



Leeds By Example

Impact report 2019





Executive summary

We consume more food and drink ‘on the go’ in the UK than ever before - we get through 13 billion plastic bottles, 9 billion cans and almost 3 billion coffee cups each year. Yet much needed on the go recycling infrastructure for all this packaging has not kept up.

Only **42% of local authorities** offer recycling on the go and where they do the material collected is often of too poor a quality to be recycled. Local authorities need support with infrastructure, communications and behaviour change to encourage the public to use on the go recycling bins properly.

Hubbub and **Ecosurety** decided to develop a high-profile, multi-stakeholder campaign to test different approaches to recycling on the go. Hubbub secured funding, identified Leeds as a suitable city and undertook the development and project management of the campaign.

25 brands, manufacturers and retailers came on board as funding partners and a range of local partners were agreed, including **Leeds City Council**. The aim was to introduce new recycling infrastructure across Leeds City Centre, backed up by a high-profile communications campaign and a strong, recognisable campaign brand. We worked collaboratively with partners across the city, testing a range of solutions and interventions which were independently measured and evaluated.

124 new recycling points were introduced in the square mile of Leeds city centre, including:



New on street recycling bins for plastic and cans, brightly coloured with playful messaging



Litter bins reskinned as recycling bins



New on street coffee cup recycling bins, brightly coloured with playful messaging



New indoor coffee cup bins for managed spaces, brightly coloured with playful messaging



7 recycle reward machines tested in different locations with different rewards



Retailers collecting coffee cups in-store



4 plastic and can bins also introduced in **Seacroft** a suburban area in East Leeds



The We Recycle app, developed by OPRL, was tested for the first time in Leeds for on the go recycling of drinks packaging



Key results, findings and insights are outlined below.



On street recycling bins

65,000 cans and 55,000 bottles were recycled.*

- Average **contamination rate of 39%** for plastic and can bins. There was a large range depending on location, from 7-56%.
- The number of people who said they disposed of target material in a **general litter bin decreased from 77% to 63%**.
- The number of people who said they disposed of target material in a **recycling bin increased from 17% to 32%**.
- Simply changing the messaging and colour of the bin has a significant impact on the amount of recycling collected – **15 litter bins were reskinned as recycling bins which increased target material in them from 42% to 57%**.
- Dedicated recycling bins are more effective than 'reskinned' litter bins on average - **37% versus 43%** contamination, though dependent upon location.
- The public respond to visual cues like icons and aperture shape.
- More than half of people we surveyed had noticed the yellow plastic/ can recycling bins, demonstrating the value of brightly coloured infrastructure with clear, distinctive messaging.
- Holiday periods reduce the quality of recycling as footfall rises with more people who are not 'regulars' therefore are new to the messaging and infrastructure.
- People pay less attention when in a rush and **people spend under 2 seconds at a bin**. Sites next to bus stops, by a pedestrian crossing or in Seacroft performed better than where people are rushing, such as outside the train station.

All plastic bottles, cans and cups were recycled in the north of England.

A range of communications were tested to support this new infrastructure, to ensure that the public in Leeds were aware of the campaign and saw consistent communications with a clear call to action.

Communications included:



Media and PR campaign with **205 pieces of coverage**



Social media campaign using the hashtag #LeedsByExample with a **reach of 4.6 million**



Messaging on recycling bins: **'Empty plastic and cans, nowt else.'**



Supporting messaging in managed spaces such as workplaces, retailers, shopping centres and universities



Campaign messages shared through a range of **national and local partners**



Digital advertising sharing key messages



41 public engagement events were run, using interventions such as bins that burp and blow bubbles, a 'Re-Cycler' cargo bike that offers rewards for recycling, a seating area made of recycled plastic and two separate public installations.

- **Visibility helps:** the top performing bins were visible from afar, often on the edge of the pavement with bright colours and messaging helping them to stand out.
- **The type of litter bin may make a difference:** the worst performing bins were adjacent to belly bins with handles which need to be touched to be opened. The best performing recycling bins were next to litter bins with open apertures on every side, making them easy to use and therefore possibly reducing contamination
- Reskinned yellow bins had worse contamination than original yellow bins but captured almost as much target material.
- **The public are generally confused about whether cups can be recycled**, so more public awareness is needed. 32% of people we surveyed in January thought cups should go in the mixed recycling bin, 30% thought they should go in litter bins.
- **The public feel uncomfortable recycling a cup in a different store** to the one in which it was purchased and more public awareness is needed to promote this.

Cup recycling

Almost 600,000 coffee cups were recycled*1 - 53,000 from on street bins, 236,000 from managed locations such as workplaces and universities and 311,000 from retailers.



- The average contamination rate of **on street cup bins was 46%**, the main contaminant was lids.
- **Cup bins (indoor and on-street) had the highest contamination rates** of all of the recycling units trialled in the campaign.
- **Cup bins collected the most target material** of any collection method, suggesting high demand for cup bins around high footfall areas like transport hubs.
- **Cup bins reduced contamination of plastic and can recycling bins**, especially in areas where lots of cups are disposed of such as around transport hubs.
- **On street cup bins which require the public to stack their cups should be avoided** as they are likely to overflow and cause litter.
- **Liquid contamination was minimal** and did not prevent any cups from being recycled.



Recycle reward machines

7 recycle reward machines were trialled, collecting 15,400 items for recycling (more than half were cans).

- **95% of people like the idea of recycle reward machines;** people would be motivated to use them if there were more of them around.
- **Recycle reward machines collect very high-quality material** with less than 10% contamination, although some indoor recycling bins were just as effective.
- **The public like recycle reward machines but were mainly motivated by a belief in recycling rather than financial rewards** - only 5% of the reward vouchers were redeemed and removing the financial reward altogether didn't affect usage.
- **Financial rewards were more popular with a student audience**, where 10% of vouchers were redeemed.
- **Location is important.** The most popular machines were very visible, often from all sides. They are more effective in specific closed-loop locations where people buy, consume and dispose of food and drink packaging such as a large campus or food hall.
- Recycle reward machines collected significantly better quality recycling but did not collect as much quantity as the on-street bins.
- At **£5,000** each the units were relatively expensive in comparison to equivalent bins.

*Note, these figures will be an underestimate of the total number of plastic and cans collected as part of the trial, as they do not include all managed space figures, only that from on-street bins and recycle reward machines.

Recycling in managed spaces

Engaging managed spaces such as shopping centres, universities and workplaces to share communications helps amplify the call to action and ensures consistent messages across the city centre.

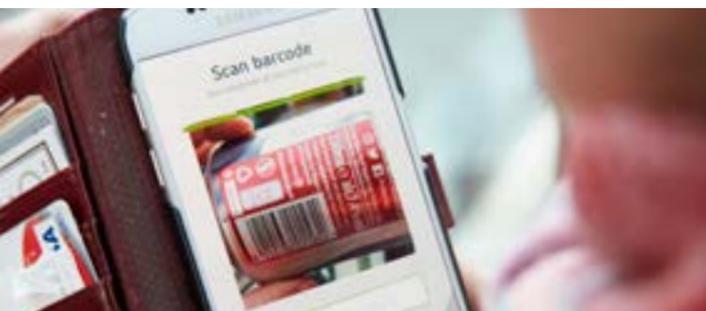


- Managed space recycling is generally better quality than on-street, but on-street recycling collects larger quantities.
- 91% of managed spaces agreed the campaign had helped them engage their staff, students or customers in recycling.

We Recycle app

Despite people saying in surveys they would use an app to help them to recycle, the We Recycle app was downloaded and used by very few people despite being promoted across multiple channels.

- There were 284 downloads and 225 packaging scans in Leeds between October 2018 and March 2019.
- Of these packaging scans, 94% took place during the launch period in October. This suggests that having downloaded the app, people did not continue to use it.



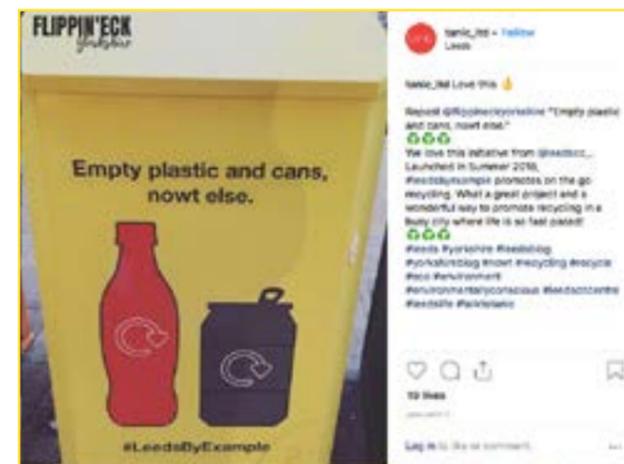
Communications

87% of people surveyed recalled hearing or seeing something about the campaign.

- The number of people who had seen or heard anything about recycling in Leeds city centre almost doubled from 23% to 44%.



- The hashtag #LeedsByExample was well received and helped give the campaign a distinctive brand.



- Consistent messages on social media supported the physical communications around Leeds city centre
- Visualising the issue and offering local statistics helps to engage people on recycling and change behaviour.



The main conclusion from the trial are outlined below.



Collaboration is key

The campaign was a unique combination of corporate partners, a local authority, the waste industry and local partners in Leeds. This allowed various partners to input expertise, facilitate the various interventions and amplify key messages, as opposed to all of the onus being on the local authority to tackle this issue alone.



Consistent communications are key

82% of the public in Leeds city centre had seen something about the campaign which doubled the number of people recycling their food and drink packaging on-street. The same messages were seen across the city centre, whether on street, in retailers or in privately managed areas such as shopping centres. These messages were supported on social media.



Raise awareness when introducing new recycling

Hubbub led a high-profile media launch, a social media campaign using the hashtag #LeedsByExample and various public awareness installations and events. This ensured that a high proportion of the public were 'warmed up' to the idea of recycling



Quality of recycling can vary

Quality is worse in high footfall areas and in school holidays, especially where people are new to recycling infrastructure and communications.



Include both managed space and on street recycling

Our surveying shows people predominately use the nearest bin and want recycling to be easy and convenient, so it is important to have a combination of on-street and managed space recycling facilities.



Recycle reward machines are popular with the public

Although few people redeemed the money-off vouchers. They are most effective in closed-loop, managed spaces where people buy, consume and dispose of food and drink packaging.



Cup collections are important

600,000 cups were collected during the trial, yet they continued to be a major contaminant in plastic / can recycling, demonstrating the need to provide cup collection facilities and to further educate the public about cup recycling.



Cup recycling yields higher quality in managed spaces

However on street bins were also effective particularly in high footfall areas where lots of people are drinking takeaway hot drinks, such as commuters coming out of the train station.



Positioning of recycling bins

Leeds By Example and previous Hubbub trials have shown that recycling bins should always be placed next to litter bins, to minimise contamination. The most effective recycling bins were positioned where the public had more time to take in messaging and communications, demonstrating the importance of bin positioning.



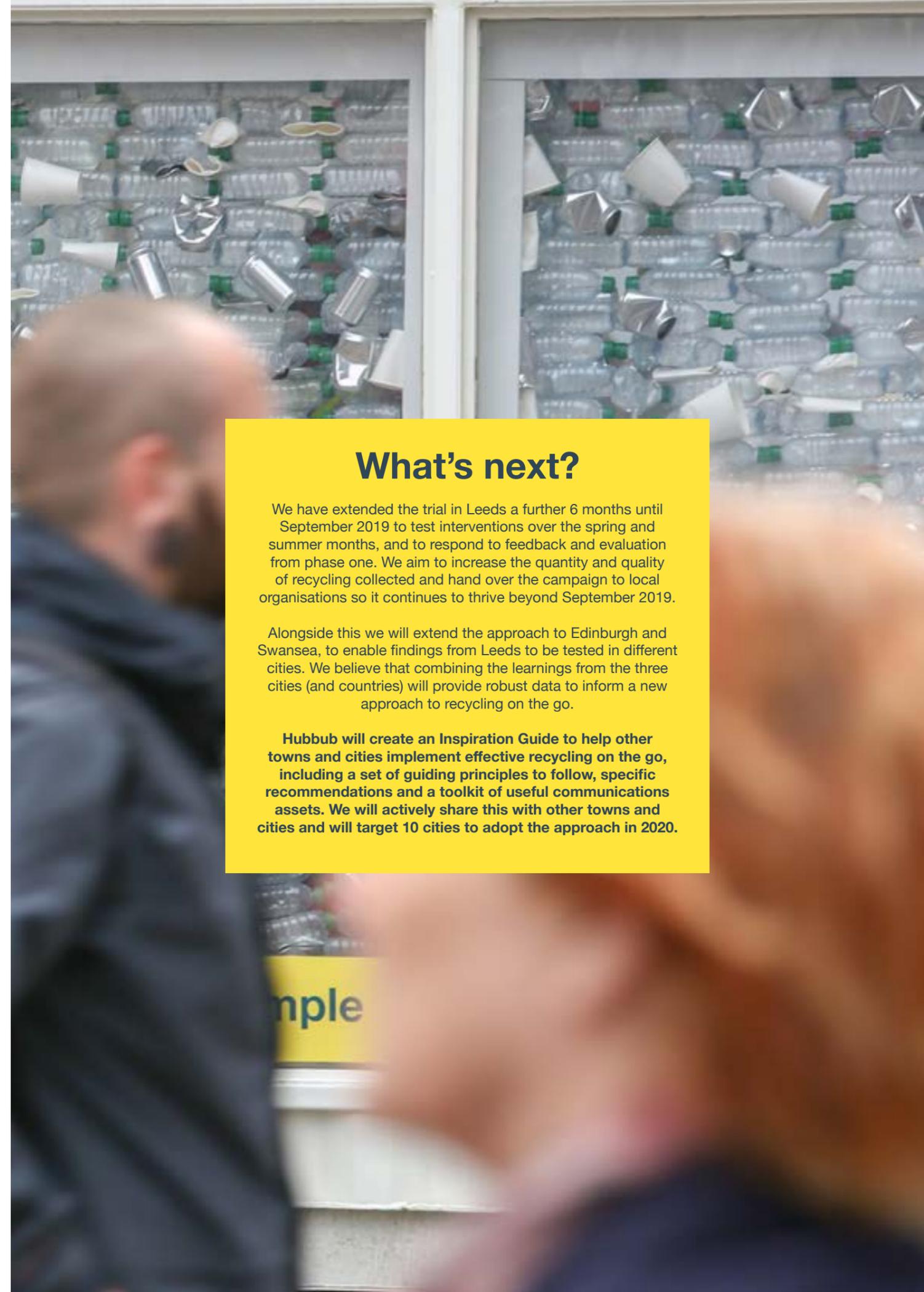
Make recycling simple, visual and fun

The trial showed that the public respond to playfulness, bold messaging and interventions that visualise the issue.



Consistent monitoring

To date there has been limited comparable research to measure the effectiveness of on the go recycling. Leeds By Example provides some robust research on this issue, but further insight is needed to understand the impact of recycling in different locations and to establish a robust set of recommendations for other towns and cities.



What's next?

We have extended the trial in Leeds a further 6 months until September 2019 to test interventions over the spring and summer months, and to respond to feedback and evaluation from phase one. We aim to increase the quantity and quality of recycling collected and hand over the campaign to local organisations so it continues to thrive beyond September 2019.

Alongside this we will extend the approach to Edinburgh and Swansea, to enable findings from Leeds to be tested in different cities. We believe that combining the learnings from the three cities (and countries) will provide robust data to inform a new approach to recycling on the go.

Hubbub will create an Inspiration Guide to help other towns and cities implement effective recycling on the go, including a set of guiding principles to follow, specific recommendations and a toolkit of useful communications assets. We will actively share this with other towns and cities and will target 10 cities to adopt the approach in 2020.



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Context



About Hubbub

We're an award-winning environmental charity that creates positive campaigns to inspire greener, healthier lifestyles and create scalable impact.

www.hubbub.org.uk

The issue: on the go

We consume more food and drink 'on the go' in the UK than we used to. We get through 13 billion plastic bottles, 9 billion cans and nearly 3 billion coffee cups each year. This trend for convenience is particularly popular with younger age groups and is projected to grow significantly. Yet much needed on the go recycling infrastructure for all this packaging has not kept up.

Part of the challenge in collecting this material is often the lack of consistency in what packaging materials are made from, plus what can be collected varies from place to place. Research shows the public want to recycle but are confused about the issue.



Local authority challenges

A 2017 RECOUP survey found that only 42% of local authorities provide on the go recycling, as it was not cost-effective to provide.¹ Many had withdrawn this service due to contamination issues and maintenance costs.

The report found:



High contamination rates meant the quality was often too poor for the material to be recycled, particularly around tourist areas or transport hubs.



Budget for communication is insufficient and local authorities recognised the need for more frequent and consistent communications, across multiple channels.



Education, infrastructure, maintenance and servicing are what almost half of local authorities would spend additional funding on.

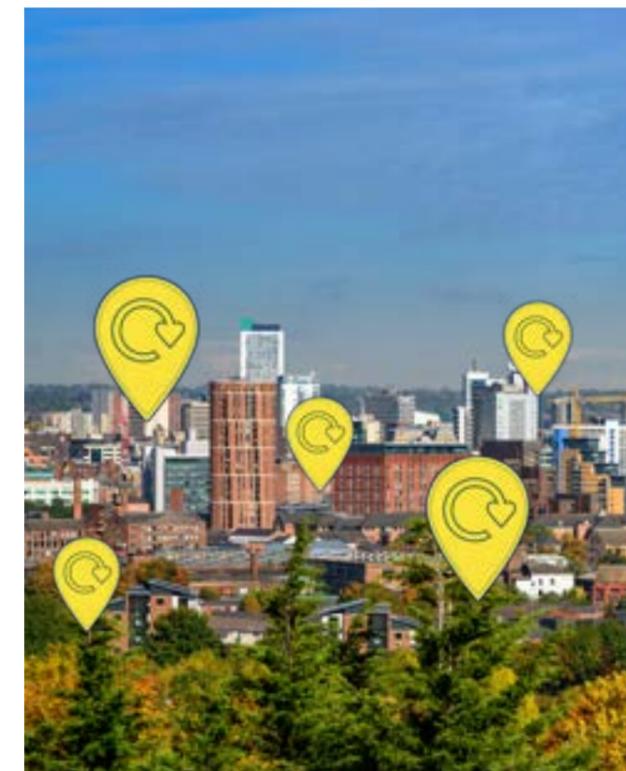
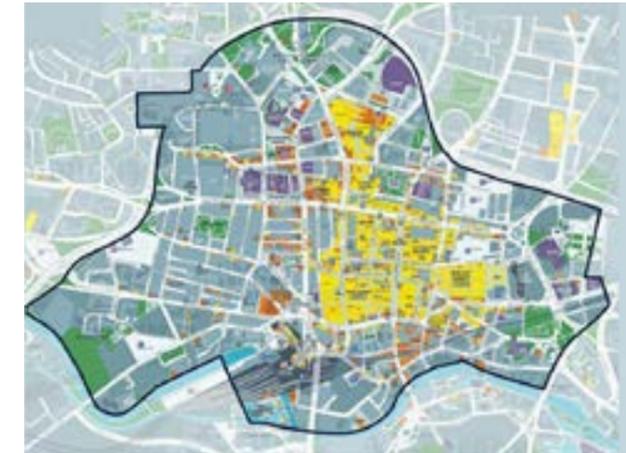


The cost of maintenance and collections and of the bins themselves are high, meaning that operational issues can outweigh the benefits.

These findings inspired Hubbub to trial a new approach to recycling on the go.

Leeds

Leeds is one of the UK's major cities with a population of 761,500. It has a thriving economy including strong financial and business services, digital, creative, publishing and broadcasting sectors². With 4 universities, 18% of the population are aged 20-29 (the age group most likely to consume on the go food and drink). The city centre has a significant number of food and drink outlets that sell on the go items.



Partners

Leeds By Example is a collaboration of 25 leading retailers, brands and manufacturers aiming to tackle recycling on the go, working alongside the public and third sector. Led by Hubbub and Ecosurety, the trial also had input from waste and recycling charities.

Funding partners include:

Alupro, Asda, Association of Convenience Stores, Ball Beverage Packaging Europe, British Plastics Federation, Bunzl, Caffè Nero, Coca-Cola GB, Costa Coffee, Co-op, Crown Packaging, Danone, Ecosurety, Greggs, Highland Spring, Innocent, Klöckner Pentaplast (kp), Lucozade Ribena Suntory, Marks and Spencer, McDonald's, Morrisons, PepsiCo, Pret, Starbucks and Shell.

A number of affiliate partners have helped to shape the project and donate in-kind support or resources, including Cromwell Polythene, RECOUP and WRAP.

Local partners have been essential to the trial's progress and success, including waste contractor Forge Recycling, Materials Recycling Facility (MRF) HW Martin, Leeds City Council (local authority partner) and local delivery partner Zero Waste Leeds (local delivery partner).

A range of local stakeholders helped share the messages and installed recycling points including three universities, the NHS, shopping centres such as Trinity Leeds, Leeds Business Improvement District (BID) and a range of businesses and larger local workplaces.

Hubbub's role

Hubbub and Ecosurety developed a vision to establish a high-profile, multi-stakeholder campaign to test different approaches to recycling on the go. Hubbub secured funding, identified Leeds as a suitable city and undertook the development and project management of the campaign.

Hubbub's ethos is to gain insight into an issue, then test different behaviour change solutions and creative communication techniques. By openly sharing the results of trials we others will follow to maximise impact. Bringing together different stakeholders to work collaboratively is always central to our work.

Funding partners and affiliate partners were regularly consulted and provided guidance and support throughout, whereas local partners offered local expertise and helped with the 'on the ground' delivery of the campaign.

¹ 'Disposal 'on the go' – local authority survey, RECOUP, 2017: <http://www.recoup.org/news/7558/disposal-on-the-go-local-authority-survey>

² About Leeds, Leeds City Council, 2019: <https://www.leeds.gov.uk/your-council/about-leeds>

The Approach



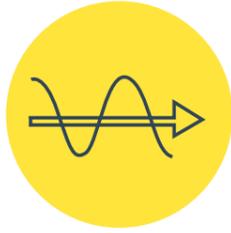
Aims and ambitions



To launch the trial with a high profile media and social media campaign.



To work collaboratively and imaginatively to explore a range of solutions.



To test the impact of behaviour change, recycling infrastructure and awareness-raising interventions.



To use an independent evaluation framework and openly share results.



Create a consistent recognisable brand for on the go recycling in Leeds.



To create a replicable model.

Independent monitoring and evaluation

The data presented in this report has been independently compiled by a range of partners including consultant Dr Elaine Kerrell (local monitoring and evaluation partner), Forge Recycling (local waste contractor), HW Martin (local facility where recycling was taken for processing), James Cropper (paper cup recycling), participating retailers, WRAP (public survey analysis) and RECOUP (validating material recycling destinations). The results were then analysed by Anthesis, which have been compiled into this impact report.

Scope

The scope of phase 1 of Leeds By Example was:

- 6-month trial: 9 October 2018 - 31 March 2019.
- 1 square mile in Leeds City Centre.
- Introduce new on-street recycling infrastructure to collect plastic and cans and paper cups.
- Engage with managed spaces to introduce new recycling bins, discounted waste collections and free consistent communications.
- Unite retailers to collect any paper cup.
- Trial playful, engaging communications and new technology.



Glossary

Belly bins

Leeds City Council have 17 litter 'belly bins' in the highest footfall areas that compact rubbish to increase capacity and a 'fullness' sensor conveys when they need emptying.

Contamination

Means incorrect items found in recycling bins. This could be food and drink and other materials that were not asked for. (Contamination found in Leeds included chewing gum, someone's wallet, leftover coffee and a pair of walking boots amongst other things!)

Orange bins

Refers to the 5 on-street 'smiley' paper cup bins throughout this report.

Yellow bins

Refers to the on-street recycling bins that collected plastic and cans. There were two types: 20 'original' in the city centre, 4 in Seacroft and then 15 litter bins reskinned with yellow vinyls to collect plastic and cans. Unless the type is specified, 'yellow bins' = all 39 plastic and can bins.

Trial interventions



The Re-Cycler

Get rewards for Re-cycling on the go

1. Finish your drink, please say thank you, I'll recycle your packaging on the go.
2. We'll reward you with a gift in a flash, forget your wallet, we don't take cash.
3. Spread the word, tell your friends, #LambByCycle is everywhere.

The Re-Cycler

New recycling infrastructure

On-street



9 October

20 x Yellow 240l 'empty plastic and cans' bins.



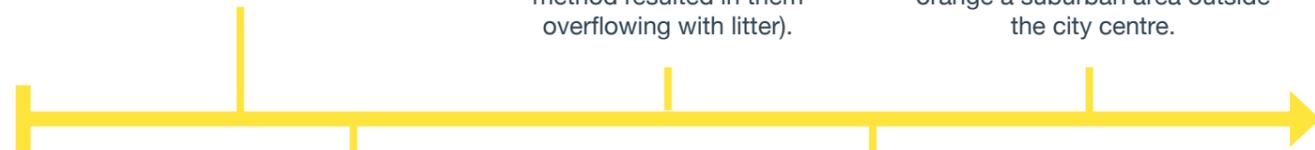
4 December

5 x Orange cup shaped bins (and then removed 10 December as the cup stacking method resulted in them overflowing with litter).



22 February

15 x litter bins reskinned into yellow 'empty plastic and cans' bins = 39 yellow bins and 5 orange a suburban area outside the city centre.



20 November

5 x Orange "smiley" 240l 'empty coffee cups' bins.



2 January

4 x Yellow 240l 'empty plastic and cans' introduced in Seacroft, a suburban area outside the city centre.



Indoor



44 indoor coffee cup-shaped bins such as in the 3 universities, shopping centres, NHS, workplaces and Council offices.



30 retailers who accepted any paper cup for recycling, regardless of where it was bought from. This included Caffè Nero, Costa, McDonald's, Pret and Starbucks.



7 recycle reward machines installed.



Total of 124 new recycling points installed and signposted.

Prior to the trial, Leeds had no on the go recycling infrastructure, yet over 500 litter bins in the city centre. Therefore, the trial was a significant start to making Leeds a city that recycles on the go.

Recycling collections in the yellow bins mirrored Leeds City Council kerbside recycling - Leeds does not collect glass or some plastics such as margarine tubs, yoghurt pots or black plastic (plastic types 3 (PVC/V), 5 (PP), 6 (PS) and 7 (other plastics)). Therefore the plastic collected in the trial was PET plastic bottles, plus plastic food packaging types 1 (PETE), 2 (HDPE) and 4 (LDPE). For ease of communication, bin messaging stated 'plastic' with a bottle icon.



Recycle Reward Machines

Over the course of the campaign 7 recycle reward machines were installed; 4 collected plastic bottles and cans, the other 3 collected coffee cups. The aim of the machines was to test whether a financial reward helped incentivise people to recycle, and whether they collected better quality recycling than on street recycling bins.

All machines featured the campaign branding and issued varying reward values that had to be redeemed within 1 week. Only 1 was redeemable per transaction and rewards were not cumulative.

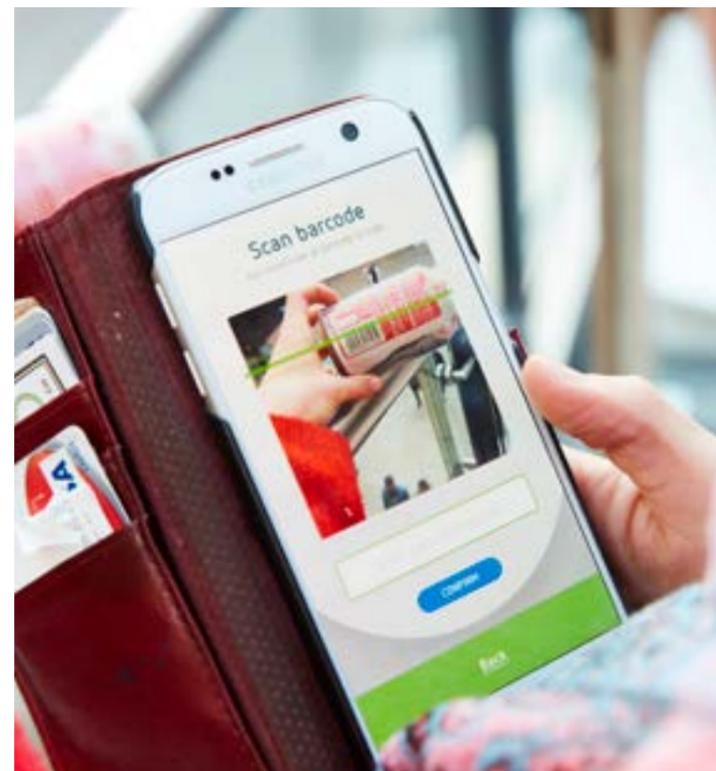
Machines were installed at:

- **Beckett University:** 1 bottle/ can machine + 1 cup machine in a cafeteria. Rewards (initially 5p) were redeemed at 3 university cafes. From 8 Nov – Jan this switched to a 10p charity donation to a local homeless charity. From February the reward rose to 20p.
- **Kirkgate market:** 1 bottle/ can machine was placed in the food hall area of the market, issuing 10p rewards to spend at over 10 different market stall holders.
- **Shell Regent Garage:** 1 bottle/ can machine was placed on the forecourt, issuing 10p rewards to be spent on any non-fuel product within the garage. Installed in early December.
- **Trinity Leeds shopping centre:** 1 bottle/can machine was placed in Trinity Kitchen food hall from 25 October, offering 10p rewards to spend at two food stalls. Two additional cup machines were installed at the end of March, they did not issue rewards but built on the playfulness of the machines via a cup character with animated eyes.
- **An additional machine has since been installed at Herron Foods Convenience store,** but as this took place in April the results are not captured in this report.

We Recycle App

Developed by On-Packet Recycle Label Ltd (OPRL), the We Recycle app aimed to help people locate their nearest recycling point for drinks packaging. The We Recycle app had already been developed by OPRL and was tested for the first time as part of the Leeds By Example trial. By scanning the barcode on drinks packaging, the app displayed whether the item could be recycled and using GPS informed you where your nearest recycling point was.

Not all brands and retailers provided barcode data for the app (depending upon whether they were an OPRL member), meaning it did not universally apply to all drinks packaging.



Communications

A consistent brand and tone was developed for the campaign to make recycling infrastructure and calls to action simple, consistent and easily recognisable.

Branding and Iconography

A common #LeedsByExample brand was developed with a yellow campaign colour and individual icon colours consistent with WRAP guidance: grey for cans, red for bottles/ plastic and orange for coffee cups. Wherever possible we opted for icons and symbols rather than words.

The coffee cup icon is now being used as the consistent cup symbol by the Paper Cup Recycling and Recovery Group (PCRRG).

Messaging

Messaging was intended to be playful, eye-catching and engaging on the basis that people spend very little time at a bin, for example our observations in Leeds found 92% of people spent under 2 seconds throwing something away.

Food and drink are some of the worst contaminants of on the go recycling, so the term 'empty' was always used on the recycling bins.

To take a playful approach, a Yorkshire dialect was used on the bin messaging: "Empty plastic and cans, nowt else". Despite a few complaints the feedback on this approach was overwhelmingly.

Whilst plastic food packaging could be collected, the yellow bins featured an icon of a plastic bottle as that is the most easily recognisable plastic item.

Some additional nudge messaging was applied on some litter bins with an arrow pointing towards the plastic and can or cup bin.



Whilst being Yorkshire-specific, this local, playful approach could be translated to other towns and cities to give the messaging about recycling a light-hearted tone.



Leeds Council News @LeedsCC_News
Keep an eye out for these bins across the city centre to get rid of your recyclable waste on the go!
#Leedsbyexample @hubbubUK

Amplifying Reach

To amplify the campaign messages a communications guide was shared with all national and local partners. It contained key messages, links to assets, an employee engagement guide and suggested social media posts. This created a consistent, recognisable brand, plus generated a social norm of a city working together to #LeedsByExample, by recycling on the go.

On-street Communications

Digital advertising featured across the city centre to raise awareness of the campaign and nudge people towards recycling:

- **9 - 22 Oct:** 50 screens at Leeds Trinity, Victoria Gate, Leeds station with a potential reach of 2.6 million.
- **17 October onwards:** Leeds Big Screen in Millennium Square.
- **17 October onwards:** 7 second clip of the plastic and can message at the city centre and Seacroft Leeds One Stop, (indoor Council contact centre)
- **6 March onwards:** cup recycling message displayed on 19 screens at Trinity Leeds multiple times per hour.
- **2 weeks per month:** BT In Link kiosks showed campaign messages 432 times per day, for example about in store cup recycling and the We Recycle app.

Interventions

We trialled several engagement interventions during the trial, including bins that burp and blow bubbles, a 'Re-Cycler' cargo bike that offers rewards for recycling, a seating area made of recycled plastic and two separate public installation. See the results section for more details.



Research found that many people over-recycle in the hope that it will be recycled. As this contamination can cause whole batches of valuable recycling to be sent to landfill or incinerated, the term "If in doubt, leave it out" was used on top of every bin and on social media, to encourage quality over quantity.



Results



On-street plastic and can recycling

Plastic and Cans – Quantity

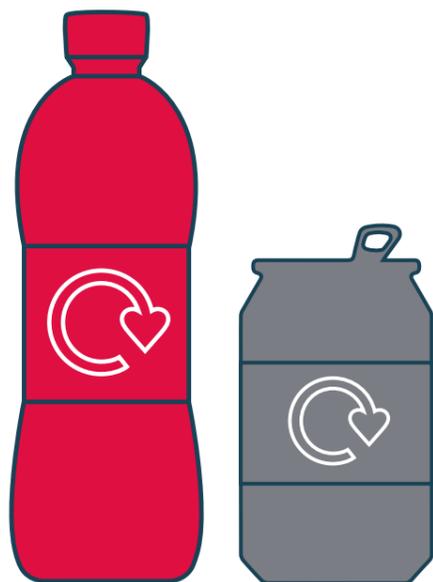
Leeds By Example on-street yellow plastic and can bins collected:

- 2.25 tonnes of plastic and cans recycled
- 42,601 cans
- 48,703 bottles

The volumes collected during the trial were relatively low, however only 35 yellow recycling bins were introduced at different stages in the city centre (plus 4 in Seacroft), versus over 500 existing city centre general litter bins. As a trial, the objective was to test what works and monitor the effectiveness of different communications, bin designs and positioning.

Historic waste for Leeds since March 2016 shows that the amount of waste thrown away in Leeds city centre is rising. However, coinciding with the start of the trial, litter collections went down to levels similar to those two years earlier, suggesting that Leeds By Example successfully diverted recyclable packaging to recycling bins.

Three waste audits of waste from belly bins were conducted to give insight into what proportion of target recyclable materials was ending up in the general waste bins. 80% of target materials (plastic and cans) were still disposed of in the litter bins rather than recycled even when a recycling bin was directly next to the general waste bin. Plastic bottles were the most likely to be recycled (28%), then cans (14%), with plastic food packaging least likely to be (9%).



 Awareness and behaviour change takes time as people adapt to and use new infrastructure.

The campaign made some reduction to the expected amount of waste in general waste bins but would need to be tested on a larger scale to fully understand this.

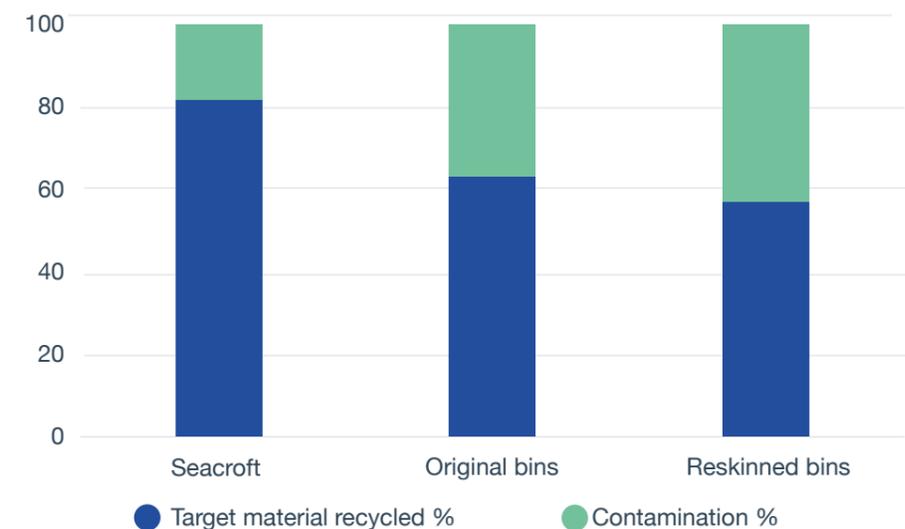
The public respond to visual cues like icons and aperture shape, not just messaging.

Plastic and Cans – Quality



Contamination rates in the plastic and can bins averaged **38% by volume** over the course of the trial. There was a substantial range between different locations, the **lowest rate was 7% contamination** and the **highest was 56%**.

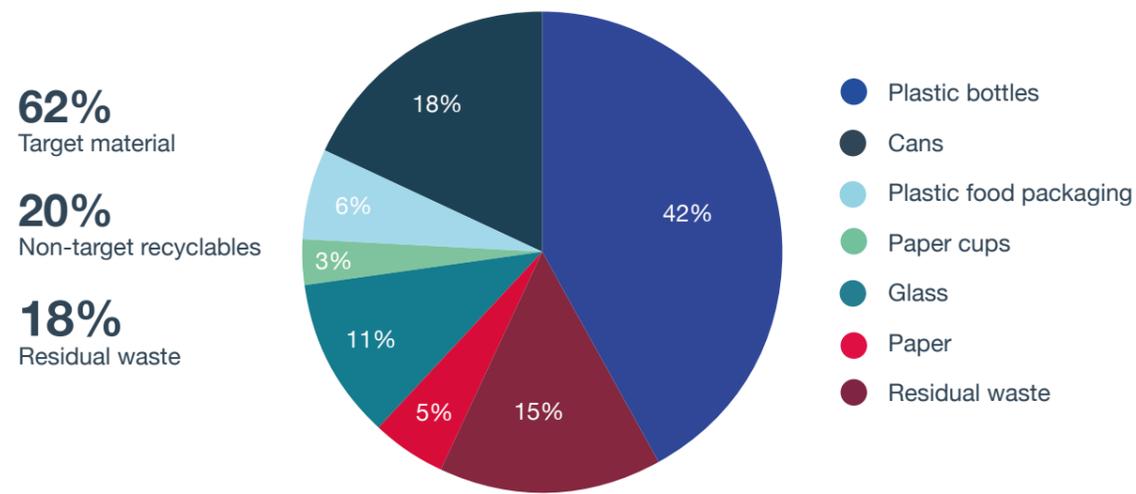
Figure 1 : Average contamination rate (%) by volume



The contents of the recycling bins were audited which showed that over a fifth of yellow bins contents were non-target materials that are technically recyclable, such as glass, paper and paper cups (albeit cups require a different bin). Figure 2 shows the average breakdown of different materials collected.

Note these audits were mostly done in the first half of the trial and so may not have been representative for the trial at large, particularly the final waste audit in March. This is a weight average based upon 12 waste audits of all 39 plastic and can bins, including 20 original on-street, 15 reskinned plastic/can bins installed from February and 4 in Seacroft. The contamination rate was 50% by weight. See methodology and the discussion for details of how the contamination rate was calculated and changed over time.

Figure 2: Breakdown of materials by volume



The original yellow bins performed better on average than the reskinned yellow bins (37% versus 43% contamination). This could be for a number of reasons:

- **Reskinned yellow bins were only installed on 22 February and so people had not yet adapted to them being switched to recycling bins.**
- **The design of the reskinned bin resembled the general litter bin too closely so people did not distinguish the difference.**
- **The open aperture of the reskinned litter bin model was too easily accessible for people to put anything in.**
- **The top of the reskinned bin remained black and did not have enough bold messaging or colours to indicate it was a recycling bin.**

The bins were audited before they were reskinned, which showed 42% of the contents were the target plastic and can material, which rose to 57% after being reskinned.

There were anomalies and some reskinned bins performed better than some of the original yellow bins. Further monitoring of the reskinned bins will be undertaken to see if contamination rates improve with time.

There appears to be a trend in rising contamination rates when footfall increases. This occurs most noticeably in mid-December and the lead up to Christmas, with further dips in late October/ early November, mid-February and again at the end of March. These are all school holiday periods for schools in Leeds and surrounding areas and significant shopping periods with increased visitor numbers.



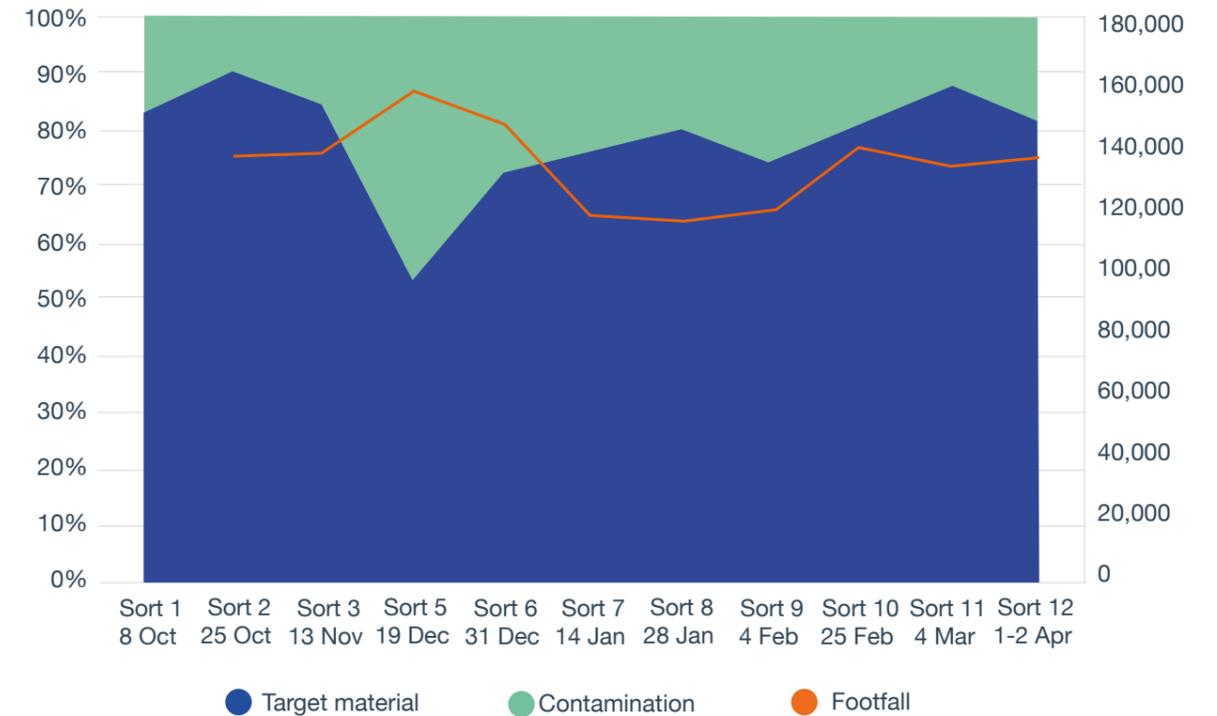
Simply changing the messaging and colour of the bin has a significant impact on the amount of recycling collected.

Holiday periods reduce the quality of recycling as footfall rises with more people who are not 'regular' therefore are new to the messaging and infrastructure.

There may be more visitors to the city centre in these periods who are not 'regulars', so are unfamiliar with the messaging or infrastructure. Contamination rates were lowest immediately after launch and in late January / early February when the city centre was 'business as usual', with more regular users such as students and commuters.

Observation data showed 92% of people using the recycling bins were alone rather than in a group, suggesting they may be more regular users rather than one-off social visitors to the centre. It also showed people cups were most likely to be disposed of in the morning commuter period, with no clear correlation with other materials.

Figure 3: Change in contamination rates by volume (litres) over time



Looking at which locations perform the best and the worst, some are located nearby yet perform very differently. The quality of recycling appears to be affected by people being 'in a rush', if they cannot see the messaging from afar or the type of adjacent litter bin affects.

There does not seem to be a correlation with particular areas of the city centre, though some of the most contaminated recycling bins had lots of glass, particularly around the station and over the Christmas period. This suggests that contamination is affected by the likelihood of the public consuming alcohol, such as at weekends and at Christmas.



People pay less attention when in a rush. Observations showed people spent under 2 seconds at a bin and often didn't look at the messaging. Sites next to bus stops, by a pedestrian crossing or in Seacroft performed better than where people are rushing, such as outside the train station.

Visibility helps: the top performing bins were visible from afar, often on the edge of the pavement with bright colours and messaging helping them to stand out.

The type of litter bin may make a difference: The worst performing bins were adjacent to belly bins with handles which need to be touched to be opened. The 'yuck factor' and the additional effort required may make the recycling bins more appealing to use even for non-recyclable material. The best performing recycling bins were next to litter bins with open apertures on every side, making them easy to use.



Coffee cups

On-Street Coffee Cups – Quantity

600,000 coffee cups recycled*

Between November and March, the 5 on-street 'smiley' orange coffee cup bins collected:

- **640kg of coffee cups.**
- **53,333 cups (assuming an average cup weight of 12g).**

High volumes of cups were collected on-street, suggesting the chosen locations around the station and in high-footfall commuter areas were appropriate.

Comparing contents of litter bins shows that the majority of cups were still disposed of in litter bins, yet orange bins captured around a quarter of all cups and therefore were more successful at diverting target material than the yellow bins.

A lot of cups were disposed of in yellow bins even when they were next to an orange cup bin, but this shows that contamination of the yellow bins would have been much worse without the cup bin beside it.

In early December, five cup-shaped bins with receptacles for lids and liquids were briefly tested but they were removed within a week because they required the public to stack cups. Users repeatedly put in cups upside down, with lids on or put in other items such as sandwich cartons, causing them to jam and overflow with litter.



Cup bins collected the most target material of any collection method, suggesting high demand for cups around target areas like transport hubs with commuters.

Cup bins reduce contamination of plastic and can recycling bins, especially in areas where lots of cups are disposed of such as around stations.

The 'smiley' bright orange cup bins were easily recognisable and popular on social media.

On street cup bins which require the public to stack their cups should be avoided.

On-Street Coffee Cups – Quality

The bins used did not offer an option for the user to separate lids and liquids, however this did not prove to be an issue. Coffee cups were collected separately by Forge Recycling and sorted at their depot in Leeds. In general, the quality was high, requiring minimal sorting to remove contaminants such as cup lids. The cups were then baled and sent to the James Cropper paper mill in Cumbria, who were satisfied that the cups were of a good enough quality to be recycled.

Two waste audits were undertaken of on street cup bins, showing an average contamination rate of 46% (ranging from 43%-50%). This was mostly cup lids (21%) that were easily removed as opposed to general waste (13%). 12% of the contamination recyclable materials such as plastic bottles or glass.

A survey in January of people in Trinity Leeds shopping centre showed that 32% thought they were doing the right thing by disposing of their cup in a mixed recycling bin, whereas another 30% thought they should go in litter bins. This highlights that despite extensive communications there is still widespread public confusion about whether cups can be recycled and a lack of understanding that they require their own bin.



*From on-street bins, retailers and managed spaces. This is likely to be a significant underestimate as not all managed spaces or retailers provided data.

Managed Space Cup Recycling

236,000 cups collected from managed spaces

Forge Recycling collected cups from 22 different sites in Leeds such as workplaces, universities and one coffee chain. This service was established as part of their involvement in the Leeds By Example trial. Bearing in mind some managed spaces involved in the trial did not use Forge Recycling to collect cups, 236,000 cups is likely an under-representation of cups collected from all managed spaces in Leeds.

A total of 44 indoor cup recycling bins were installed featuring campaign messaging. Some sites already had cup recycling in place, such as some of the universities.

Example: Trinity Leeds Shopping Centre

Trinity Leeds was chosen for a mini-trial around coffee cup recycling. An initial survey of the public in January found that 95% wanted to recycle their cups but were confused about whether or how they could be recycled. It found less than a third of people had heard anything about recycling cups in Leeds City Centre. Various cup bin designs were introduced, along with a cup installation, events promoting cup recycling, digital ads and well as additional messaging in retailers.

- **Over 2,300 cups were collected from January to April**, with an average contamination rate of 49%. (Trinity is extremely well maintained, and bins regularly emptied, but it is almost 'on-street' as it is a covered thoroughfare through the city centre with 8 different entrances and is never closed to the public.)
- As infrastructure (20 new bins and 2 recycle reward machines) and communications were introduced, the **number of cups disposed of with lids reduced from 70% to 23%**.
- **Trinity performed marginally worse than the on-street cups bins**, with a major contaminant also being lids, as well as plastic cups, straws and sleeves, as well as cutlery many of which were from brands originating in the centre.
- When the public in Trinity were asked what would encourage them to recycle more, the main reasons were bins being nearby (52%) and knowing where bins are located (26%).

Retailer Cup Recycling

311,000 cups recycled in retailers*

There were 30 participating stores as part of the trial that agreed to collect any cup for recycling, regardless of where it was bought from. These included all city centre Caffè Nero, Costa, McDonald's, Pret and Starbucks stores.

Most retailers collected cups by asking customers to leave them on the side to be collected by staff, whilst some had specific cup bins or disposal points. This generally depended on the available space in store. Feedback suggests that ensuring staff are responsible for collecting cups results in better quality, as any contaminants can be separated before cups were sent for processing. All stores featured some form of campaign communication such as window stickers advertising their participation in the trial, to table talkers, posters or messaging at the point of sale.

A survey was undertaken to capture retailers' views (4 of 5 responded). It found:

- **75% of retailers said staff awareness had increased** and 50% noted fewer operational issues.
- **In terms of barriers to recycling more cups:** 75% cited the public not knowing they could bring any branded cup in for recycling; 50% cited lack of space either for recycling bins or behind the counter storage; 25% cited problems for cleaning staff disposing of cups.
- When asked how customers responded to the trial, **50% said very positively** or positively and 50% said neutral.



Liquid from cups was minimal and did not prevent any cups from being recycled.

The public are generally confused about whether cups can be recycled, so more public awareness is needed.

The public feel uncomfortable recycling a cup in a different store to the one in which it was purchased and more public awareness is needed to promote this.



*Not all retailers reported the number of cups collected during the trial. *Not all retailers reported the number of cups collected during the trial.

Recycle Reward Machines

The trial introduced 7 recycle reward machines in Leeds, each machine cost £5,000.

- Collected 15,400 items (over half were cans).
- Average contamination rate of under 10%.
- Only 5% of rewards were redeemed.

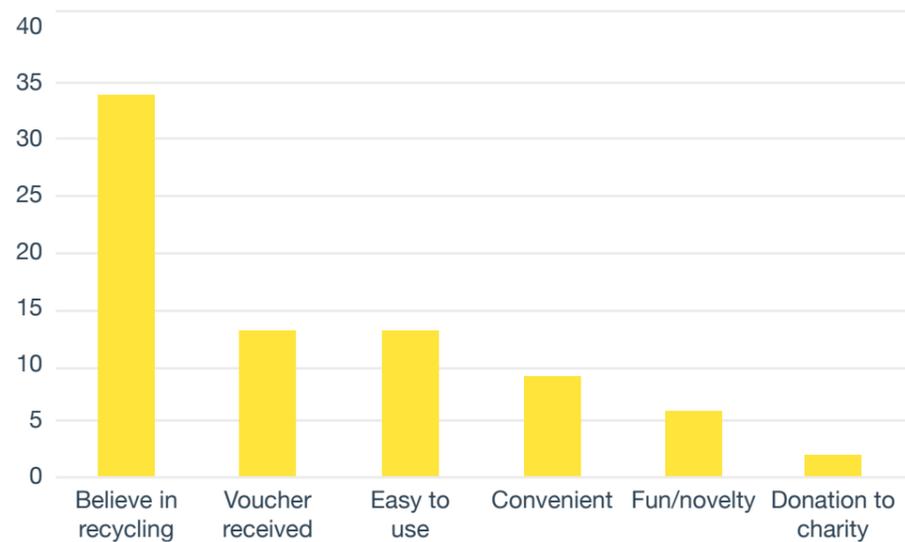
There was a significant variation in the usage of the 7 machines. The plastic bottle and can machine at Trinity kitchen was by far the most popular, collecting 7 times that collected at the Shell Regent Garage over the same period.

Each site was asked to keep a weekly log of the quality of material collected. The majority reported under 10% of the contents were contaminated. An audit done at Kirkgate market found just 6% contamination and very high-quality contents, with 71% cans and 23% plastic bottles. A Trinity kitchen audit found a slightly higher contamination rate of 16%, which was mostly plastic cutlery.

A survey of 396 people in mid-March at the reward machine locations asked questions about the machines.

- 95% thought recycle reward machines were a good idea
- 39% of people had seen the machines
- 36% of those who had seen a machine had used one

Figure 5: Motivation for using a recycle reward machine (number of times mentioned)



Token redemption was low and varied from site to site, with only 1% of vouchers redeemed at Trinity Kitchen versus 10% at Beckett University. This suggests financial rewards may appeal more to a student demographic, and / or in areas where people are regular repeat visitors and so have the opportunity to redeem the reward.

At Beckett there was no increase in the number of items recycled or the vouchers redeemed when the reward increased to 20p from 5p, suggesting the value of reward did not influence behaviour.

At Beckett University in the lead up to Christmas the reward was replaced with a 10p donation to a local homeless charity. At Trinity Leeds a machine for cups was introduced which was gamified and made to look like a person swallowing the cup, without offering a financial reward. Neither of these changes led to a decrease in usage of the machines.



 Recycle reward machines collect very high-quality material with low contamination, although some indoor recycling bins were just as effective.

The public like recycle reward machines but were mainly motivated by a belief in recycling rather than financial rewards.

Location is important. The most popular machines were very visible, often from all sides.

Whilst recycle reward machines are more expensive than equivalent bins, they may help encourage recycling in specific closed-loop locations where people buy, consume and dispose of food and drink packaging such as a large campus or food hall area.

Novelty or fun appears to be a factor, as few rewards are redeemed and removing the financial reward altogether didn't affect usage.

Financial rewards are more popular with a student audience.

Managed space recycling

A range of managed spaces - shopping centres, to universities, a market and workplaces - took advantage of the free communications and discounted recycling bins and waste collections offered as part of the trial.

44 indoor coffee cup-shaped bins were installed, plus a small number of indoor plastic and can bins. Waste audits were conducted to compare the quality and quantity of recycling indoors versus on-street, mainly at Trinity Leeds shopping centre and Kirkgate market.

Managed space recycling was found to be generally better quality than on-street. This supports findings from previous Hubbub trials which shows that people respond better and are less likely to contaminate bins in a managed space, where there is a social norm to conform or they may have more time.

Surveys in Leeds found 15% of target material was disposed of at work, with 57% disposed of on the street. Therefore, whilst providing workplace recycling is important to collect high quality material, on-street collections are important for the collection of larger quantities of recycling.

A survey was sent to the managed space contacts in Leeds, of which 11 people responded in full. Overall, all said that they thought that the campaign had raised awareness locally about recycling on the go. It found:

- **91% agreed or strongly agreed that Leeds By Example had been a useful way to communicate with staff/ students/ customers about recycling.**
- **91% thought the communications materials were engaging.**
- **61% had seen a noticeable improvement in the quantity of recycling.**
- **45% had seen a noticeable improvement in quality of recycling.**
- **73% found the orange cup recycling bins practical and easy to use.**

Kirkgate Market

Kirkgate Market has a large open food hall, with street food type vendors and a seating area. Prior to the trial there was no recycling for the public, the trial introduced a plastic/ can recycle reward machine and two yellow bins. Two audits found these had a contamination rate of 4% or less. The contaminants found were mostly polystyrene cups, food trays or cutlery. The nearest on-street yellow bin had a contamination rate of around 30%.



Managed space recycling is generally better quality than on-street, but on-street recycling is important to collect larger quantities.

Engaging managed places to share consistent recycling communications helps amplify messages and change behaviour to increase quality and quantity of recycling.

Universities

- **Beckett University has two recycle reward machines (one for plastic bottles/cans, one for cups), plus two cup-shaped bins and made use of the free communications materials and a visit from the Re-Cycler for a week in November.**
- **Leeds University had two cup-shaped bins and made some use of the free communications materials, as well as having a couple of visits from the Re-Cycler.**
- **Leeds Arts University had a cup shaped bin and hosted a workshop for students about plastic reduction and Leeds By Example.**

All universities agreed that they had seen an improvement in the quantity of recycling collected and two of three said they had also seen an improvement in the quality.

Meg Ojari, Student President at Leeds Arts University said: *"It's easy to see the difference when it's as part of a large group of people making small differences that add up."*

Comparing different collection methods

In order to compare the effectiveness of different recycling collection methods, a comparison was made to assess the quantity and quality of recycling by collection type.

Figure 7: Comparing quality and quantity of different collection methods

Bin type	Quality (Target material per day per bin in litres)	Quality (Contamination by volume %)
On-street yellow bin	22	37%
Re-skinned yellow bin	21	43%
On-street cup bin	42	46%
Indoor cup bin	6.5 (Trinity only)	49%
Recycle reward machines	5.46 (Coffee cups) 18.43 (Plastic and cans)	<10%
Retailer In-store	91.9 (per store and day, several bins)	NA



On-street coffee cup bins captured the most target material.

Coffee cup bins (indoor and on-street) also had the highest contamination.

Retailers collected by far the most cups.

Reskinned yellow bins had worse contamination than original yellow bins but captured almost as much target material.

Recycle reward machines performed the best contamination rates, but did not collect as much quantity as the on-street bins.

National benchmark comparison

Unfortunately, there is very limited data and research into on the go recycling, making a national benchmark comparison very difficult.

WRAP published 'Drinks Recycling On-the-Go' in February 2019, comparing on the go recycling schemes such as on-street or in workplaces. When comparing contamination by weight, the Leeds trial compares favourably.

For on-street local authority schemes the average contamination rate is 51% of contents by weight, yet with a huge variation per scheme (19% - 87% contamination).

Leeds By Example on street plastic and can recycling had an average of 50% contamination by weight, but many local authority schemes would have included materials that were categorised as contamination in Leeds, such as glass which is a heavy material. There were also differences in how contamination and dry mixed recycling were categorised between Leeds By Example and the schemes reported by WRAP, so Leeds By Example may have performed better than this comparison suggests.



Leeds By Example performed better than other on-street recycling schemes, but more comparable research is needed.

A note on methodology

Waste audits

Leeds By Example was independently monitored by a consultant who undertook multiple waste audits, including 15 for yellow bin plastic and can contents. Recycling was taken fortnightly to the Materials Resource Facility (MRF) - HW Martin to be audited, before being sorted then sent for reprocessing. Some audits were also completed at Forge Recycling's Leeds depot. Usually a sample of 10 bags was chosen at random.

Over the period 18 – 31 March, all 39 plastic and can bins were labelled by location and every bag was audited, therefore providing data on performance per location. Results in this report relate to all waste audits for total figures and the final waste audit where specific locations are discussed.

Volume versus weight

As the target material being collected for recycling – cans, bottles, food packaging and cups – are very light, these results are predominately provided in volume rather than weight. This was at the suggestion of our measurement and evaluation consultant Dr Elain Kerrell.

Contamination such as liquid, food or glass is heavy and therefore skew results. Given the recycling industry mainly uses weight, all recycling was also weighed, therefore some weight figures are also provided.

Definitions

There are three different categories for measuring recycling in the trial:

- **Target material: Materials which are intended to be collected in each bin type - plastic and cans in the yellow bins or coffee cups in the cup bins. Only plastic types PETE, HDPE and LDPE can be recycled in Leeds.**
- **Non-target recyclables: Materials which are potentially recyclable but were not intended to be collected in the recycling bin e.g. glass and paper.**
- **Contamination: materials which are present in recycling bins but not targeted for collection. For plastic/ can bins this is non-target materials (glass, paper and paper cups) and leftover waste such as food, liquid and other packaging. For cup bins this would be anything other than paper cups, including plastic, cans, paper, lids, food or liquid.**

We Recycle App

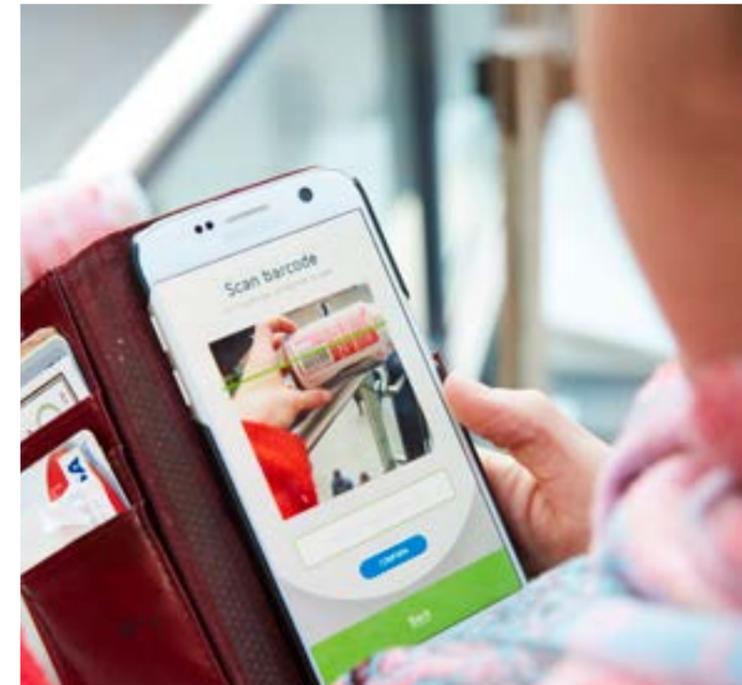
The We Recycle app had 284 downloads and 225 packaging scans in Leeds between October and March.

Of these packaging scans, 94% took place during the launch period in October. This suggests that having downloaded the app, people did not continue to use it.

The app being promoted through various channels including social media posts and on-street digital screens as well as directly through managed spaces such as the universities.

To assess what role technology may play in encouraging recycling, a public survey was undertaken in February 2019, with 396 respondents.

- **84% thought technology had a role to play.**
- **3% of people had heard of the We Recycle app.**
- **60% of people said they would in theory download an app that told them if something can be recycled and located their nearest recycling point.**
- **Of those who said yes, the majority wanted it to locate the nearest recycling point (58%), followed by it telling you whether an item of packaging could be recycled (37%).**
- **For those who would not download an app, the main reasons were that they wouldn't use it, would look for bins on-street, already recycle or don't have space on their phone for another app.**
- **People were asked what technology would help them to recycle:**
 - 26% said recycle reward machines
 - 24% said links to social media
 - 24% said a downloadable app.



There may be a role for technology to encourage recycling, but despite people saying in surveys they would use an app, the We Recycle app was downloaded and used by very few people despite.



Awareness

To measure awareness of recycling in Leeds and any impact of the trial, public surveys were undertaken in August 2018, October 2018 and at the end of the launch period and in mid-March 2019. Over 300 people were surveyed each time. Comparing the August results with the combined October and March results shows:

- **The number of people who had seen or heard anything about recycling in Leeds City Centre increased from 23% to 44%**
- **The number of people who said they disposed of target material in a general litter bin decreased from 77% to 63%**
- **The number of people who said they disposed of target material in a recycling bin increased from 17% to 32%.**

In March 87% of people recalled hearing or seeing something about the campaign. Of this the most noticed interventions were the on-street yellow plastic/ can bins (52%) and the orange on street cup bins (22%). The next most noticed was the interventions in Trinity Leeds (16%).



Bold, consistent communications meant most people had seen something about the campaign.

More than half had noticed the yellow plastic/ can recycling bins, demonstrating the value of brightly coloured infrastructure with clear, distinctive messaging.



Social media

An online social media campaign (#LeedsByExample) was crucial to sharing the key campaign messages, raising awareness infrastructure and targeting audiences such as commuters and students.

Hubbub's own channels featured regular #LeedsByExample posts, templates for which were also shared with partners to amplify reach. This resulted in:



4.6m reach
social media channels
(including some
Facebook paid adverts)



4.6m posts



1,743
different contributors



10,021
combined likes on
Instagram posts



748
comments
on Instagram
and YouTube

Analysis of a sample of 6 weeks' worth of 172 social media posts and 20 comments in February/ March on Twitter (not including Twitter), showed 88% were positive about the campaign, 8% were questioning, suggesting, or commenting, and 4% were negative.

Targeted Facebook ads were successful; 6 different ads were run to be targeted at different audiences, resulting in 146,497 views and 52,014 engagements.

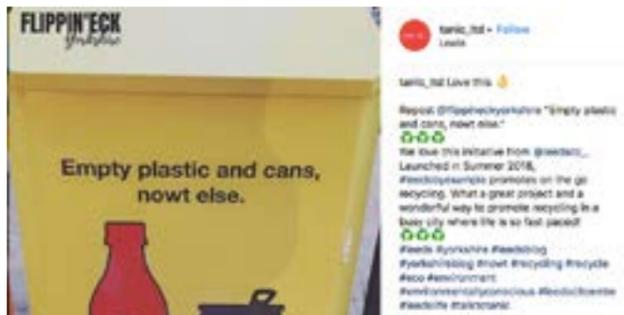
The Leeds By Example webpage (www.leedsbyexample.co.uk) and associated blogs had 2,377 views.



The hashtag #LeedsByExample was well received and helped give the campaign a distinctive brand.

Consistent messages on social media supported the physical communications around Leeds city centre.

A strong social media campaign was achieved by amplifying reach via partners and targeted social media ads.



Media and PR

Leeds By Example attracted extensive media coverage both nationally, locally and in trade press. There were 205 pieces of coverage with opportunities to see or hear of 164 million.

Highlights included:

- Campaign launch announcement featured throughout the day on BBC Radio Leeds news bulletins.
- Launch covered by BBC Radio (five regions) and BBC Look North, Leeds TV, Heart, Capital, Sunshine, Magic and Radio Aire.
- National coverage includes Huffington Post, inews and MSN, plus mentions in The Guardian and The Daily Telegraph.
- Local print and online coverage included Yorkshire Post and Yorkshire Evening Post.
- Extensive pick up by trade media of announcement and launch.

Events

41 different events were held, leading to direct conversations with 2,602 people. Most of these involved the Re-Cycler visiting high footfall areas.

The most successful event was a workshop for local social media influencers, as a way of reaching the 18-25-year-old age group. This resulted in 42 blogs, vlogs and social media posts with opportunities to see of 338,925.

The media campaign helped to raise awareness among the public that new recycling facilities were now available, and what items should be recycled.

In summary, there were:

22 Broadcast	26 Print	25 Online
76 Trade	47 Social media (external only during launch)	9 Influencer blogs and vlogs

Events need to be targeted at specific audiences such as local influencers or take place in places where food and drink is consumed e.g. community fairs or large workplaces.

Giveaways or competitions helped attract more people to talk to the event team.

Public engagement events were time-consuming and resource intensive.

Interventions

Bubble bin

Several different engagement interventions that were trialled, the following pages give a summary of their effectiveness in terms of practicalities, value for money and raising awareness.

- 2 'bubble bins' were developed which burped and blew bubbles when used to collect plastic and cans at events.
- Cost £7,000 for 2.
- Competition held on social media in autumn 2019 named them 'Gordon and Alan Binnit'.

Positives

Highly engaging, fun, good at starting conversations
Very popular as a media hook and on social media with lots of interest from people outside of Leeds

Negatives

- Impractical to move around; electrics and artwork easily damaged.
- Needs to be staffed.

Verdict

A fantastic engagement tool, works best in a managed space where it can be overseen.

Launch installation

A shipping container on Briggate (the main shopping street) for ten days during the campaign launch.

- The shipping container had one side filled with empty plastic, cans and cups, helping visualise 3 days' worth of rubbish disposed of on the streets of Leeds.
- Inside it featured information about the campaign.
- Cost £10,000, though Leeds BID provided the shipping container for free.

Positives

- Strong visual focal point for launch week with clear messaging.
- Indoor communications useful to share key campaign messages.

Negatives

- Resource intensive during the day and required security at night which proved expensive for 10 days.
- Limited sharing on social media.

Verdict

22% of those who had seen something about the campaign in the interim surveys had seen the installation. Useful focal point for launch, but it was expensive and was not shared on social media as much as hoped.



Cup installation

- A giant disposable coffee cup in Trinity Leeds made out of paper cups, with a sleeve featuring Leeds' skyline, installed at the end of January.
- "600 cups every 10 minutes" to help visualise the impact of paper cups and nudge people towards disposing of cups in the orange bins provided in Trinity and on-street.
- Cost £5,000, plus maintenance.

Positives

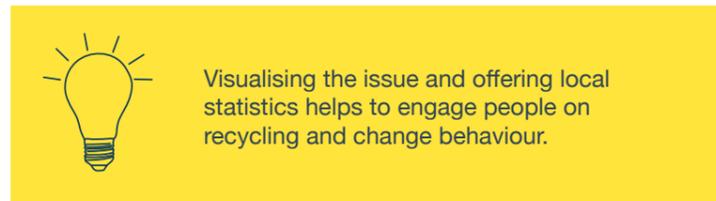
- Good visual installation that looked very like a disposable cup, with clear messaging.

Negatives

- Quite delicate and had to be repaired several times following vandalism.
- Some criticism on social media about use of paper cups and that people should use reusables instead.

Verdict

- 9% of those who had seen something about the campaign in the final surveys noted the installation. A great concept but robustness and security should be considered, for example making it more easily moved.



Pop-up seating area

- A seating area made of recycled plastic material including information about the campaign and demonstrating the circular economy.
- In Dortmund Square from 6 November until April giving the public somewhere to enjoy their on the go food and drink.
- Cost £7,000.

Positives

- Useful circular economy story and ongoing focal point
- Well designed and constructed

Negatives

- Limited social media engagement
- The wood effect meant that the plastic message was slightly lost, and it looked quite grey over winter
- Attracted some anti-social behaviour

Verdict:

Final survey showed 2% of those who had seen something about the campaign had seen the seating area. It could have been brighter and more clearly made of recycled material. Would work better in a greener, less urban location and over spring and summer when more people sit outside.



Re-Cycler

- The Re-Cycler concept was based upon Hubbub's Trashconverter - it gives out rewards in return for recycling, to help incentivise behaviour change.
- A cargo trailer was pulled by an electric bike, featuring fold out messaging boards.
- It attended events and gave out treats such as sweets, fruit and recycled pens.

Positives

- Very visual and eye-catching.
- Useful to start a conversation; the electric bike drew in a different audience.

Negatives

- Impractical and resource intensive.
- Engagement levels depended on location.
- Unable to fit indoors in some buildings.

Verdict

- A useful engagement tool but practicalities mean it is unsustainable for longer term use and a similar visual intervention could have the same impact with less



Conclusion and recommendations

Made from 100% recycled plastic

From bottle to bench...

1



Plastic bottles were collected and taken to a factory in Scotland.

2



They were shredded, washed, melted to 200° and then shaped into planks of plastic wood called Plaswood.

3



Leeds based building and design company Motley Makers transformed the Plaswood planks into this seating area.

Good quality recycling can be turned into new items that benefit our communities. Let's recycle for Leeds.

We're a city that #LeedsByExample.

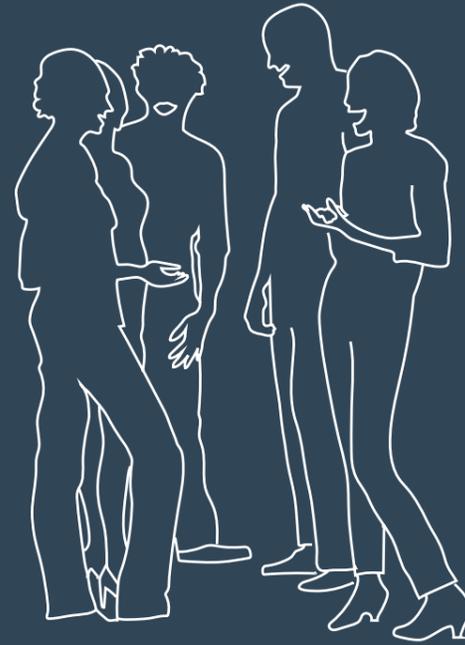


Collaboration is key

Leeds By Example demonstrates the impact of collaboration to tackle pressing environmental issues. By bringing together a unique combination of corporate partners, a local authority, the waste industry and local partners in Leeds, the campaign has successfully installed 124 new recycling points, reached 4.6 million people on social media and established a recognisable brand, that is locally owned.

This would not have been possible without the unique collaboration of various partners to input expertise, facilitate the various interventions and amplify key messages, as opposed to all of the onus being on the local authority to tackle this issue alone.

Recommendation: Continue the Leeds By Example campaign a further 6 months and expand to two other UK cities, continuing to develop this collaborative approach. Hubbub will continue to openly share results to inform a national and collaborative approach to recycling on the go.



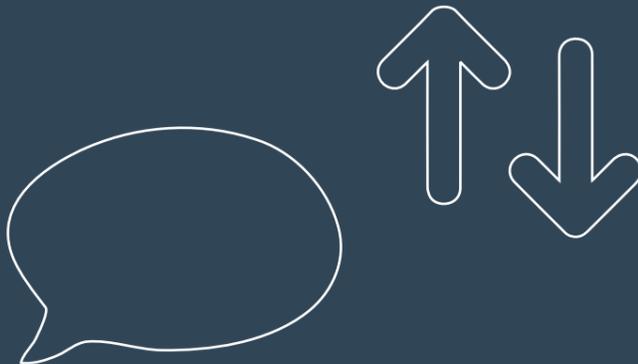
Consistent communications are critical

82% of the public in Leeds city centre had seen something about the campaign which significantly increased the number of people recycling their food and drink packaging. The same messages were seen across the city centre, whether on street, in retailers or in privately managed areas such as shopping centres. These messages were supported on social media.

We created a strong and recognisable brand - bold, clear, playful messaging and easily recognisable colour and icons were seen from the point of purchase to the point of disposal, as well as in the media, social media, advertising and public installations.

Inconsistent messaging to the public about recycling is a significant barrier to recycling in the UK. Leeds By Example demonstrates what can be achieved by having a clear, concise call to action, amplified by a range of different partners to achieve scale and change behaviour.

Recommendation: Use the same consistent colours, icons and messaging to build public awareness of recycling on the go. A national approach would further help to increase public understanding and awareness.



Raise awareness when recycling is introduced

Alongside the introduction of new bright yellow recycling bins in Leeds city centre Hubbub led a high-profile media launch, a social media campaign using the hashtag #LeedsByExample and various public awareness installations and events. This ensured that a high proportion of the public were 'warmed up' to the idea of recycling

Recommendation: clear communications and an awareness-raising campaign are required alongside the introduction of new recycling infrastructure. Recycling awareness and behaviour increased after the launch, suggesting a clear correlation between the communications activities and use of the new recycling bins. Our surveys clearly showed that the public want to recycle.

Quality of recycling can vary

Leeds By Example aimed to understand what will motivate the public to recycle on the go. It is clear that the public by and large want to recycle but are often confused about what can be recycled, and there is a 'value-action gap' in what people say they want to do and what they actually do.

Leeds By Example demonstrated that contamination is worse in high footfall areas, especially where people are new to recycling infrastructure and communications.

Highest quality - vs - lowest quality

- Where people have more time such as at bus stops or pedestrian crossings vs where people are in a rush
- Where recycling bins are visible from afar, such as across the road, with bright, bold messaging vs where people only recycling bins at the last minute or messaging is hidden or not clear.
- In suburban or lower footfall areas vs the highest footfall areas of the city centre.
- When footfall is lower, during business as usual/ 'term time' vs school holidays or when new people are in the city.
- When general waste bins are easy to use vs when general waste bins are further to reach or have a barrier such as a handle.
- Plastic/ can bins on street vs coffee cup bins.
- Recycle reward machines and 'managed space' recycling vs on-street recycling (though on-street varies hugely by location).



Include both managed space and on-street recycling

Quality of recycling is higher in managed spaces and lots of food and drink packaging will end up in workplaces, but in Leeds By Example more than half of all packaging was disposed of on the street and a significant proportion of recyclable packaging was still not being recycled.

Therefore, it is important to have a combination of on-street and managed space recycling facilities. Our surveying shows people predominately use the nearest bin and want recycling to be easy and convenient.

Recycle reward machines are popular with the public and may form a useful part of the infrastructure needed in a city; they are most effective in closed-loop, managed spaces where people both consume and dispose of food and drink packaging.

Recommendation: A combination of on-street and indoor, managed space on the go recycling should be introduced in urban areas (where possible with a common, shared message). This could include a range of different locations including workplaces, on-street, universities, transport hubs, shopping centres and retailers.



Recommendation:

Avoid recycling bins in very high footfall areas, ensure recycling bins are visible, ensure there is a general waste bin directly beside the recycling bin and make it just as easy to use as the recycling bin.

Further understanding is needed of the impact of different seasons, time of day and footfall.



Cups needed to be collected

Paper cups can be recycled but need to be collected and recycled separately from other materials. At least 600,000 coffee cups were collected during the trial and yet they continued to be a major contaminant in plastic / can recycling, demonstrating the need to provide cup collection facilities and to further educate the public about cup recycling.

Cup collections in managed spaces generally yield better quality recycling, on street bins were also effective particularly in high footfall areas where lots of people are drinking takeaway hot drinks, such as commuters coming out of the train station.

The benefit of recycling more cups is twofold:

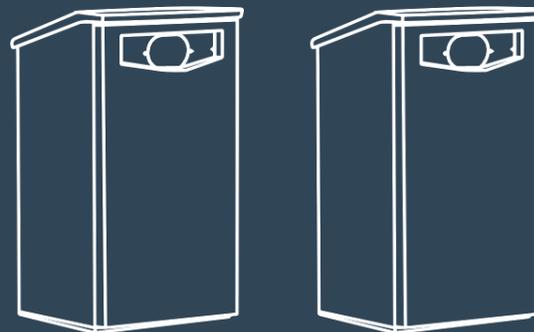
- Recovering high-quality paper from the cups and recycling more of the almost 3 billion cups that are disposed of each year in the UK.
- Cups are one of the main contaminants of on street recycling other dry mixed recycling and often contain milky liquid which can ruin whole batches of good quality recycling.

Positioning of bins is important

Leeds By Example and previous Hubbub trials demonstrate that recycling bins should always be placed next to litter bins, to minimise contamination. The quality of recycling in the plastic and can bins varied significantly in areas where people were in a rush versus where they had more time to take in messaging and communications, demonstrating the importance of bin positioning.

Cup recycling was invaluable in Leeds around transport hubs which collected a large volume of cups (though this also resulted in high contamination in places) and in managed spaces like workplaces.

Recommendations: Always position recycling bins directly next to general waste bins and place recycling bins in areas where they are visible from afar and people have time to take in messaging rather than where people are in a rush. Position on street cup bins strategically in high footfall areas.



Recommendation:

More infrastructure and awareness raising is needed to boost cup recycling, both on street and in managed spaces.

The Cup Fund recently announced by Hubbub (www.thecupfund.com) aims to kickstart cup recycling in locations across the UK.



Recommendation:

Recycling is an everyday, banal subject for most people. To engage a mainstream audience, it needs to be eye-catching and easy to do. Behaviour change techniques can play an important role in catching the attention of the public to increase levels of engagement.

Consistent, robust monitoring is needed

It is crucial to monitor the impact of different recycling interventions, to understand what is effective and to adapt the approach based on findings.

To date there has been limited comparable research to measure the effectiveness of on the go recycling and it is difficult to compare a national benchmark of what is considered good on the go recycling. Leeds By Example provides some robust research on this issue, but further insight is needed to understand the impact of recycling in different locations and to establish a robust set of recommendations for other towns and cities.



Recommendation:

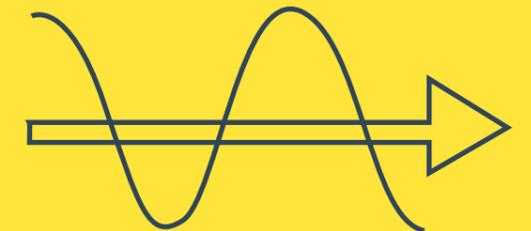
Future trials should ensure robust, independent monitoring and make available comparable data, to provide more insight and help inform national policy-making, as well as establish a national benchmark.

Make recycling simple, visual and fun

Broadly the trial showed that the public in Leeds are not significantly motivated by financial rewards or incentives, but do respond to playfulness, bold messaging and interventions that visualise the issue.

The most effective behaviour change techniques have been:

- Nudge techniques at the point of action, such as playful messaging and bright bins, which surveys showed was the intervention that the most people noticed.
- Interventions that are fun or interactive, for example Bubble Bins which proved the most popular with the public and the recycle reward machines.
- Visualisations which showed the scale of the issue such as the giant cup installation and the shipping container installation during the week of launch.



A woman in a blue puffer jacket is looking at a display of recycling containers. The containers are filled with plastic bottles and cups. The display is part of a campaign to encourage recycling on the go.

On the streets of Leeds city centre, we bin enough food and drink packaging to fill one of these containers every 3 days.

What's next

Whilst a huge amount has been learnt in Leeds, we have decided to extend the trial a further 6 months until September 2019 to test interventions over the spring and summer months, and to respond to feedback and evaluation from phase one. We aim to increase the quantity and quality of recycling collected and hand over the campaign to local organisations to it continues to thrive beyond September 2019.

Alongside this we will extend the approach to Edinburgh and Swansea, to enable findings from Leeds to be tested in different cities. We believe that combining the learnings from the three cities (and countries) will provide robust data to inform a new approach to recycling on the go.

Hubbub will create an Inspiration Guide to help other towns and cities implement effective recycling on the go, including a set of guiding principles to follow, specific recommendations and a toolkit of useful communications assets. We will actively share this with other towns and cities and will target 10 cities to adopt the approach in 2020.



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