

Supplementary written evidence submitted by Keep Britain Tidy [LIT 107]

Further to the evidence given by Phil Barton, we would like to provide the Committee with further information as promised.

1. Measurement and Local Environmental Quality Survey of England

A technical note expanding on the evidence given by Mr Barton is attached as Appendix A. The latest (2013/14) LEQSE Report can be viewed [here](#). You can download the report at the bottom of the web page.

Key issues:

- Defra needs to move very quickly if it is to let a tender for the continuation of the LEQSE from April 2015. Failure to do so will result in loss of trained expertise in the surveyor and data management team and risks a gap in the data as surveys must start by the end of April 2015 in order to ensure consistency for next year's survey.
- The various methodologies measure litter on the ground and not littering events/ behaviours. Consideration should be given to a national ethnographic survey in order to track changes in littering and littering behaviours.

2. Indirect Costs of Litter

Following the lead of the Scottish Government, Keep Britain Tidy commissioned Eunomia Research and Consulting to review available evidence from around the world in relation to litter and to seek to apply it to the English Situation. The research was conducted in the first half of 2014 and was published by Keep Britain Tidy last December *entitled Exploring the Indirect Costs of Litter in England*. You can view the summary report [here](#) and the full report [here](#).

The methodological approach taken was as follows:

Definitions

We make the following distinction between direct and indirect costs of litter:

1. *Direct costs of litter are the costs to local authorities and other duty bodies of engaging in the clean-up of litter and clearance of flytipping, including additional treatment /disposal of the associated waste; and*
2. *Indirect costs are those costs visited on other actors in the economy (and on nature and wildlife).*

We draw a further distinction between the indirect costs which are 'internalised' to some extent, and others which we consider to be external costs, as follows:

1. *Internalised costs are those which are already experienced through market transactions (for example, the cost of dealing with injuries to the public caused by litter, or of repairing damage to vehicles from accidents caused by litter, are internalised costs); and*

2. *Externalities, which are the costs that are not 'internalised' in market transactions (for example the sense of 'welfare loss' associated with the visual disamenity of a park being strewn with litter).*

Managing Uncertainty

One of the key aims of the project was that where possible, for each cost category, initial, indicative estimates should be made as to the likely scale of indirect costs. In a number of cases, for example, in respect of crime and mental wellbeing, it is clear that litter is a contributory factor, but there is a lack of explicit evidence as to the extent of the contribution.

Our approach here is to err on the side of caution. We take the total costs to society associated with the cost category (e.g. crime, poor mental health etc.) and present what we consider, based on the evidence reviewed, to be a feasible range in terms of the contribution made by litter. Typically this range extends from 0.1% to 10% of the total cost identified. Within this range, we then state broadly where we feel the true cost is likely to lie, and our confidence in the estimate is described qualitatively.

It is also worth noting that in respect of data gaps, the absence of evidence should not necessarily be taken to indicate evidence of the absence of impacts from litter. As is made clear through the report, in the cases where we identify a need for further research, this is based largely upon strong indications of litter making a contribution to overall costs.

Applicability of Data to England

Much of the evidence is drawn from studies that focus on countries outside of England. For example, much of the literature on the causal links between litter and crime relates to the USA and the Netherlands. In estimating the contribution of litter to the costs of crime in England, we make use of a figure from a study in Massachusetts. Such an approach is clearly open to criticism in that there may be differences in demographics, the extent of deprivation, the types of crime etc. These criticisms are not invalid. However, in the absence of more appropriate studies, this is a useful, and not necessarily inaccurate way of determining an initial estimate.

Extracted from: Eunomia Research and Consulting (2014) pp I & ii

3. Indirect costs In relation to health, and particularly mental health

The evidence presented in the Report and requested by the Committee, is as follows:

The Impacts of Litter on Mental Wellbeing

Related to the impacts of litter on levels of crime noted in Section 3.1, is the potential for the level of litter in a neighbourhood to have a direct, and indirect, bearing on an individual's mental wellbeing. While there are clearly inter-linkages, graffiti, abandoned buildings, vandalism and street litter are all predictors of distress and depression.¹ In addition, mental wellbeing is correlated with the level of

¹ Cooper, R. B. C. C. R. (2008) *Mental Capital and Well-being: Making the Most of Ourselves in the 21st Century. State-of-Science Review: S2-DR2. The effect of the Physical Environment on Mental Well-being. Foresight*

satisfaction of residents with the local area, the time spent outside during leisure time, and feelings of safety and security, all of which are likely to be influenced by the presence (or absence) of litter.²

Costs of Anti-depressants

More amenities and fewer 'incivilities' (such as litter and graffiti) have been associated with 32% lower rates of anti-depressant prescriptions after controlling for socio-economic status.³ The total cost of dispensing antidepressant drugs in England in 2011 was £270 million.⁴ It has not been possible to obtain the original study by Ellaway and MacIntyre, but given the information available it is not likely that 32% of the total anti-depressant bill is attributable to litter and graffiti, as there will be other incivilities that play a role. However, there clearly is a litter-related impact, and it would be useful if further research were undertaken to understand the influence of specific factors, such as litter, on rates of anti-depressant prescriptions. Even if litter only contributed to between 0.1% and 10% of anti-depressants prescribed, it would still lead to a direct cost of between £270,000 and £27 million. It is difficult to be more precise than this, but we suspect that a figure of £13.5 million (based on a 5% contribution) would not be unreasonable.

Indirect Costs of Poor Mental Health

Beyond this direct cost are the much greater indirect costs associated with depression. Mental ill health is the single largest cause of disability in the UK, contributing up to 22.8% of the total burden, compared to 15.9% for cancer, and 16.2% for cardiovascular disease.⁵ An update to previous work carried out on the cost of mental ill health identified that the total costs to England to be ~£105.2 billion per year when wider impacts on wellbeing are included. The costs of mental health problems are described under three headings:⁶

- The costs of health and social care for people with mental health problems, including services provided by the NHS and local authorities (£21.3 billion);
- The costs of output losses in the economy that result from the adverse impact of mental health problems on work and employment (£30.3 billion); and
- The less tangible but crucially important human costs of mental health problems, representing their negative impact on the quality of life (£53.6 billion).

Good mental health and well-being, and not simply the absence of mental illness, have been shown to result in health, social and economic benefits for individuals, communities and populations.⁷ Such benefits include:⁸

Mental Capital and Well-being Project., 2008

² Public Health England, and The Centre for Public Health (2013) *North West Mental Wellbeing Survey*, 2013, http://www.nwph.net/nwpho/Publications/NW%20MWB_PHE_Final_28.11.13.pdf

³ Ellaway and MacIntyre (undated) referenced in National Mental Well-being Impact Assessment Collaborative(2011) *Mental Well-being Impact Assessment: A Toolkit for Well-being*, available at www.apho.org.uk/resource/view.aspx?RID=95836 (accessed March 2013)

⁴ The Health and Social Care Information Centre (2012) *Prescriptions Dispensed in the Community: England, Statistics for 2001 to 2011*

⁵ World Health Organisation (2008) *The Global burden of Disease: 2004 Update*, 2008. Available at http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf

⁶ The Sainsbury Centre for Mental Health (2010) *The economic and social costs of mental illness*, 2010, http://www.centreformentalhealth.org.uk/pdfs/costs_of_mental_illness_policy_paper_3.pdf

⁷ Barry, M., Friedli, L. (2008) *The influence of social, demographic and physical factors on positive mental health in children, adults and older people: State of science review*. Foresight SR-B3 v1 stage 1. Foresight. *Mental Capital and Wellbeing: Meeting the challenge of the 21st Century*. The Government Office for Science. London.

⁸ Department of Health (2011) *No health without mental health: A cross-Government mental health strategy for people of all ages – Supporting document: The economic case for improving efficiency and quality in mental health*. February 2011. Available at

- Better physical health;
- Reductions in health-damaging behaviour;
- Greater educational achievement;
- Improved productivity;
- Higher incomes;
- Reduced absenteeism;
- Less crime;
- More participation in community life;
- Improved overall functioning; and
- Reduced mortality.

Associated Costs in England

There is a possible direct cost in terms of anti-depressants. As indicated, if the existing level of litter accounted for 5% of anti-depressants prescribed, this would mean a direct cost of £13.5 million. In terms of the proportion of indirect costs of poor mental health that can be ascribed to litter, there is a lack of direct evidence at present, although it is clear that even a small contribution to such a significant area of cost would be considerable. If litter contributed to between 0.1% and 10% of the indirect costs of poor mental health, this would amount to between £105 million and £10.5 billion per annum). While it is not possible to be precise in such an estimate, we suspect the true figure might be closer towards 0.5%, which is £526 million per annum.

Priority Areas for Future Work: Mental Health Impacts

In the longer term developing a better understanding of the links between litter and mental health and wellbeing will be important, not least because the extent, and cost, of mental health problems is expected, in the absence of wide-scale interventions, to continue to increase in the coming years.

The bulk of the impacts of litter on mental health and wellbeing appear to be negative, relating possibly to a sense of a lack of control over one's local environment. By contrast, one particular area of interest is the potential for voluntary litter-picking, undertaken either as a solitary activity, or as part of a group, to have a beneficial effect on mental wellbeing. It has already been shown that this is indeed the case in the mental wellbeing study already cited, and one can readily perceive the possible reasons why this could be.⁹ Intuitively participant satisfaction could result from one, or a combination of the following:

- Sense of purpose;
- Mindful engagement in an outdoor activity;
- Knowledge of the environmental benefits;
- Feeling of contribution to the local community;
- Enjoyment of the 'teamwork' aspect - if carrying out the activity in a group context;
- Influence on local environment; and/or
- Satisfaction with local area.

Disamenity caused by litter may also have significant negative knock-on effects on mental wellbeing. The mental wellbeing study referred to in this report showed that there was a strong correlation between leisure time spent outdoors and wellbeing; on a scale that runs from 7 to 35 those that did not spend any leisure time outdoors scored significantly below the average score of 27.66 with 23.28 points and those who went outdoors more than once a day during their leisure time scored well

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_123739

⁹ Public Health England, and The Centre for Public Health (2013) *North West Mental Wellbeing Survey, 2013*, http://www.nwph.net/nwpho/Publications/NW%20MWB_PHE_Final_28.11.13.pdf

above average, with 29.51 points.¹⁰ If outdoor spaces become unappealing owing to litter and result in less time spent outdoors, there will be real effects on wellbeing. Information is sparse about how litter or other relevant factors, for example dog fouling, affects peoples' decisions to spend time outside. For example, dog fouling was the most frequently cited reason why the presence of dogs detracted from people's enjoyment of specific areas of countryside, according to one review.¹¹

More research would be needed to establish the causal chain for current impacts of these issues on choices about leisure time. Some activity may just be displaced to other outdoor locations, so research would have to be done to establish how much.

The research also showed positive correlations between mental wellbeing and the level of satisfaction of residents with their local area, and their feelings of safety and security. The relationship was strongest between wellbeing and perceptions of safety. These two indicators are likely to be influenced by environmental quality and the presence of litter. Again, research would have to be done to ascertain the appropriate apportionment of these effects to litter.

Extracted from: Eunomia Research and Consulting (2014) pp 13 – 15, 75 – 76

The Scottish Research study referred to by Mr Barton in his evidence is:

Curtice, J, Ellaway, A, Robertson, C, Morris, G, Allardice, G and Robertson, R (2005) Public Attitudes and Environmental Justice in Scotland, Social Research Environment Group, Research Findings No.25/2005, Scottish Executive, Edinburgh

Key issues:

- There are substantial indirect costs to society, the economy and the environment of litter and associated poor environmental quality. Lack of research in England makes it difficult to put precise monetary costs on these, but it is clear that these are considerable and to date have been hidden. There is a clear need for further research in this area.

4. Changing Behaviours to Reduce Littering – Campaigning and Social Innovation

A note is attached as **Appendix B** on the changing nature of campaigning on litter and related issues.

Key issues:

Litter has a deep direct and indirect cost to society, businesses and the environment. The most effective and cheapest solution is to prevent littering taking place in the first place. Whilst litter is ultimately the responsibility of individuals we all have a role to play if we are to prevent litter and at present there are many worthy campaigns and approaches, but they are fragmented and unable to deliver step change.

- Government needs to better recognise the cost of litter and take a leadership role in enabling a litter free England.

¹⁰ Public Health England, and The Centre for Public Health (2013) *North West Mental Wellbeing Survey, 2013*, http://www.nwph.net/nwpho/Publications/NW%20MWB_PHE_Final_28.11.13.pdf

¹¹ English Nature (2005) Dogs, access and nature conservation

- This should start with enabling businesses to play a greater role in solving litter, for example through greater producer responsibility for prevention
- Government should bring together the actors with a role to play and demand of them a joint approach to tackling litter, including sustained and engaging public education and calls to action
- Government should continue to support social innovation projects in conjunction with business and local government to tackle litter at source
- English Government needs to facilitate common messages and approaches throughout the UK in order to successfully engage businesses, the media and the wider public.
- More businesses should actively engage to fund and enable litter prevention supporting both national campaigns and localised, targeted solutions as well as through their own procurement, operations and communications with their staff and customers.

5. Amendments to RIPA

Further note to follow

6. Tobacco and litter

Mr Barton was questioned on Keep Britain Tidy's relationship to central and local government and the tobacco industry. In December 2013 Keep Britain Tidy's trustees took the difficult decision to cease working with the tobacco industry, despite smoking related litter being the most frequently occurring type of litter and there being a clear need to educate smokers that cigarette butts are litter, that dropping them is illegal and that there are substantial costs to cleaning them up. The TMA have provided the position note issued by Keep Britain Tidy in its evidence to the Committee.

As Mr Barton tried to make clear, certain local authorities were threatening to boycott Keep Britain Tidy as we were then accepting money from tobacco manufacturers. These included some major cities, metropolitan authorities and London boroughs. It is not possible for Keep Britain Tidy to achieve its charitable objectives if it is not able to work with **all** local authorities. This decision has enabled us to continue to do so.

We believe that we are caught in a disagreement on the implementation of the WHO Charter, which the UK Government has signed up to, both within Government and between both central and local Government and the tobacco industry. Once this is resolved, we will be in a position to re-consider our own position.

Just before Christmas the Tobacco Manufacturers' Association wrote to us questioning our position and asking to meet with us. That meeting is scheduled for next month.. The correspondence between us is attached as **Appendix D** for the information of the Committee.

It remains our position that the tobacco industry has a substantial responsibility for the education of smokers in relation to the prevention of smoking related litter and the provision of

appropriate mechanisms for the safe carriage of such litter from the point where the smoking occurs to the point where it can be appropriately disposed of. The current impasse in relation to the WHO declaration does not prevent them from taking much greater action through their distribution and sales chains and through their own communication with their customers.

7. In Conclusion:

- Keep Britain Tidy remains the 'go to' organisation on litter, local environmental quality and related matters for the public, media, government and business. With the withdrawal of central Government grant we have become much smaller and can only do work which our partners are prepared to pay for. We work extensively with local government and have begun to do so much more with larger companies. However our capacity is severely stretched. Our [Litter Prevention Commitment](#), despite modest objectives and cost, has only been signed up to by six companies in six months.
- There are three obvious available routes for Government to facilitate financial support for work on litter and the environment by NGOs like ourselves and others:
 - Encourage retailers to invest at least a proportion of their Bag Charge receipts into this type of work once the charge comes in
 - Amend the rules on the Landfill Tax Credit Scheme, currently under review by the Treasury to enable investment in education, information and engagement on waste reduction, re-cycling and litter (letter attached at **Appendix C**)
 - Consider, in the light of the EU Circular Economy and Marine Litter proposals to be re-introduced later in 2015 by the new Commission, extended producer responsibility in relation to the prevention of litter.
- The next Government should prioritise litter and littering in the context of its circular economy, neighbourhood and wellbeing policy by providing leadership and facilitation in what is currently a fragmented picture where many laudable and effective initiatives, particularly at a local level, do not add up to an effective message and follow through in a way which will change hearts and minds. Only Government is in a position to do so.
- To succeed in beating litter an integrated approach is required incorporating infrastructure provision, collection and re-cycling; education and information; penalties and rewards; enforcement; a focus on behaviour change and design and innovation in manufacture, retailing and packaging.

We have now consulted with a number of our local authority network members and do not believe that the current working of RIPA is causing major difficulties in enforcement in relation to litter and fly-tipping.

Keep Britain Tidy

APPENDIX A - Briefing Note: Measuring litter and littering in England

Keep Britain Tidy

27 January 2015

This briefing paper reviews how we measure litter and littering in England. It shares the benefits and disadvantages of each approach to help answer some of the questions about measurement methodology which have arisen during oral evidence to the Litter Inquiry. It reviews the existing Local Environmental Quality Survey for England, litter surveys using counts, weights and, briefly, ethnographic studies focusing on measuring and understanding littering behaviours.

The Local Environmental Quality Survey for England

Introduction to the survey

Keep Britain Tidy carries out the Local Environmental Quality Survey of England (LEQSE) annually on behalf of Defra, and has done since the inception of the survey in 2001. The main aim of the survey has been to provide information on the overall cleanliness of the country. The main objectives of LEQSE are to:

- produce reliable national and regional benchmarks for local environmental quality, tracking changes and trends against legally defined standards
- supply important information to central and local government to assist in improving service delivery and the management of the local public realm
- identify social and economic factors that affect local environmental quality

The headline indicators that the survey has measured provide an overview of local environmental quality. They are: litter, detritus, weed growth, staining, graffiti, fly-posting and recent leaf and blossom fall. Taken together, these headline indicators provide a means of assigning a quantitative score to the local environmental quality of an area, based on the presence or absence of the indicators.

To measure each indicator, a grading system is used. The grading system follows the same principles as the *Code of Practice on Litter and Refuse (CoPLR)*, which identifies four grades of cleanliness: A, B, C and D. Keep Britain Tidy worked with Defra to produce the Code of Practice, a practical guide to discharge the duties of the *Environmental Protection Act (1990)*, section 89(1) and (2) which require certain landowners and occupiers to keep specified land clear of litter and refuse, and local authorities and the Secretary of State to keep clean public highways for which they are responsible. The LEQSE is a key measure of the standards used in the code of practice, indicating how well local authorities are performing. It is also the only reliable and accurate measure available that Local Authorities can use as a benchmark. A visual representation of the four grades from CoPLR is included at the end of this note.

Over the years the information from LEQSE has become increasingly important as the survey is currently the only national consistent measure available to national and local government and ensures all land managers, businesses, Keep Britain Tidy and others have the information they need in order to manage and improve local environmental quality.

The Survey is designed to provide statistically valid results at a national and regional level. In 2006-08 Keep Britain Tidy was commissioned by Defra to carry out the survey in all English local authorities. This proved to be too expensive to continue and LEQSE continued to be based on a statistically valid sample of local authorities and land uses in order to deliver reliable results at national and regional - but not local - level. The methodology was used as the basis of the previous

Government's National Indicator and Best Value measures and many local authorities continue to use the methodology, or variants of it, to help them to manage their public realm cost effectively.

Development and validation

The Local Environmental Quality Survey of England was developed by Keep Britain Tidy in 2000, following ten years of work with Local Authorities measuring and providing consultancy on improving local environmental quality. The survey was developed with the chief statistician within the Office of the Deputy Prime Minister alongside input and sign off by the Office for National Statistics, the Local Government Association and the Audit Commission. The sampling methodology considers the different types of local authorities, different types of uses of land and levels of deprivation in selecting the sample locations.

The survey methodology was independently reviewed in 2006 by Professor Kent of the University of Leeds who confirmed that the survey was relevant and fit for purpose. It underwent a further independent review in 2010 by Cello MRUK who made recommendations on the presentation of the data and confirmed that the sampling methods were valid. The most recent review was undertaken in 2012 by Dr. Rik Van de Kerckhove of the Environment Statistics Service within Defra. Following this review a number of changes were made to the sampling methodology that utilised new technology both to improve the sample and generate efficiencies. Historic data has been weighted to fit with any changes to the sampling methodology, allowing a comparison over time. This means that all the data, both past and present, has a structure that remains nationally and regionally representative.

LEQSE surveyors are trained in the methodology and its application and procedures are in place for calibration of the work of different surveyors and statistical analysis of the data is carried out to identify significant errors.

Methodology

The current methodology uses Lower Super Output Areas (LSOAs - boundary constructs created by the Office of National Statistics) to build its sample of England. Using LSOAs ensures that the data can be compared to other national data sets. The LEQSE sampling methodology has been continually improved to ensure the most robust sample possible of England.

Each year, between April and March, 7,200 sites across England are surveyed. The sites are located across the sample of forty five local authorities selected which in turn are spread across the nine English regions; five local authorities are selected in each region. The sample sites within the selected local authorities are surveyed throughout the course of the survey year in order to allow for climatic and other variables through the seasons. The total number of LSOAs to be surveyed in each region is split proportionately across each of the five selected local authorities within the region, based on the total number of LSOAs available in the five local authorities.^{1]} Eight sites in each LSOA are surveyed; two transects at each of the four locations which are randomly selected using mapping technology. The process of selection of all locations is defined in the methodology to ensure statistical validity.

The survey collects a wide range of information. It uses a grading system based on the provisions of the Environmental Protection Act 1990 and the accompanying Code of Practice on Litter and Refuse to assess the main local environmental quality indicators: litter, detritus, weed growth, staining, graffiti, fly-posting and recent leaf and blossom fall. These can all be used as a measure as to how effective street cleansing regimes are.

The survey uses the four legally defined grades, plus an additional three intermediate grades: B+, B- and C-. The order of the seven grades is shown in table 1 below. The intermediate grades are not individually defined; put simply, if cleansing at any given site is not at an A standard, but is performing better than a B standard, it would be identified as a B+.

Table 1: Local Environmental Quality (LEQ) grading system

Grade	Description
A	None of the issues present
B +	Not formally defined
B	Predominantly free with some minor instances of the issue
B -	Not formally defined
C	Widespread with some accumulations of the issue
C -	Not formally defined
D	Heavily affected by the issue

The survey also collects information on the following which provide valuable management insight but are not included in the headline survey measure:

- Litter Types – from a pre-defined list, identification of a litter type being present on the survey site
- Approximate source of litter – from the litter on site, the approximate source is indicated, the source ranging from domestic, general, commercial etc.
- Abandoned Shopping Trolleys present on site
- Litter counts – the following are counted:
 - Supermarket single-use carrier bags
 - Supermarket multiple-use carrier bags
 - Other retail branded plastic carrier bags
 - Other retail non-branded plastic carrier bags
 - Non-plastic carrier bags
 - Dog faeces
 - Bagged dog faeces
 - Plastic bottles
- Indication of proportion of recyclable litter on a survey site
- Indication of any harmful litter on a survey site
- Indication of waste placed out for collection
- Location of litter
- Location of detritus
- Type of detritus
- Number of clogged or blocked gully covers
- Approximate percentage of dead weeds
- Location of weed growth

- Weed growth rooted in detritus
- Approximate proportionate sources of staining (Gum, Mud/Grime, Vehicle, Food/drink, construction and Paan/Khat)
- Fly-posting composition - approximate proportionate form of fly-posting
- Fly-tipping type
- Fly-tipping size
- Fly-tipping land type
- Paved area condition grade
- Cause of poor paved area condition
- Carriageway condition grade
- Cause of poor carriageway condition
- Pot hole count
- Lighting present
- Defective lighting
- Channel Condition
- Road marking condition
- Bins present on site, bin type, bin design, bin placement, bin size, bin fill and grade for bin cleanliness
- Landscaping cleanliness and maintenance

Once the data is gathered, it undergoes rigorous quality assurance and then is analysed. To determine the local environmental quality of an area the data is analysed in two ways. The first method looks at the overall standard across the sites surveyed. This is done by converting the grades 'A' to 'D' to numeric equivalents and taking the mean average. The second method calculates the percentage of sites below an acceptable standard. Sites below an acceptable standard are those classed as below a grade B in line with the legislation.

The data has been investigated using statistical testing. Hypothesis tests have been carried out to examine differences between groups of sites. A 95% level of confidence (adjusted to account for the series weights) is set as the critical point of statistical significance and where possible a 99% confidence level is used. Relationships between variables were examined using correlation analysis to assess the strength and direction of relationships.

Whilst the survey methodology for LEQSE can be critiqued, it has been designed to give a statistically reliable measurement against legally defined standards.

Alternative methods of measuring litter

The number of items of litter

Keep Britain Tidy has carried out a series of litter composition surveys on behalf of the Industry Council for Research on Packaging and the Environment (INCPEN). The most recent survey was conducted in 2013/14, having previously been carried out in 2008, 2004 and 1996.

The 2013/14 study took place from December 2013 to March 2014, alongside the LEQSE survey. The information was collected at 30 sites in 16 Local Authorities, giving a total of 480 sites.

The key scope of the survey was to count the number of items of litter present. This is in contrast to the LEQSE, which records the presence or absence of each litter type. Results for INCPEN were grouped into 6 categories:

- Smokers' litter, including cigarette butts, smokers' materials and matches
- Food and food packaging
- Chewing gum, including solid gum, staining and wrappers

- Non-alcoholic drinks
- Alcoholic drinks
- Other, including tissues and dog faeces.

The results are set out in Table 2 below for the litter count and in Table 3 for LEQSE. Interestingly, although there are two different recording methods for INCPEN and LEQSE, the results when ranking the most prominent litter types are remarkably similar.

Table 2. INCPEN Survey Results – most common litter types (with most prominent at the top)

1996	2004	2008	2014
<i>Type of litter</i>	<i>Type of litter</i>	<i>Type of litter</i>	<i>Type of litter</i>
Chewing gum	Chewing gum	Chewing gum	Cigarette butts
Cigarette ends	Cigarette ends	Cigarette ends	Chewing gum staining
Matches	Sweet wrappers	Sweet wrappers	Confectionery pkg
Bits of paper	Cigarette related	Cigarette related	Smokers' materials
Sweet papers	Soft drink plastic bottles	Food and drink	Fast food packaging
Glass fragments	Gum wrappers	Soft drinks cans	Non-alcoholic tops
Plastic fragments	Soft drinks cans	Soft drink plastic bottles	Non-alcoholic cans
Tin foil	Snack packaging	Fast food packaging	Other Packaging
Gum wrappers	Fast food packaging	Soft drink bottle tops	Non-alcoholic bottles
Tickets	Post Office elastic bands	Snack packaging	Other

Table 3. LEQSE results – top 10 litter items & percentage of sites affected by each

	Smokers materials	Confectionery packs	Non-alcoholic drinks	Fast food related	Packaging	Alcoholic drinks related	Snack packs	Vehicle parts	Discarded food/drink	Super market or retail bags
2004/05	77.1%	66.2%	46.8%	19.5%	10.1%	18.3%	24.9%	6.6%	11.4%	4.2%
2005/06	76.3%	66.7%	50.2%	21.7%	13.5%	20.4%	29.0%	7.2%	10.1%	4.6%
2006/07	75.6%	66.9%	52.9%	22.5%	21.1%	22.3%	22.7%	9.5%	10.9%	4.9%
2007/08	75.5%	63.3%	52.2%	22.6%	17.4%	23.9%	24.4%	7.0%	10.1%	5.4%
2008/09	73.1%	61.8%	49.2%	18.9%	14.5%	21.3%	20.9%	6.6%	8.2%	4.8%
2009/10	76.7%	65.0%	51.3%	21.5%	15.1%	17.9%	21.1%	7.8%	7.9%	3.3%
2010/11	79.8%	65.6%	51.3%	21.9%	12.7%	18.5%	19.8%	8.2%	8.5%	9.6%
2011/12	77.0%	59.4%	50.8%	26.5%	13.4%	20.2%	18.9%	10.7%	7.6%	9.6%
2012/13	80.3%	64.3%	48.6%	28.1%	18.7%	21.3%	20.6%	12.2%	8.2%	8.9%
2013/14	73.0%	62.5%	52.9%	31.1%	26.9%	19.7%	19.2%	12.9%	12.9%	11.4%

Whilst measuring litter based upon the number of items has many advantages it also has some weaknesses in reporting. Chewing gum, for example, is measured by the number of gum stains. As a result of the high costs to clean gum requiring specialist equipment, gum is cleaned far less frequently than other types of litter. Therefore, comparisons between gum and other litter types are difficult to make when attempting to understand the amount of littering taking place.

Furthermore, litter counts do not take into account the size and impact of litter. Cigarette butts outweigh many other types of litter by number although not necessary by volume, public perception or material recovery value. We also have some evidence that suggests whilst litter breeds litter, not all litter types breed litter at the same rate and larger, brighter, branded items may be having a great impact on encouraging further littering behaviour than smaller less noticeable items such as cigarette butts.

To carry out full litter counts to achieve statistically valid results for England and the regions would be expensive to conduct.

The weight of litter

One way to get around this issue is by weighing litter. Although the weight of litter does not correlate with the number of acts of littering taking place it does give an indication of the volume of litter present. We often use this technique at Keep Britain Tidy to measure changes in litter in pilot experiments to test changes in litter over time, especially for projects focusing on single material types, e.g. soft drinks cans or cigarette litter. It is currently not practicable to use this methodology on any scale owing to cost and the variety of litter management practice between England's local authorities.

Measuring littering as opposed to litter

Finally it is worth acknowledging that none of the above approaches actually measures the amount of littering taking place. They instead measure the amount of litter present on the ground. Some sites are cleaned far more frequently than others due to the footfall present, the cost to clean and local authority approaches to cleansing. Furthermore, although the methodology adopted by LEQSE largely compensates for this, individual transect results are impacted by how long it has been since the area was last cleaned.

Keep Britain Tidy has been conducting a series of 'social experiments' with Defra and others' support in order to address some of these issues by observing actual littering behaviour on the ground and seeking to design solutions to improve littering behaviour. It is not clear whether Defra intends to continue this work beyond March 2015 when our residual grant (for LEQSE and social experiments) ceases.

If a key aim of the Litter Inquiry is to enable behaviour change and stop littering at source, therefore saving local authorities and other land manager's money, we need to additionally focus our efforts on the measurement of littering. Keep Britain Tidy employs a range of techniques to measure littering using ethnographic surveying techniques for specific litter issues and hotspots. We believe, however, that a nationwide littering survey, similar in nature to studies in the USA¹² and Australia¹³ would be helpful for better understanding how we can influence behaviours to reduce littering across England at a national and local level.

Recommendations

- Keep Britain Tidy would recommend the continuation of the Local Environmental Quality Survey for England as the best approach to monitor litter at a national scale. We understand that Defra intends to put the 2015/16 survey out to tender, but the tender has yet to be issued and time is running out if the data set is to be maintained without a break.
- Counting the number of littered objects can be very beneficial to support LEQSE at a local level as can counts focusing on specific materials year on year; for example, changes in plastic bags following the implementation of the proposed bag charge in England.







¹² Keep America Beautiful, 2009. Littering behaviour in America

¹³ Beverage Industry Environment Council, 1997. Understanding littering behaviours in Australia.

- There is a danger of particular interest groups utilising different survey methodologies in order to promote their own interests and to seek to shift 'blame' elsewhere. There remains a need for a reliable, consistent, independent and statistically valid dataset to be maintained.
- An ethnographic nationwide survey once every five years to understand littering behaviours is vital to enable the development of national, local and issue specific campaigns and interventions that address littering and ensure that future funding for litter prevention is maximised.

Table 4: Extract from Code of Practice on Litter and Refuse, pp 16 & 17

7.7 Pictorial examples of the grading principles in different settings

Set A: litter and refuse in both relevant highway and hard surface setting		Set B: litter and refuse in a soft surface setting
 <p>Grade A No litter or refuse</p>	 <p>Grade C Widespread distribution of litter and/or refuse with minor accumulations</p>	 <p>Grade A No litter or refuse</p>
 <p>Grade B Predominately free of litter and refuse apart from some small items</p>	 <p>Grade D Heavily affected by litter and/or refuse with significant accumulations</p>	 <p>Grade B Predominately free of litter and refuse apart from some small items</p>

Set C: principles of detritus grading in a relevant highway setting



© ENCAMS

Grade C
Widespread distribution of litter and/or refuse with minor accumulations



© ENCAMS

Grade A
No detritus



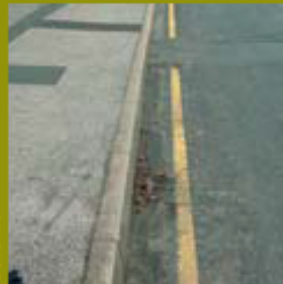
© ENCAMS

Grade C
Widespread distribution of detritus with minor accumulations



© ENCAMS

Grade D
Heavily affected by litter and/or refuse with significant accumulations



© ENCAMS

Grade B
Predominantly free of detritus except for some light scattering



© ENCAMS

Grade D
Heavily affected by detritus with significant accumulations

APPENDIX B - Changing behaviours to reduce littering: campaigning and social innovation

Keep Britain Tidy

27 January 2015

This briefing paper aims to share how we aim to change behaviours to prevent littering. It shares two approaches towards behaviour change.

There are of course many approaches to behaviour change including regulation, choice editing, taxation and other fiscal measures, and enforcement, which we support when appropriate. This paper however focuses on campaigning and other forms of social innovation that help change behaviours.

We believe both of these approaches are necessary and evidence shows investing in these approaches supports not just cleaner places and other social and environmental outcomes but also the economy¹⁴. The approaches are complimentary and reinforcing.

What is the problem?

Keep Britain Tidy estimates that public sector land managers spend more than £850m each year keeping our streets clean and tidy and improving local environmental quality in England. A significant proportion of this cost could be avoided if people did not drop litter. Many indirect costs are also associated with litter, for example a recent report we commissioned estimated the costs of litter at £526m for mental health, up to £348m for crime, and £70.6m for litter/refuse fires each year. Finally litter is also a lost resource and would have an annual value of £12.8m if it could be made into new products.

Since 2012 Keep Britain Tidy decided to prioritise tackling the problems of litter at source rather than just cleaning up after people. We have since been developing a programme of work focusing on how we can change behaviours to reduce littering using social innovation and campaigning.

Campaigning

Keep Britain Tidy has a rich and successful history of campaigning to prevent littering. Our campaigns are known across the world and have always been grounded in evidence to understand the problem and our target audiences.

Much of the anti-littering messaging that many people of a certain age will remember came from the public information films that ran on the BBC in the 1960s and 1970s. Alongside this was an extensive anti-litter campaign in schools. Clearly these were an effective way of raising awareness with the public as many people still remember them today.

¹⁴ Keep Britain Tidy, 2013 Litter: Which Side of the Fence Are You On? Report
Keep Britain Tidy, 2014. The indirect costs of litter.

² Encams, 2004 I'm just a teenage dirt bag, baby!

Over the years, Keep Britain Tidy has carried out a significant amount of research looking at the people who litter and when they litter and, since 2000, has always targeted its campaigns at specific groups. Our ground-breaking litter segmentation work enabled us to identify the groups that needed to be influenced and the drivers that would persuade them to change their behaviour. Our research has also analysed particular groups, including young adults².

For example, 2002's food littering campaign used a shock tactic to grab public attention as research indicated that the most likely food litter offenders (the 'Life's too Short' segment as defined in Keep Britain Tidy's litter segmentation work³) are people who need to be shocked by the campaign message in order for them to change their.

The campaign – a cinema ad featuring rats crawling over a bed and posters featuring rats – was backed up by a media launch with a perspex tank that had been filled with food litter and rats. An attitude and awareness survey was carried out to assess the impact of the campaign and results included;

- The impact of the advert was rated as either 'high' or 'medium' by 87% of the respondents who admitted to dropping food litter.
- 44% of respondents who do drop food litter answered 'yes' to the question asking respondents if the advert would change their future behaviour, and 82% of respondents who do drop food litter answered either 'yes' or 'maybe' to this question.
- The gender of respondents was almost equally split between male and female.

26% of respondents were aged between 18 and under, and 22% were aged between 19-24, indicating that nearly half (48%) of the respondents were aged around the target age group of 16-24.

Over the years, Keep Britain Tidy, with support from Government, created many high-profile anti-litter campaigns. These campaigns were successful in delivering their objectives to reduce littering in the areas in which they ran.

To give just one example, in 2010 Keep Britain Tidy's award-winning campaign 'There's no such thing as the dog poo fairy' was run in partnership with 94 local authorities, resulting in an average reduction in dog fouling of 43% whilst generating £1.3million of media coverage.

Evidence submitted to the Committee by the Chewing Gum Action Group gives another example of what can be achieved.

The changing face of litter campaigning

The advent of the current Government brought with it severe restrictions on campaign expenditure which, coupled with reductions and now removal of Defra's grant to Keep Britain Tidy has severely curtailed our ability to conduct campaigns and, in common with our local authority partners, we have had to look for alternative ways to influence anti-social behaviour around local environmental quality.

The world has changed and unlike yesteryear Keep Britain Tidy can no longer afford to run campaigns as we did in the past using national advertising. Instead we need to find new ways of putting the messages across and work in partnership with land managers, corporates and communities across the country.

At present this focuses primarily on two aspects:

1. Social Innovation – explained below, and
2. Supporting communities to improve their local area, for example through our Care volunteering programmes, our Green and Blue Flag Awards for parks and beaches, Eco-Schools for England and The Big Tidy Up. We know that litter breeds litter and when people encounter clean places people drop less.

However we feel England – and indeed, the whole United Kingdom - needs to keep litter in the spotlight and public consciousness through an overarching campaign. This would harmonise key messages and would be developed through the activities and support of our local partners across the country. It would be structured in a similar way to WRAP's successful Recycle Now and Love Food Hate Waste brands with resources available to all local authorities, public and private land managers, retailers and communities. Emphasis would be placed on cheaper engagement routes including social media, online, localised advertising and PR to generate stories and debate in the media rather than traditional advertising.

Our experience is that it has so far proved impossible to develop such an over-arching campaign without Government leadership. Businesses look for that leadership and, as the oral evidence given to the Inquiry demonstrates, individual businesses and sectors look to others to provide it.

Keep Britain Tidy has attempted to engage businesses in developing such a campaign in Love Where You Live which suffered badly when first the Scottish Government took the decision not to allow it to run in Scotland and then Defra Ministers pulled back from engaging directly in a campaign with tobacco industry investment. Keep Britain Tidy's own Litter Commitment launched last summer still only has six companies signed up despite modest objectives and membership costs.

There is an urgent need for a focused, widely backed campaign supported by the national Governments within the UK if sustained; high profile impact is to be achieved. To enable this funding is required from businesses that have a role to play to support the reduction of litter products. Some businesses are already engaged, but many are not. We need more governmental leadership, for example through a range of incentives, for example the introduction of Producer Responsibility schemes that enable funding to be used to prevent littering and its associated direct and indirect costs to society.

Preventing littering through social innovation

What is social innovation?

We define social innovation as the development, evaluation and scaling of new approaches to change that benefit society.

We have set up a Centre for Social Innovation at Keep Britain Tidy to lead this work, it has been working behind the scenes since 2013 but will officially launch in April 2015. The Centre for Social Innovation has initially been focusing on reducing littering, but in time it will address all of our charitable goals.

We are taking a partnership approach, working with local land managers and other stakeholders through the process which consists of three stages. Firstly to better understand the issue and critically what is driving current behaviours that lead to littering. Next we use design-thinking and behavioural change models to develop innovative solutions to change. Solutions are delivered in local places alongside robust evaluation frameworks to fully understand the benefits and value for money.

Finally Keep Britain Tidy will work with external partners to scale successful interventions nationally and influence government, businesses and land managers to support our work.

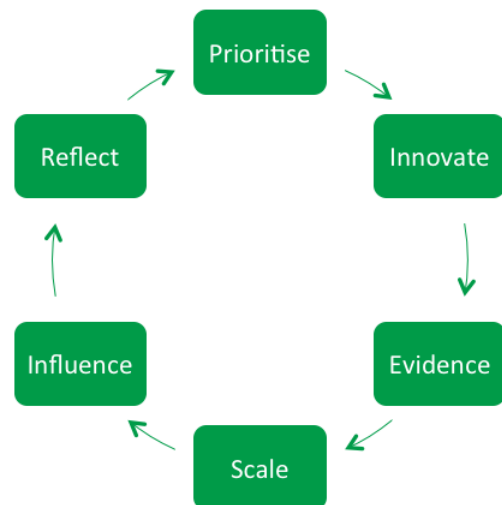
In setting up our Centre for Social Innovation, Keep Britain Tidy has the following aims:

1. To develop the evidence base to understand what drives current behaviours and how they can be positively influenced
2. To design and test innovative approaches to change behaviours in partnership with other organisations
3. To share our findings and influence others to test and scale social innovation, especially local and national government, businesses and civil society organisations.
4. To strengthen the use of social innovation as an approach to achieving change by training and supporting partners to undertake their own experiments

Keep Britain Tidy's Centre for Social Innovation was originally funded as a two-year project by Defra from April 2013 until March 2015, when it currently ceases. Over the course of the programme we have begun to bring other partners and external funding on board, for example through partnerships with Coca Cola Enterprises, McDonalds, Wrigley, the Highways Agency and the Royal Parks. We are also indebted to all of the local partners that have been involved and given their time, support and resources to making the programme a success. Progress beyond April 2015 will be dependent upon our ability to secure financial support for this work.

What have we achieved so far?

The following is a brief summary of many of the projects underway. We are building case studies around these projects, which will provide more information.



Understanding issues

We recently commissioned Eunomia to deliver an analysis of the indirect costs of litter and also updated the way we collect data through the Local Environmental Quality Survey for England to understand how litter relates to other issues, for example crime and deprivation.

We are working in partnership with Coca Cola Enterprises to better understand the behavioural drivers that lead to soft drinks littering. This work focuses on ethnographic studies of littering behaviours in the field alongside interviews and focus groups and will be published in April 2015.

We are also working with McDonalds and the Highways Agency to better understand the role of the fast food and transport sectors in tackling litter. These sector reviews will better understand and share best practice in the sector whilst developing further recommendations for the sector to reduce littering.

Designing Social Innovation

By March 2015 Keep Britain Tidy will have designed and evaluated nine different interventions focusing on reducing littering. These include examples focusing on high street littering, dog fouling, cigarette litter, residential litter, litter in parks and chewing gum.

One example is 'Bin it for Good', a project in partnership with Rochford District Council and Wrigley's. Bin it for Good tested a new approach to incentivise people to do the right thing with their litter. For three months all street bins in the main shopping centre of Rayleigh, Essex, were transformed into 'charity bins', featuring a new local charity each month. The more litter that ended up in the bins each month, and the less on the street, the greater the share of a £1,500 charity pot each charity received.

The initiative was highly effective in reducing litter levels whilst also benefiting the work of local charities. On average over the three 'charity bins' months, the proportion of litter on the street decreased by 41.7% from the baseline month, and rose to an impressive 63% in the month following the initiative. Keep Britain Tidy is now developing a model to scale and roll out the project with other partners across England.

Scaling success

Following the experimentation phase, successful projects are further developed to enable scaling of the initiatives to encourage widespread uptake across England. For example, after the success of *We're Watching You* - a social experiment to reduce dog fouling - Keep Britain Tidy launched a national campaign using the posters in November 2014.

We partnered with a range of local authorities and other land managers to deliver the approach in their areas across England. The posters have been redesigned to further increase their visibility following feedback from the initial experiment. The impacts of the posters will continue to be monitored to assess their longer-term effectiveness in driving down incidences of dog fouling across England.

A significant amount of press and media coverage was gained through the roll out of *We're Watching You* including an appearance on BBC1's *Don't Mess with Me*. This has spurred interest from many more partners and a second roll out is planned for March 2015, including interest from Wales and Scotland.

Taking the programme further

Keep Britain Tidy is now developing an online microsite for the Centre for Social Innovation to begin to share the results of our work to prevent littering more widely. It will showcase research, examples of innovation and provide tools to support users improve the design of interventions in their areas and evaluate success. We will continue to design and evaluate new examples of social innovation to prevent littering but additionally begin to focus on our other goals – changing how we consume to prevent waste and improving local places. Keep Britain Tidy is aiming to develop corporate relationships to help fund and support our work in this area under the banner of our Litter Prevention Commitment.

Recommendations

Litter has a deep direct and indirect cost to society, businesses and the environment. The most effective and cheapest solution is to prevent littering taking place in the first place. Whilst litter is ultimately the responsibility of individuals we all have a role to play if we are to prevent litter. Success requires integrated action locally together with a transparent and understood national framework for:

- infrastructure, collection & recycling
 - penalties and rewards
 - education and information
 - enforcement
 - behaviour change
-
- Government needs to better recognise the cost of litter and take a leadership role in enabling a litter free England.
 - This should start with enabling businesses to play a greater role in solving litter, for example through greater producer responsibility for prevention
 - Government should bring together the actors with a role to play and demand of them a joint approach to tackling litter, including sustained and engaging public education and calls to action
 - Government should continue to support social innovation projects in conjunction with business and local government to tackle litter at source
 - English Government needs to facilitate common messages and approaches throughout the UK if businesses are to be centrally involved
 - More businesses should actively engage to fund and enable litter prevention supporting national campaigns and localised, targeted solutions as well as through their own procurement, operations and communications with their staff and customers.

February 2015