided in future change projects.

Adopt:

- Varied and bespoke approaches to resident communications –this worked very well.
- Standardised project management approach from the start.
- Alternative approaches to crew consultation – maps were not suitable for all. Take more crew members off rounds to support the work.
- ‘Walk through’ week 1 to pre-empt some of the logistical issues that could have been foreseen.
- Wider stakeholder group eg housing, colleges, which may have picked up flats issues and challenged our assumptions.
- Involve a 3CICT and Northgate rep from the start.
- We took on extra resources to support changes; we supported our crews and residents this way and would do it again.

Avoid:

- Testing the current software integration now (not possible before go-live but not ideal afterwards).
- Doing day changes before software changes (necessary as these may not happen for another year, but not ideal).
- Missing the learning loop on missed individual bins; involve the regular crews from the start.

Jane Hunt

Interim Head of Service

June 2017