

INVITATION TO TENDER

August 2019

Evaluation of Contamination Hit Squad Demonstration Project

Reference 2019/20 – 08

1. Overview

This invitation to tender is issued by the London Waste and Recycling Board (LWARB) ('the Customer') on behalf of the Resource London programme. The tender is for the provision of evaluation services in relation to the Contamination Hit Squad Demonstration project.

2. Background to Resource London

Resource London is the jointly funded partnership programme created by LWARB and WRAP. It is a support programme for London waste authorities, helping them to achieve recycling targets set by the Mayor of London and national government. It maximises the resources of both organisations for the benefit of London.

The objective of the programme is that by 2020, London will have more consistent and more efficient waste and recycling services that:

- reduce the city's waste footprint and reinvigorate recycling to make a significant contribution towards the Mayor's ambition for London to achieve 65% recycling by 2030;
- make an effective contribution to the Mayor of London's CO2 emissions performance standard; and
- can make a significant contribution towards England achieving its 50% household waste recycling target in 2020.

More information about Resource London can be found on our website.

3. Background to the requirement

Resource London, in partnership with the London Environment Directors Network (LEDNet), is delivering the Contamination Hit Squad (CHS) project with four London local authorities – Brent, Greenwich, Haringey and Lewisham.

The project involves the employment of a group of contamination officers to help deliver the participating councils' contamination policy. The officers will inspect recycling kerbside containers from selected rounds ahead of the crews (on collection day) and identify those which are contaminated. The contaminated containers will not be emptied as recycling¹ and the householders will be contacted to advise them that their bin was contaminated. A series of follow up letters will be used, depending on the frequency of contamination. More detailed information can be provided to the successful Service Provider. Keep Britain Tidy (KBT) has been contracted by LWARB to deliver the "hit squad" element of the project.

¹Some authorities will empty contaminated containers as refuse on the same day and others will leave the container for the householder to remove the contamination.

The objective of the CHS project is to try to determine whether the employment of a specific group of officers who solely focus on tackling contamination, will help to decrease contamination at the kerbside, compared to relying on the crews to implement the contamination policy.

Resource London requires a Service Provider (henceforth 'the M&E Contractor') to carry out an evaluation of the project. The evaluation will involve using monitoring data collected by the Contamination Hit Squad, the participating councils and the M&E Contractor to:

- ascertain the impact of the CHS project in reducing contamination at the kerbside;
- understand any behavioural changes; and
- estimate whether there are potential financial savings to other London local authorities, should they buy into a permanent London-wide Hit Squad programme.

4. Objective of this work

The aim of the evaluation is to provide information on which Resource London and the London local authorities can make a decision whether to support the introduction of a permanent, London-wide Contamination Hit Squad.

An evaluation plan has been prepared for the project and is attached to this ITT. The objective of this work is to implement that plan, including:

- Developing one or more dashboards that can be used by KBT and the participating councils to monitor week on week progress;
- Finalising the approach and then working with the councils to obtain data for the difference-in-difference impact evaluation;
- Developing a plan for delivering the qualitative research, including a sampling strategy and two semi-structured questionnaires, then deliver that plan;
- Working with Resource London and the councils to devise a credible method to estimate potential costs and savings;
- Analysing and collating the required data;
- Preparing a technical report; and
- Preparing a summary report suitable for the participating London authorities

5. Project outline

Each participating council will identify one kerbside recycling collection round per day (five in total) with which KBT will run the demonstration project. The CHS project will run in two boroughs simultaneously for a six-week period, before moving on to the next two boroughs for a further six-week period. The hit squad will then return to the initial two boroughs. Each six-week period is followed by a week's contingency before moving to the next area. In total, each round will be monitored for 12 weeks – two sets of six weeks monitoring, one before the Christmas period and one after, beginning in September 2019.

Householders that contaminate will be subject to an escalating series of interventions, starting with

a bin tag, moving through to two letters and a visit, before finally the recycling bin is removed.

For the periods in between the CHS presence, each participating council will continue to deliver their contamination policy as usual on those rounds, as well as all other kerbside rounds. See table below.

Table 1: example of how the contamination policy will be delivered in the demonstration project

LA/Week	1	2	3	4	5	6	contingency	1	2	3	4	5	6	contingency	
1 and 2	CHS operate contamination policy						LA to deliver their contamination policy as usual								
3 and 4	LA to deliver their contamination policy as usual							CHS operate contamination policy						ditto	

This can be discussed in detail at the project inception meeting.

The purpose of the evaluation is to test the proposition that monitoring and feedback provided by a dedicated hit squad will be more effective at reducing contamination than the regular bin crews.

6. The specified requirement

- 6.1 Attendance at an inception meeting in LWARBs offices (2nd Floor, 69 Wilson Street, London EC2A 2BB) at 11:30, Wednesday 4 September 2019 to discuss the detailed requirements of the project.
- 6.2 Produce a revised version of your proposal (if required) along with minutes of the meeting which set out the key outcomes, conclusions and action points from the inception meeting, within five working days.
- 6.3 Produce a revised version of the monitoring and evaluation plan, incorporating the aspects of your tender that have been approved by Resource London and adding detail based on the items below.

MONITORING

- 6.3.1 Liaise with KBT and the four councils to devise one or more dashboards to be used for week on week tracking of progress. You should set out your initial thoughts on how you would develop the dashboards in your tender, including your comments on the contents proposed in the evaluation plan. NB activity on the ground is due to begin w/c 16 September 2019.

IMPACT EVALUATION

- 6.3.2 Prepare a detailed plan for the impact evaluation and liaise with KBT, the councils and/or Veolia² to obtain the necessary pre-project data and arrange for supply of project data; your tender should comment on the approach set out in the evaluation plan (see Appendix 2).

QUALITATIVE RESEARCH

- 6.3.3 Finalise the sampling strategy for the qualitative research and agree it with Resource London.

² Veolia is the collection contractor for both Brent Council and Haringey Council. Lewisham Council and the Royal Borough of Greenwich operate their collections in house.

- 6.3.4 Prepare at least two semi-structured questionnaires (one for levels 1-4 and one for level 5 contaminators) and agree them with Resource London; your tender should indicate the topics you intend to cover.
- 6.3.5 Carry out the interviews; your tender should set out the methods you intend to use including relevant aspects of your health and safety policy. Please clearly indicate in the project plan when you propose to carry out such interviews.

COST BENEFIT ASSESSMENT

- 6.3.6 Finalise the approach and agree it with Resource London; your tender should set out the way you would approach this to determine whether there are any cost savings as reflective of operational realities as possible. Please refer to Resource London's Cost of Contamination³ toolkit – each council has completed one for their authority and this will be made available to the successful Service Provider.
- 6.4 Gather the required data from KBT and the councils. Please indicate the frequency to which you will gather such data.
- 6.5 Analyse the qualitative data; your tender should set out your intended approach and timescales.
- 6.6 Collate and analyse the data for the impact evaluation including household-level and round-level data, and draw conclusions on the extent to which it supports or refutes the original proposition that monitoring and feedback using a dedicated Hit Squad will be more effective at reducing contamination than regular collection crews.
- 6.7 Estimate the financial costs and whether there are financial benefits; and prepare a summary business case that contains all the information a council might need to make its own assessment.
- 6.8 Prepare a technical report on the evaluation including details of the methods used and an indication of the uncertainty around estimates of impact and cost/benefit. A draft copy should be submitted for review by Resource London with a final version submitted within one week of comments.
- 6.9 Prepare a summary report that provides councils with all the evidence they would need to make their own business case.

7. Confirmation of deliverables

- 7.1 Attendance at the project inception meeting.
- 7.2 Inception meeting minutes setting out the key outcomes, conclusions and action points, and a revised methodological proposal, if required, including a detailed description of how the work will be delivered and the objectives met.
- 7.3 A revised evaluation plan based on your accepted proposal and your discussions with KBT, the councils and Resource London

³ <https://resourcelondon.org/resources/toolkits/cost-contamination-toolkit/>

- 7.4 Regular (weekly) telephone review updates with the Resource London project manager during the planning and fieldwork periods.
- 7.5 A technical report on the evaluation including methods and an indication of uncertainty – allowing for two rounds of feedback.
- 7.6 A summary report suitable for London local authorities to make their own decisions about supporting a London-wide Contamination Hit Squad – allowing for one round of feedback.

8. Timetable

The timetable below gives an indicative timeline for this project. Bidders are advised that, except for the tender submission date, this timetable is not binding and may be changed if necessary.

Bidders are asked to note the timescale for delivery and in their tender submission they should set out how they propose to complete the work within this timescale and identify key dates where they would expect input from the Council's project team.

Milestone	Date
Invitation to Tender issued	Friday 2 August 2019
Deadline for clarification questions	Midday Tuesday 20 August 2019
Tender return deadline	Midday Tuesday 27 August 2019
Inception meeting	11:30 Wednesday 4 September 2019
First six-week monitoring period for boroughs one and two	w/c 16 September 2019
First six-week monitoring period for boroughs three and four	w/c 4 November 2019
Contamination monitoring break for the Christmas period	23/12/19 – 17/01/2020
Second six-week monitoring period for boroughs one and two	w/c 20 January 2020
Second six-week monitoring period for boroughs three and four	w/c 9 March 2020
End of KBT CHS activity	Friday 24 April 2020
Draft technical report due to Resource London	1 June 2020
Final technical report due to Resource London	30 June 2020
Final summary report	30 June 2020

9. Interface/ Contract management

The main point of liaison between the Service Provider and the Customer will be Beverley Simonson, Local authority support manager, Resource London (LWARB).

Beverley.Simonson@lwarb.gov.uk / 07732 681833

All clarification questions should be sent to info@lwarb.gov.uk – by midday Tuesday 13 August 2019

10. Quality of Service

The Service Provider shall provide the services in a competent, timely manner in accordance with recognised industry quality standards. The Service Provider shall ensure an adequate supply of suitably qualified and competent personnel are available to fulfil the requirements of the Contract.

11. Delivery Personnel

Resource London requires Bidders to nominate Key Personnel with appropriate skills to perform the service for the duration of the contract.

Bidders shall provide a CV for Key Personnel as part of their submission. The CV shall demonstrate the individual's experience, competence and capability and their specific role in the project and should be no more than 3 pages.

The Service Provider shall ensure any changes to the Key Personnel be undertaken with minimal negative impact to the service and at no additional cost to Resource London or the participating councils.

Resource London officers may at its discretion request that the Service Provider remove and replace any Key Personnel from the service that Resource London considers in any respect unsatisfactory in the delivery and performance of the contract. Resource London shall not be liable for the cost of replacing any Key Personnel.

Bidders may include other specialists ("Sub-contractors") in their Delivery Teams. However, the Service Provider will remain entirely responsible for the performance of the service. Such Sub-contractors must act in accordance with the terms and conditions of the contract entered into between LWARB and the Service Provider.

12. Submissions

Bidders are requested to submit:

- Details of their suitability to fulfil the contract, how the contract is to be managed and their approach to delivering the required specification within the project timeline indicated in 8 above. To include examples of relevant project experience. **Maximum 10 sides of A4** (excluding project experience and CVs which can be included as an Appendix).
- Details of the personnel comprising the Delivery Team, including CVs (should be no more than 3 pages) and a description of their role in delivering the contract.

- A Pricing Schedule giving day rates⁴ and anticipated number of days for nominated personnel (see Appendix 1) to **include VAT and expenses**.

Bids must be submitted by Midday on Tuesday 20 August 2019 with the reference “LWARB tender: 2019/20– 08” to info@lwarb.gov.uk

13. Contract

The contract will be let by the London Waste & Recycling Board, as the contracting organisation.

The following special terms shall apply:

Travel and Expenses

All fees shall be inclusive of any travel and subsistence incurred to locations in Greater London.

Where additional expenses* are incurred, the following rates will apply:

SUBSISTENCE	
Hotel accommodation	Value for money must be sought at all times. Cost should not exceed £200 per night in Greater London and £175 per night elsewhere. Extras such as newspapers, minibar costs and entertainments will not be reimbursed. Prior approval should always be sought before hotel stays are booked.
TRAVEL	Actual costs incurred only may be claimed.
Public Transport (Train, tube, tram, bus, light rail)	Rail travel must be standard class. Upgrades to First Class travel may be paid personally but are not reclaimable.
Taxis	Taxis are only to be used in exceptional circumstances when other public transport is unavailable or impractical. Actual costs only may be claimed.
Mileage	You can only use your car where reasonable public transport is not available, and you have a valid business insurance cover. HMRC approved rates are applied

**additional expenses to be agreed with LWARB prior to being incurred.*

14. Evaluation

LWARB must be satisfied that each potential contractor has the appropriate capabilities and resources available to undertake the work to our requirements and provide the necessary services. The process we use to select contractors is a competitive one. Your tender submission will be evaluated by both Resource London officers and a local authority officer by looking at the following

⁴ At a minimum staff are expected to be paid the London Living Wage.

criteria:

Evaluation criteria	Weighting
Price ⁵	30%
Suitability of proposed methods to meet the objectives of the project including delivering the project within the given timescales.	35%
Authority of allocated personnel, their skills and technical capability and the time allocated for their specific task.	30%
Approach to project management, including proposals for working effectively with multiple stakeholders	5%

Scoring	
Outstanding - cannot be faulted	100
Excellent	90
Very good	80
Good	70
Above average	60
Average	50
Below average	40
Poor	30
Very poor	15

Responses will be evaluated based on written submissions, but in the event of a high response rate and numerous submissions, a shortlist of two or three Service Providers will be drawn up and presentations required. These presentations will not ask for any additional development, but rather a face-to-face presentation of your submission.

15. Acceptance of bids

In issuing this invitation to bid, LWARB is not bound to accept the lowest or any bid and reserves the right to accept the whole or any specified part of the bid unless the bidder expressly stipulates otherwise.

LWARB will not enter into discussion with non-selected potential suppliers or justify its decision. Potential suppliers are deemed to have accepted these conditions by the act of submitting their quote. The selected preferred supplier cannot assume they have been granted the contract until a formal contract is signed.

16. Period for which bids shall remain valid

Unless otherwise stipulated by the bidder, bids shall remain valid for 30 days from the closing date for receipt of tenders.

⁵ This will be assessed by deviation from the lowest compliant tender



Appendix One Pricing Schedule

Specification for the provision of consultancy services

Ref 2019/20 - 08

An example breakdown table is shown below. Whilst this format is not mandatory, the breakdown you provide should include at least this information. Provide the breakdown as a separate Excel spreadsheet file in addition to a static form in your main tender document.

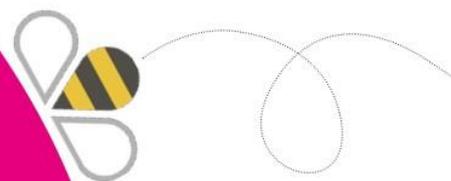
Role:	Project Director	Project Manager	Senior Consultant	Consultant	Junior Consultant	Total days	Total cost
Name:	Joe Bloggs	John Smith	Name	Name	Name		
Day rate (incl VAT):	£850	£720	£650	£520	£420		
Task							
<u>Project Management</u>							
Initiation meeting	1	1				2	£1,570
Monthly progress reports		20				20	£14,400
Quarterly meetings	6	6				12	£9,420
<u>Task 1 - Scoping</u>							
Develop delivery plan			3			3	£1,950
....						0	
Total days	7	27	3	0	0	37	
Total Fees	£5,950	£19,440	£1,950	£0	£0		£27,340
						Expenses incl. VAT	£0

Please ensure all day rates are inclusive of VAT and inclusive of travel costs to and within Greater London.

Bidders should provide their best estimate of total price to deliver the specification outlined in the tender based on the day rate and days input for each of the nominated personnel.

Contamination Hit Squad Demonstration Project

Evaluation Plan



A report to Resource London

June 2019

Prepared by: Barbara Leach

Project code: MAG19001

Client reference: RCY

Magenta Research & Evaluation has made every effort to ensure the accuracy of this report but does not accept liability for any loss, damage, cost or expense incurred from relying on it. If you have any questions about how this report may be used, please email info@magentabuzz.org.uk.



magenta
RESEARCH & EVALUATION

www.magentabuzz.org.uk

Contents

Introduction	4
Aims and objectives	4
Organisations involved	4
Scope	4
Theory of change	4
Existing data on contamination	6
The planned intervention	7
Nature of the intervention	7
Recommendations on the intervention to aid monitoring and evaluation	7
Monitoring data	13
Outputs.....	13
Household-level outcomes	13
Monitoring serial contaminants(level 4s)	17
Round-level outcomes	17
Evaluation	18
General approach	18
Data requirements	18
Qualitative data	18
Cost of contamination and savings made	20
Waste composition.....	20

Introduction

This plan sets out the way in which Resource London's Contamination Hit Squad project will be monitored and evaluated. It has been prepared by Magenta Research & Evaluation on behalf of Resource London.

Aims and objectives

The purpose of the Contamination Hit Squad project is to demonstrate the benefits to be obtained from using a dedicated team of people – a 'Contamination Hit Squad' – to monitor, inform and educate the London public. Effectively tackling contamination will increase the efficiency of the recycling service by increasing correct recycling and reducing the costs of dealing with contaminated bins.

The purpose of the evaluation is to quantify these benefits and present them in such a way that London boroughs can make evidence-based decisions about whether to adopt the approach. Our assumption is that there they will need to see clear net financial gains for the approach to be supported; cost-neutral will not be enough.

Organisations involved

Four boroughs have volunteered to be part of the demonstration project – **Brent, Greenwich, Haringey** and **Lewisham**.

Following a competitive procurement process, **Keep Britain Tidy** has been selected as the preferred contractor to provide the demonstration version of the Contamination Hit Squad, although a contract has not yet been issued.

The **LWARB** part of the Resource London partnership will be active in the project throughout because, if successful, they intend to manage the London-wide Contamination Hit Squad.

A separate tender will be issued to appoint an independent evaluation contractor. The **WRAP** part of the Resource London partnership will oversee the evaluation aspects of the work.

Scope

The demonstration project will apply only to kerbside collections within a selection of rounds in the four Boroughs; flatted properties are excluded.

Theory of change

A theory of change sets out as explicitly as possible the way in which the intervention is expected to work. Interventions do not happen in a vacuum and the context in which change occurs can be an important determinant of success or failure.

Converting contaminators to non-contaminators is an example of trying to change behaviour through social marketing. Rogers's model of 'diffusion of innovation' is useful to

apply in these cases.¹ He suggests that when a new type of behaviour such as not putting non-target materials into the recycling diffuses across a population, around half of the households will quickly take it up. A further 34% will take up the behaviour but later than others, and around 16% will still not be carrying out the behaviour even when the behaviour is well known and everyone else is doing it – this last 16% are the ‘laggards’. So, we can expect that around one household in every six (on average) will be contaminating simply because they are not bothered (yet) about taking up non-contaminating recycling behaviour.

In addition, we know that there is a good deal of misunderstanding about what can and cannot be recycled, so households that would consider themselves good recyclers may be contaminating accidentally, either because they don’t understand what can and cannot be recycled, or because they are ‘over-zealous’, want to recycle as much as possible, so put everything they think could possibly be recycled into their recycling bin.

Further, some households contaminate because some external factor is acting as a constraint and it is this constraint that needs to be tackled to enable them to act correctly.

The theory of change is different for these different types of household, and the intervention must reflect this to avoid alienating households that are well-meaning but misinformed, misguided or constrained.

Theory of Change

Most households will recycle ...

provided they have suitable containers of sufficient capacity and are provided with a collection service that meets minimum expected standards. (This project is not tackling households that do not recycle.)

Some households are contaminators ...

that is, they put materials into their recycling bin that cannot be recycled by their borough’s recycling scheme. If the contamination is obvious, the bin is left at the kerbside. If the contamination is not obvious, the material is collected and the MRF processes separate it out for disposal.

Contamination is costly ...

in routing refuse vehicles to pick up rejected recycling bins, in monitoring and feeding back to residents, and in taking corrective action. Materials that cannot be recycled at kerbside should be taken to ‘bring’ facilities by the householder (where they exist) or placed in the residual (refuse) waste bin. It simply isn’t cost-effective to manage contamination as if it was recycled until halfway through the recycling process, at which point it is far more costly to separate and dispose of.

Most households can be persuaded to change their behaviour ...

because they want to do the right thing, are contaminating inadvertently and will stop if properly and respectfully informed about what to keep out of the recycling bin and why.

Some households can’t change ...

because some external factor makes it very difficult for them to stop contaminating, e.g. their residual bin is too small. These households need to be helped to change.

¹ Rogers, E. M. (2003) *Diffusion of Innovations* (5th ed.) New York: The Free Press – p.281 for adopter categorisation on the basis of innovativeness

Some households won't change ...

even after a courteous and full explanation of why their behaviour is causing problems and how they can change. In these circumstances the most cost-effective course of action is to remove the recycling bin completely and deny the household access to the service.

Feedback provided by a contamination hit squad is the best way to invoke change ...

because they can focus their whole attention on the issue unlike crews whose focus is collecting as much recycling and waste as quickly as possible.

Existing data on contamination

Brent

The service is provided by Veolia. Crews monitor contamination using in-cab technology. An escalating series of interventions is used, including tags and letters, to persuade contaminators to change behaviour. A report is provided monthly to the Borough, and officers can access the reporting functionality on-line.

Greenwich

The service is provided in-house. Crews record bins not collected due to contamination by exception reporting on hand held devices. The data can be extracted from the system but nothing is currently done with it due to lack of resources.

Haringey

The service is provided by Veolia. Crews use in-cab technology to record contaminated bins. Weighbridge data is also provided on recycling entering and rejected at the gate from the Biffa MRF. Most data provided to the Council is at round level but the contractor has data at household level.

Three rounds are being intensively monitored at the moment as part of a trial, and escalating interventions are being applied, including threat of enforcement action and ultimately removal of service. The trial started in February and is due to report in July. Haringey has agreed to share the data.

Lewisham

The service is provided in-house. Crews use paper-based sheets to record instances of contaminated bins. The sheets are brought back to the office where data is entered onto a spreadsheet which is used to determine where on the scale of intervention the household is, and the appropriate action is taken. Additionally, residents can use the *Love Lewisham* app to report instances of contamination as well as other environmental quality issues.

The planned intervention

Nature of the intervention

The innovative aspect of the intervention being demonstrated is the use of a **dedicated Contamination Hit Squad** whose sole job will be to tackle contamination. This means that we no longer have to rely on crews who have little incentive to identify, reject and tag contaminated bins.

The current design of the behaviour change intervention is as follows:

1. **First** instance of contamination identified by the hit squad
 - a. 'oops' bin hanger placed on bin
2. **Second** instance of contamination identified by the hit squad
 - a. 'oops' bin hanger placed on bin
 - b. a letter is sent to the household explaining what can and cannot be placed in the recycling bin and why that is important to comply with
 - c. a copy of the Borough's standard leaflet is also sent
3. **Third** instance of contamination identified by the hit squad
 - a. 'oops' bin hanger placed on bin
 - b. a strongly worded letter is sent to the household explaining what can and cannot be placed in the recycling bin, why that is important to comply with and that if contamination is identified again, access to the recycling service will be denied by removing the recycling bin
 - c. a copy of the Borough's standard leaflet is also sent
4. **Fourth** instance of contamination identified by the hit squad
 - a. 'oops' bin hanger placed on bin
 - b. a visit is paid to the household to explain face-to-face what can and cannot be recycled and why this is important to comply with, and explaining that the bin will be removed.
 - c. a letter is left with the resident – either the first version if it turns out that the resident has not seen the previous letters or has simply misunderstood, or the second version if they have and are simply unwilling to change
5. **Fifth** instance of contamination identified by the hit squad
 - a. bin is collected by the refuse crew
 - b. arrangements are made for the bin to be removed from the household
 - c. a letter is sent confirming that the service has been withdrawn

Recommendations on the intervention to aid monitoring and evaluation

Although it is not the role of the monitoring and evaluation team to shape the intervention, by making some simple tweaks and establishing some basic guidelines, we will be in a much stronger position to evaluate its success.

1. Make the design as similar to the planned roll-out design as possible

If the project is to work effectively as a *demonstration* project, the design of the demonstration intervention must resemble the intervention-as-intended-to-be-rolled-out as

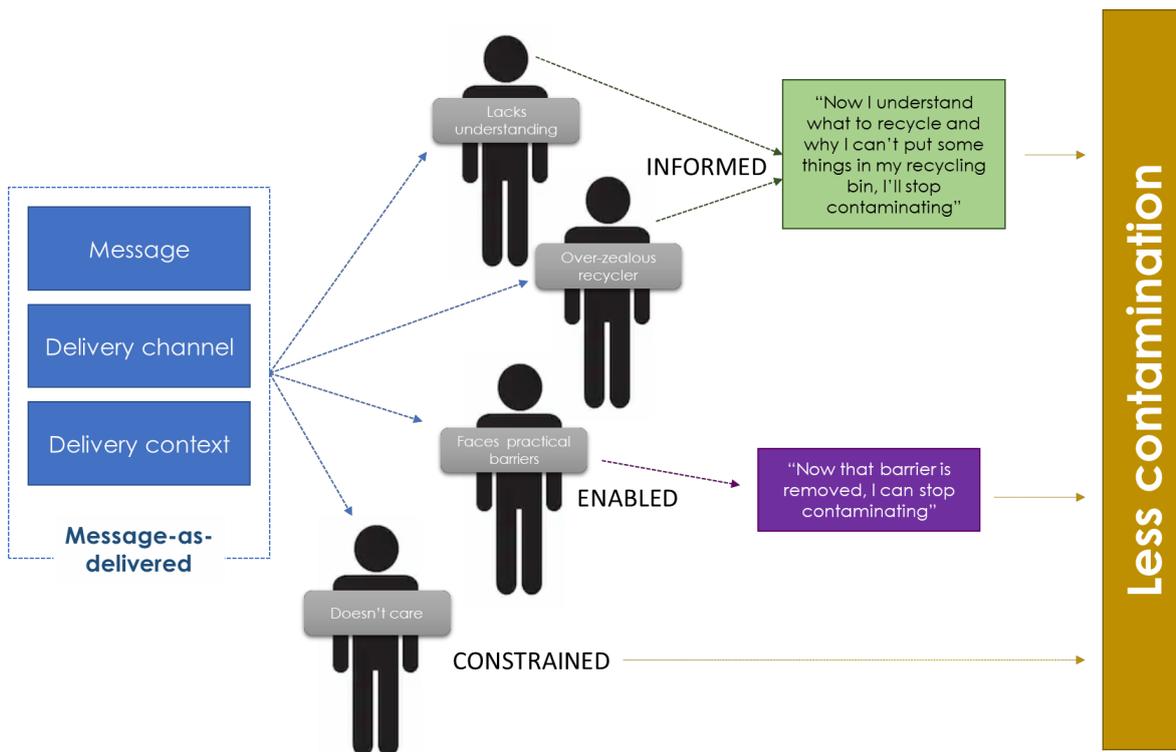
closely as possible. There are matters that KBT will control that are critical in this respect, so discussions should be held with them at the earliest opportunity, including:

- Recruitment – process, assessment criteria, selection approach
- Remuneration – level of pay and nature of benefits
- Training
- Day-to-day management

2. The intervention should draw heavily on behaviour change theory and experience to maximise the chance of success and being able to measure impact

For interventions that rely on persuasion, it is not the intervention alone that makes the difference; it is the message, the delivery channel and the context of delivery (referred to here as the 'message-as-delivered') combined with the householder's circumstances that results in the change in their thinking. In evaluation this combination of intervention with change in thinking is the 'mechanism' which creates the outcome, in this case lower levels of contamination. A poorly crafted message, a message delivered through an inappropriate channel, a message delivered in the wrong context, or a message matched inappropriately to a recipient will result in the mechanism failing to fire and the desired behaviour change not occurring. If no suitable persuasive mechanism can be found then a coercive intervention (such as bin removal) may be required. This is shown in Figure 1 below.

Figure 1: Principles of behaviour change



Below we set out the messages that are a) part of the intervention, b) not part of the intervention but which can be controlled and c) not part of the intervention and which cannot be controlled. For each we comment on how behaviour change theory can be applied to maximise the chance of success, and therefore the chance of being able to measure a change in behaviour.

Messages that are part of the intervention

1. The 'oops/whoops' bin tag

This kind of tag has been used on many previous occasions and been shown to work effectively. The approach should mirror the intended roll-out approach, i.e. if the Borough's own tag would be used on roll-out, this is the tag that should be used for the demonstration project.

2. The first letter

Careful thought should be given to the wording of the letter, and to what the Boroughs will be prepared to accept by way of standardisation. We recommend that a standard letter is used, personalised only with the Borough logo and officer details. The letter should be designed with the first two categories of contaminator in mind – those who contaminate because they do not understand, and those who put non-target materials in the recycling because they want to recycle more. Being too strident at this stage in the process has no advantage; the intransigent are unlikely to be persuaded by a letter of any kind, and if otherwise good recyclers are humiliated or shamed they may stop recycling altogether. We recommend drawing on Keep Britain Tidy's expertise in behaviour change if a letter is being designed from scratch.

Thought should also be given to the way the letter looks on the outside to maximise the chances of it being opened. Addressing it to a named person – perhaps the person registered for Council Tax or on the Electoral Roll – is an important way to do this because it also subtly conveys the message that someone has been *individually* identified, something that has been shown to be more effective in changing behaviour than anonymous messaging.

3. The second letter

By the time the second letter is triggered, most households that want to do the right thing will have changed their behaviour. The second letter should therefore be targeted at the 'laggards' and make more use of threat and coercion as a behaviour change tactic. Many of these households will not actively want to cause problems; rather, recycling properly probably comes a long way down their list of priorities and the letter will have the effect of raising its importance up this list. They may have overlooked the first letter or forgotten to act on it, so the fact that a follow-up message has been received stresses the fact that the issue is not just going to go away.

4. The visit

By this stage in the process, the households who are still contaminating are likely to be one of two kinds – households that will never recycle properly because they just don't care enough about getting it right, or households that are struggling, for one reason or another, to get it right. To ensure the evaluation of the demonstration project is as robust as possible, each hit squad member should use a standard approach tailored to these two very different types of household so we can be confident that the households received roughly the same message in roughly the same way. Where households are struggling, solutions need to be found; for example, if contamination of the recycling bin is due to inadequate residual waste capacity then more capacity may need to be provided, as well as waste prevention information. We recommend that a standard 'script' is developed and that comprehensive training on how to apply it in different circumstances is given.

5. Bin removal

By this stage, we have given up on any positive behaviour change, but there is still the potential for negative behaviour change which needs to be avoided, e.g. contamination of neighbours' recycling bins as space in the residual bin runs out. Boroughs and Resource London will need to think about whether the removal of access to the service is permanent or whether the resident can ask for it to be reinstated. This should all be explained in a letter provided on bin removal.

Messages that are not part of the intervention but which can be controlled

In addition to the elements of the intervention that are intended to have an effect, there are unintended interactions over which the Boroughs and Resource London have some control. These include:

1. Interactions with the monitors as they look in bins – a script should be prepared for these types of interaction to ensure that wherever they do occur they are handled in a similar way, training should be provided on this, and a means of recording on the database that such an interaction has occurred should be created
2. Calls to the Borough call centre in response to observing the monitors, finding the tag or receiving the letters – a script should be prepared for the call centre staff to ensure as much similarity in response across the different call handlers and Boroughs as possible
3. Interactions with the crew as they collect the bins – supervisors should be informed about the approach in the same way as they would if it was to be rolled out Borough-wide
4. Interactions with the bin removal team – a standard script should be supplied
5. Complaints to Councillors or heads of service – they will need to be briefed to maximise the chances of their response being 'on message'

Messages that are not part of the intervention and cannot be controlled

These sources include:

1. The media
2. Friends and family

We have to accept that some uncontrolled messaging will occur and that this may be different for the different Boroughs. We therefore need to find a way of understanding which other influences might have been at work and build that into the evaluation design.

An important point of principle, though, is that each participating Borough should commit to avoiding specific recycling campaigns or including major articles on recycling in newsletters for the duration of the project to avoid having unexplainable differences in effect across the four Boroughs.

We believe that KBT have expertise in behaviour change and recommend that this is included in the project if not already the case.

3. Ensure the intervention is as targeted as possible to maximise impact and the chances of seeing an effect

Because the intervention is tackling four different types of incorrect behaviour (lack of understanding, over-zealousness, barriers to correct recycling, and intransigence), it should be designed to identify as quickly as possible the root causes of each instance of incorrect behaviour and tackle each accordingly. KBT should be asked to think about ways in which this could be accomplished. Particular thought should be given to ensuring positive emotions are triggered in each case. Initial thoughts are provided in Table 1; this should be given further thought during the next design phases.

Table 1: Emotions to trigger and avoid triggering for each type of contaminating householder

Type of householder	Attempt to trigger ...	Avoid triggering ...	Possible messaging approaches
Lacks understanding	Gratitude for being informed Desire to do better	Stupidity for getting it wrong Inadequacy for not having read the information properly	"it's quite a common mistake"
Over-zealous	Pride that they had tried their best and were not to blame Desire not to inadvertently cause further problems for the scheme	They most likely have an element of identity that involves being a good recycler, so avoid triggering: <ul style="list-style-type: none"> • Frustration and annoyance that their efforts have been for nothing • Stupidity for thinking they were doing the right thing • Anger at the Borough Council for not providing the facilities they would like 	"we appreciate you trying to recycle more" "it's unfortunate that our current system can't cope with that material, but we are trying to improve things" "you couldn't have known that you were actually causing harm" "it's not your fault"
Faces barriers	Motivation to recycle better if barriers can be removed Reciprocity - I'll recycle more effectively as you've done something to help me	Frustration or anger Injustice for being unfairly targeted	"I understand it's not your fault" "let me make it easier for you to do the right thing"

4. Ensure the design of the intervention is consistent across the Boroughs and between individual Hit Squad members

The following aspects of scheme design should be considered and agreed between Resource London, the four Boroughs and KBT.

1. Consider when a 'black mark' expires

A 'black mark' (a record of a contravention) cannot last indefinitely. Fairness suggests that a household that contaminates after a long period of not contaminating should start again at stage 1 of the intervention. The length of that 'long period' is something to be discussed and agreed with the Boroughs; Haringey, for example, has a 8-10 week refresh.

2. Degrees of contamination

Clear guidelines should be established about when contamination is significant enough to warrant triggering the intervention. The Boroughs and/or their contractors are likely to have existing guidelines on this.

3. Adjustment time between escalations

It seems unreasonable to expect a household to immediately change its behaviour. A letter, for example, may take a day to prepare and dispatch and a further few days to arrive, in

which time the recycling bin may already have been half filled. A visit may take a week or two to arrange, particularly if the Hit Squad has moved onto another round or another Borough, as they will at the end of each four-week monitoring stint. The design of the demonstration project must take this into account to avoid escalating within unreasonable time frames, e.g. from a letter to a visit, before the letter has even been received. This should be discussed and agreed with the Boroughs.

4. Time after which households can be declared as 'reformed'

After a certain period of time as a non-contaminator, a household should be declared 'reformed'. There is a question about how long this should be, and whether it should include or exclude weeks where contamination has not been monitored; this should be discussed and agreed with the Boroughs.

5. Recidivists and persistent reoffenders

Some households will reform and then, maybe some time later, be identified as contaminators again. This is a recidivist household. After a certain number of recidivisms, a household called be declared a 'persistent reoffender', i.e. a household that doesn't contaminate often but has done so repeatedly despite warnings. This is again something to be discussed and defined with the Boroughs.

6. Start from scratch or continue from previous position?

In each of the selected rounds there will be a number of households who are already on the escalating scale of intervention. A decision will need to be made about whether to start from scratch with these households or maintain the previous escalation.

Monitoring data

This chapter sets out the data that should be collected on a routine basis and fed into the evaluation. The data should be collected by the Hit Squad, working collaboratively with the Boroughs, and sent on a weekly basis to the monitoring and evaluation contractor.

Outputs

Outputs are the things that the Hit Squad produces that interact with people to cause the behavioural change. Weekly data should be collected on:

- number of tags attached to bins
- number of first letters sent
- number of second letters sent
- number of visits made
- number of bins removed

The Boroughs, KBT and the monitoring and evaluation contractor may have other suggestions for output data that would be worth collating. This can be discussed during the meeting with the Boroughs and KBT on 23 July.

The M&E contractor should produce a dashboard for displaying this data which should be populated by the Hit Squad and shared weekly, one week in arrears.

Household-level outcomes

Outcomes are the changes that result from the outputs interacting with the target population, in this case the message-as-delivered being received by contaminators in the four Boroughs.

Since dry recycling is collected weekly in wheeled bins in the demonstration Boroughs, the plan is to monitor each round for four consecutive weeks, take a five week break in monitoring then return for another four weeks, take another five week break and then return for a final four weeks.

An example of the kind of data that would be obtained is shown below; for simplicity this assumes:

1. All transgressions expire after 12 weeks of contamination-free behaviour (including non-monitoring weeks)
2. There are weekly escalations, so no additional adjustment time
3. A household is reformed after 12 weeks (including non-monitoring weeks)
4. An intervention, once triggered, is always carried out

Figure 2: Example of raw property-based monitoring data

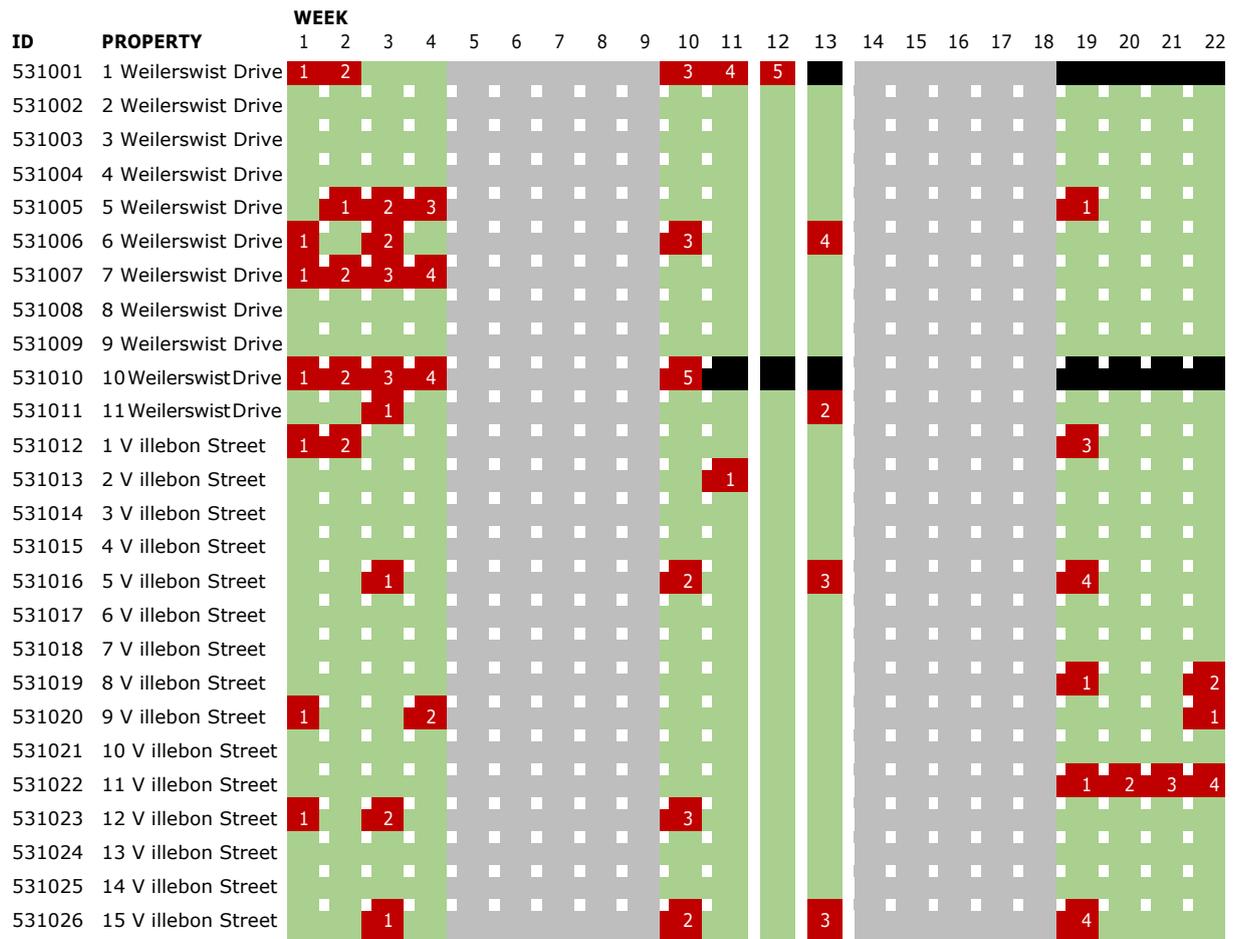


Figure 3: Example of property-based monitoring data

ID	PROPERTY	WEEK																						Highest point during trial	At end of trial	Category		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22					
531001	1 Weilerswist Drive	1	2								3	4	5											5 Level 5 - bin removed	- NO SERVICE	Non-reformer (5)		
531002	2 Weilerswist Drive																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531003	3 Weilerswist Drive																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531004	4 Weilerswist Drive																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531005	5 Weilerswist Drive		1	2	3														R		1			3 Level 3 - second letter	1 Level 1 - tag (recidivist)	On the spectrum (1R)		
531006	6 Weilerswist Drive	1		2							3													4 Level 4 - visit	0 Non-contaminator	Reformed (4)		
531007	7 Weilerswist Drive	1	2	3	4														R					4 Level 4 - visit	0 Non-contaminator	Reformed (4)		
531008	8 Weilerswist Drive																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531009	9 Weilerswist Drive																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531010	10 Weilerswist Drive	1	2	3	4						5													5 Level 5 - bin removed	- NO SERVICE	Non-reformer (5)		
531011	11 Weilerswist Drive			1											2									2 Level 2 - first letter	0 Non-contaminator	Reformed (2)		
531012	1 V illebon Street	1	2																			3		1 Level 1 - tag	1 Level 1 - tag	On the spectrum (1)		
531013	2 V illebon Street											1												1 Level 1 - tag	0 Non-contaminator	Reformed (1)		
531014	3 V illebon Street																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531015	4 V illebon Street																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531016	5 V illebon Street			1							2				3							4		4 Level 4 - visit	4 Level 4 - visit	On the spectrum (4)		
531017	6 V illebon Street																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531018	7 V illebon Street																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531019	8 V illebon Street																				1		2	2 Level 2 - first letter	2 Level 2 - first letter	On the spectrum (2)		
531020	9 V illebon Street	1			2															R			1	2 Level 2 - first letter	1 Level 1 - tag (recidivist)	On the spectrum (1R)		
531021	10 V illebon Street																							0 Non-contaminator	0 Non-contaminator	Never contaminated (0)		
531022	11 V illebon Street																					1	2	3	4	4 Level 4 - visit	4 Level 4 - visit	On the spectrum (4)
531023	12 V illebon Street	1		2							3													R	3 Level 3 - second letter	0 Non-contaminator	Reformed (3)	
531024	13 V illebon Street																								0 Non-contaminator	0 Non-contaminator	Never contaminated (0)	
531025	14 V illebon Street																								0 Non-contaminator	0 Non-contaminator	Never contaminated (0)	
531026	15 V illebon Street			1							2				3								4		4 Level 4 - visit	4 Level 4 - visit	On the spectrum (4)	

Outcome metrics for monitoring success are shown in Table 2 below. For each metric the absolute number and the % of the round would be reported weekly.

Table 2: Round-based metrics for the Contamination Hit Squad demonstration project – weekly tracker

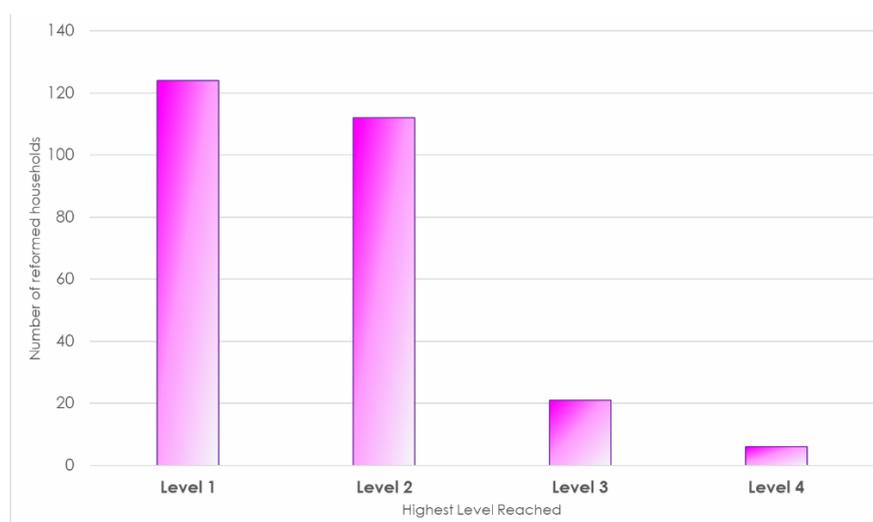
This week	Previous week	Metric	Desired direction of travel
Contaminator	Contaminator	Repeat offending household	Down
	Non-contaminator	Declining household	Up
Non-contaminator	Contaminator	Improving household	Down
	Non-contaminator	Repeat non-offending household	Up

Table 3: Round-based metrics for the Contamination Hit Squad demonstration project – 12 week tracker

This week	Previous 11 weeks	Metric	Desired direction of travel
Contaminator	5+ contamination weeks	Serious contaminator – getting worse	Down
	4 contamination weeks	Committed contaminator – getting worse	Down
	3 contamination weeks	Persistent contaminator – getting worse	Down
	1-2 contamination weeks	Repeat contaminator – getting worse	Down
	No contamination weeks	New contaminator	Down
	No contamination weeks in previous 11 weeks but at least one in previous 12 weeks	Recidivist contaminator	Down
Non-contaminator	5+ contamination weeks	Serious contaminator – getting better	Up
	4 contamination weeks	Committed contaminator – getting better	Up
	3 contamination weeks	Persistent contaminator – getting better	Up
	1-2 contamination weeks	Repeat contaminator – getting better	Up
	No contamination weeks in 11 weeks, and none in previous 12 weeks either	Committed non-contaminator	Up
	No contamination weeks in 11 weeks but at least one in previous 12 weeks	Reformed former contaminator	Up

The monitoring and evaluation contractor should create a dashboard to display this weekly trend data.

Analysis will also show at which points along the escalation scale a household stopped contaminating. Whenever a household becomes reformed (after 12 non-contaminating weeks, for example), this should trigger production of data on the interventions taken. This should be tracked, along the lines shown in figure 2.

Figure 4: Reformed households tracker

Monitoring serial contaminators (level 4s)

The visit offers an opportunity to gather more data on the types of household that are more likely to be serial contaminators and the reasons why they contaminate. The monitoring and evaluation contractor, in consultation with KBT and Resource London, should develop a brief form in a format to suit KBT, to gather this information. The Hit Squad member should complete the form after leaving the property. This data will enable the Boroughs to build up a picture of contaminating households so that preventative interventions can be developed in the future. The monitoring and evaluation contractor should develop a tool which can be used by the Hit Squad to enter the data and receive automatically updated reports.

Round-level outcomes

The household-level data should be aggregated to round level.

In addition, data should be obtained on the number of loads rejected at the MRF for the 12 months prior to the trial and during the trial period.

Evaluation

This chapter sets out the approach to be used for assessing the success of the demonstration project.

General approach

The evaluation will use a difference-in-difference design to calculate the effects of using the Hit Squad rather than the normal crew to tackle contamination, supplemented by qualitative research to help understand why the effects occurred. Data on costs of dealing with contamination per household will be applied to estimate the nominal savings that could be made.

Data requirements

The difference-in-difference design requires before and after data on performance at a round level.

For the intervention areas (the round in which the Hit Squad will be active), the 'before' data will be supplied by the four Boroughs (or Veolia where contracted out) and will consist of the number of bins not collected due to contamination for the 52 weeks immediately preceding the start of the trial. The 'after' data will be the data collected by the Hit Squad. The level of detail that can be included will depend on the precise nature of the data provided in the 'before' data sets but as a minimum this should be at a round level. If data is available for individual households, this should also be provided to enable a greater level of depth in the analysis.

Two types of control data can be used in the analysis. Firstly, there is a temporal control consisting of the data from the 52 weeks prior to the demonstration project being implemented. Secondly, the rounds that are not being targeted by the Hit Squad form a geographical control.

Neither are perfectly matched. The temporal control will contain households that have moved so although the properties are the same the contaminating behaviours might be very different. There may have been background activities going on that influenced contamination, or collections may have changed. The geographical control may be different in socio-economic make-up or other important criteria influencing contamination behaviour. Nevertheless, the two in combination should be able to provide useful insight into the effect of the Hit Squad compared with a regular bin crew.

Qualitative data

The purpose of the demonstration project is to show Boroughs what could be achieved by funding an independent Hit Squad rather than using their bin crews to tackle contamination. While numbers are powerful, stories can be particularly persuasive. We recommend that the project takes the opportunity to gather feedback from residents on their impressions of the Hit Squad and how the service might be improved. This learning can be built into the offer that is developed for a permanent, London-wide Squad. Individual stories can also help persuade Directors and Elected Members that most residents will find the service helpful, even if they are contaminators.

We propose face-to-face semi-structured interviews are carried out with reformed households to get their views on:

- ✿ Their immediate reaction in the face of the message carried by the tag, letter and/or Hit Squad visitor
- ✿ What they did in response to the message – immediately and in a more considered way
- ✿ Why they didn’t act sooner (if level 2, 3 or 4)
- ✿ What type of contaminator they were (uninformed, over-zealous, or practically challenged – or some other type)
- ✿ How they feel now about being pulled up for contaminating
- ✿ (Level 4) How they felt about the Hit Squad member

Some level 5 (bin removed) households should also be included to get their views on:

- ✿ Their immediate reaction in the face of the message carried by the tag, letter and/or Hit Squad visitor
- ✿ What they did in response to the message – immediately and in a more considered way
- ✿ Why they continued to contaminate
- ✿ How they feel now about being pulled up for contaminating
- ✿ Whether they felt they were treated fairly or unfairly
- ✿ What they do with their recycling now they don’t have a recycling bin
- ✿ How they felt about the Hit Squad member

The number of interviews will be budget-dependent and determined through the tendering process, but we recommend the following sampling strategy:

Table 4: Sampling strategy for face to face interviews per Borough

Round	Highest intervention level	Minimum sample size
Round 1	1	5
	2	4
	3	3
	4	2
	5	1
Round 2	1	5
	2	4
	3	3
	4	2
	5	1
TOTAL	1	10
	2	8
	3	6
	4	4
	1	2

Obtaining interviews with Level 5 households is likely to be challenging, but attempts should be made nonetheless. The M&E contractor's health and safety policy should ensure interviewers are safe at all times, and should be an evaluation criterion for the tendering process.

The interviews should be carried out by staff employed by the M&E contractor and not the Hit Squad. For level 4 and 5 households, briefing notes from the Hit Squad should be provided to assure the safety of the interviewers. The briefing notes should not reveal any of the information to be collected through the interviews in order that the interviewer is unbiased and impartial.

The interviews could also form the basis for identifying residents that might be willing to act as contamination champions, for example by providing a short video clip for the Borough website or a quote for a newsletter alongside a photo explaining how easy it is to make a mistake but how simple it is to do the right thing once you know how.

Cost of contamination and savings made

The four Boroughs should complete the costs of contamination toolkit to help work out a typical cost per household and per contaminator household. In very simple terms, this figure can then be applied to the number of reformed households and the reform rate to calculate possible annual savings.

This is a very simplistic description of the approach. In practice, the M&E contractor will need to ensure robustness by considering fixed and variable costs and the level at which reform was achieved, plus any other factors they think are pertinent. They should be asked to discuss this in their tender.

Waste composition

There is no requirement for waste composition analysis since there is no requirement to understand the *types* of contaminant.

