



Litterbugs

How to deal with the problem of littering

Professor Alan Lewis, Polly Turton
and Thomas Sweetman

edited by Ben Caldecott

foreword by Bill Bryson

**Policy
Exchange**

**STOP^{the}
DROP**
LITTER & FLY-TIPPING


Campaign
to Protect
Rural England

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About the authors

Bill Bryson is a best-selling author and is President of the Campaign to Protect Rural England (CPRE). Bill Bryson's love of the English countryside is well known and is perhaps best conveyed in his book *Notes from a Small Island*. He believes passionately that everything possible should be done to remove and prevent the mounting litter and fly-tipped waste that blights our towns, cities, waterways, countryside and villages. CPRE's Stop the Drop campaign was launched in April 2008 and is working hard to find the solutions to this problem.

Ben Caldecott is Head of the Environment & Energy Unit at Policy Exchange. He was previously Director of the East Asia Section at The Henry Jackson Society. Ben has worked in Parliament and for a number of different UK government departments and international organisations, including the United Nations Environment Programme (UNEP) and Foreign & Commonwealth Office (FCO). Ben read economics and specialised in China at Cambridge, Peking and London universities.

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The Campaign to Protect Rural England

The Campaign to Protect Rural England exists to promote the beauty, tranquillity and diversity of rural England by encouraging the sustainable use of land and other natural resources in town and country. We advocate positive solutions for the long-term future of the countryside. Our Patron is Her Majesty The Queen. We have more than 60,000 supporters, a branch in every county, nine regional groups, over 200 local groups and a national office in central London. Membership is open to all. Formed in 1926, CPRE is a powerful combination of effective local action and strong national campaigning. Our President is Bill Bryson.

CPRE's Stop the Drop campaign is working to stop the blight of litter and fly-tipping on our countryside, cities, waterways, towns and villages.

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CALOUSTE
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Foreword

I'm delighted that Policy Exchange and CPRE have been able to work together to produce this thought-provoking and challenging report on the litter problem that threatens to overwhelm our uniquely beautiful countryside.

I first visited the UK in the early 1970s, and have lived here for most of the last 30 years. In that time, much has changed, a lot of it for the better. But the rising tide of litter and detritus, in town and countryside, has been a very definite change for the worse. As this report makes clear, the amount of litter dropped in the UK has increased by 500% since the 1960s, and we are collectively forking out £500 million every year to clean up after the squalid behaviour of an inconsiderate minority.

It is truly exasperating that we can routinely trash a country that is so rich in natural, cultural and built heritage. Nowhere in the world is there a landscape more lovely to behold, more comfortable to be in, more artfully worked, more visited and walked across and gazed upon than the countryside of Britain. So the many millions of visitors from overseas are genuinely puzzled that we can allow this beauty to be casually despoiled in a way which, in my experience, simply doesn't happen in much of the rest of Europe or the United States.

There is clearly a need for action to tackle litter, and that is why I am leading CPRE's Stop the Drop campaign against litter and fly-tipping. In order to tidy up Britain, we only really need to do two things. We need to stop litter being dropped in the first place, and we need to make sure that litter that is dropped gets picked up. Should be easy, shouldn't it?

But to achieve these two simple goals, there needs to be a will to make them happen. That means leadership at many levels – from national Government, which can and should give direction in this area,

from local councils, which can clean up their areas and take action to punish the worst offenders, and from a whole range of landowners and bodies which have a responsibility to keep their areas clean. And as this report rightly identifies, we also need community buy-in to the fight against litter; we must build civic pride in clean and tidy environments, with towns, villages and parishes competing to be spotless. Stop the Drop is encouraging community and individual action against litter, as well as leadership from the authorities, and I've also been pleased to see Keep Britain Tidy getting their hands dirty again in recent months, and actively encouraging people to get out and pick up litter.

“As this report rightly identifies, we also need community buy-in to the fight against litter; we must build civic pride in clean and tidy environments, with towns, villages and parishes competing to be spotless”

This Policy Exchange and CPRE report is full of recommendations which deserve serious consideration by the powers-that-be. It challenges us to tackle the all too widely held view that litter is someone else's problem, and to raise our collective game in the campaign against litter. It reminds us that litter was once perceived as a major environmental problem, and that a string of celebrities were prepared to endorse high-profile campaigns in the 1970s and 1980s; we need a similar approach now. And it shows us what other countries are doing to address their own litter problems – if they can do it, and if, as opinion surveys tell us again and again, people want action on litter, there is no excuse for inertia in Britain.

The report recognises that fining people for dropping litter should always be a measure of last resort, and that it can be more or less effective from area to area. However, fines are an essential enforcement tool, and one which, as the report says, needs to be applied far more consistently than is currently the case. The report identifies the lack of any systematic logic in enforcement policy, which appears to be influenced as much as anything by the preferences of councillors and local authority officers. This is the wrong way round – the priorities of councillors and officers should be dictated by what local people want to see.

One final bugbear of mine – as the report makes clear, bottle deposit schemes are working well in New York State, slashing litter levels and boosting recycling. Another ten or so US states operate similar systems, as do South Australia and European countries such as Germany, Denmark and Sweden. All report significantly increased recycling rates. Surely a no-brainer, then, to introduce a similar system in the UK, which Ipsos-MORI research for CPRE shows would be supported by around 80% of people. And

yet the Government seems intent on finding reasons why such a system might cause problems, whether for industry or local councils. The fact of the matter is that the recycling rate in this country, while much improved in recent years, still lags behind many of our European partners and, as we have already established, we are world leaders in litter.

I am happy to give credit to the Government where it is due. The Clean Neighbourhoods and Environment Act of 2005 was a big step forward in the fight against litter, although it needs to be implemented and enforced better. But procrastination on bottle deposits is an example of timorous indecision, not the leadership we so clearly need in this area. In campaigning against litter, we need to fight it from the top down and the bottom upwards – maybe we will eventually meet in the middle in a pristine nirvana.

I look forward to the response to this report, and I hope it can help move us towards a cleaner, greener Britain; one that is not just beautiful from the ankles up.

March 2009



Tim Bryson

Executive summary

Since the 1960s the amount of litter dropped annually in the UK has increased by approximately 500% and litter has shot up the agenda to become one of the most important local concerns for the electorate. Quite apart from the very obvious impact litter has on the beauty of our cities, towns and countryside, the direct costs of managing litter are large: councils spend an estimated £500 million a year on cleaning. The indirect costs are also considerable: companies in heavily littered areas lose business, and such areas are linked to increasing crime rates and anti-social behaviour. In both town and country, wildlife risks ingesting litter and pollutants.

Through our polling and in-depth interviews with local authorities we found that one in five people admitted to having dropped litter in the last year, with young urban males more likely to do so than any other group in society. We also found that smokers have a very different attitude than non-smokers: 42% of smokers think it is acceptable to drop litter, compared with 16% of non-smokers.

Littering is symptomatic of social and individual attitudes towards both public space and waste. We found that the most common reasons for littering are that an area is already littered; cleaning up is perceived to be the responsibility of someone else; there are no bins or ashtrays nearby; people have biodegradable items they want to get rid of; or when there is no incentive to dispose of litter properly. Efforts to tackle litter should target each one of these causes in turn. In the UK this has not been done in a sufficiently determined or co-ordinated way.

Our ongoing efforts to tackle littering involve a variety of organisations, including local authorities, central Government and government funded bodies such as the

environmental campaigns charity, ENCAMS. In many cases, these bodies are making progress and litter is being reduced. But, their initiatives are either confined to a local area or, if carried out at a national level, are too limited to have a sustained impact. The result of this lack of co-ordination is that best practice is not disseminated, efforts are disjointed and there is inconsistency, both in communicating messages and the application of penalties, all of which has failed to alter social norms for the better.

Such problems have been addressed in New South Wales, Australia. There, a well funded federal body works effectively with state-level anti-littering initiatives. They have a consistent, ongoing and effective educational campaign against litter that has helped to change social norms. There are also community programmes and competitions that have built up grassroots opposition to littering and fostered civic pride.

In the United States, New York State has developed a successful anti-littering strategy based on a deposit scheme that since 1983 has reduced container litter by 80% and roadside litter by 70%. By rewarding people for not dropping litter and encouraging people to pick it up, the scheme has helped to create a virtuous cycle of desirable behaviour. Its success can be measured by its high levels of public support: 84% of voters support it and 78% agree that it had made their state cleaner.

In addition to the ideas provided by these international examples, new options to prevent littering have emerged. The ongoing renewal of our public spaces, especially in preparation for the 2012 Olympics, gives us the opportunity to use design to prevent littering in the first place and better manage the litter that is dropped. We can think about the strategic

placement of bins and ashtrays based on evidence from local littering patterns. In residential areas, we can improve design and the management of waste to prevent household rubbish from becoming litter. We can also ensure that the commissioners and designers of public space try to eliminate littering, by engaging with the people who use, manage and maintain those public spaces when projects are still on the drawing board.

The potential role of design, encouraging international case studies and local best practice have provided useful points for us to reflect on the UK's current anti-littering strategy. From these reflections it is clear that there is much more we can and should do. If adopted, the following recommendations could help reduce litter and littering on our small and crowded island.

1. The re-establishment and reform of ENCAMS as the national body responsible for coordinating anti-littering initiatives, campaigns and programmes

ENCAMS should become the national body responsible for co-ordinating anti-littering activities across the country. This would help eliminate duplication and international experience has shown that effective national bodies are essential in creating a successful anti-littering strategy. In its existing form, ENCAMS is unable to fulfil such a role because its funding base is too small. National organisations, such as Keep Australia Beautiful, have the resources to campaign nationally and consistently over the long term. In-depth interviews conducted as part of our research have revealed considerable business interest in supporting anti-littering campaigns, while local authority officers have indicated a willingness to re-direct existing anti-litter funding. This indicates that funding could be increased without impacting adversely on the public finances.

2. The development of a permanent educational campaign with a consistent message to target littering

The new ENCAMS should initiate and manage a new permanent educational campaign that has a consistent set of messages that target groups who are particularly likely to litter, such as young urban males and smokers. Polling data, international case-studies, in-depth interviews and experimental evidence all reveal that educational campaigns are effective, especially if applied consistently and over the long-term. The new permanent educational campaign should also include nationally co-ordinated clean up initiatives to develop civic pride, on the pattern of Clean Up Australia Day and Tidy Towns.

3. The provision of bins and ashtrays in strategic sites

Our polling found that 37% of people felt that littering is sometimes or always acceptable if there are no bins or ashtrays available. This has clear policy implications. But some local authorities have failed to address this problem by providing more bins. In part this is due to some local authorities believing that bins actually encourage litter. Many more see an associated rise in the costs of waste management, as bins and ashtrays need to be emptied regularly. Both of these two forms of inertia need to be overcome.

Local authorities should also place bins in sites carefully selected on the basis of evidence, to ensure that they are in locations that are heavily littered or used.

4. The introduction of a national deposit scheme

The UK should introduce a national deposit scheme and make sure that it is properly linked into broader waste and recycling policy.¹ New York State's experience with a deposit scheme appears to have been positive, the most tangible evidence of this being high levels of public support

¹ Policy Exchange will be publishing work on waste policy later in 2009

and dramatic falls in container and drive-by litter. The scheme has reduced littering significantly and has helped to promote a virtuous cycle of behaviour.

5. Taking account of litter and littering behaviour in the design of our public spaces

An intelligent approach to designing public spaces, bins and disposal systems can yield reductions in littering without any increase in funding. Design is an overlooked tool in reducing litter, yet with much of our infrastructure and public spaces up for renewal there is a unique opportunity to reduce litter by this means. It is crucial that we ensure that the commissioners and designers of public space try to design out littering, by engaging with the people who use, manage and maintain those public spaces as early as possible in the design process.

6. Greater consistency in the application of penalties for littering across local authorities

There is no consistent view across local authorities of what constitutes littering and when fines should be applied. Only a small minority make use of the powers to fine available to them. As a result, our research found that there was no significant correlation across the country

between the use of fines and improvements in UK littering rates. This does not mean that fines cannot act as a deterrent, only that they currently fail to do so because most people do not consider fines a credible or probable sanction.

To improve the efficacy of fining as a deterrent, there should be greater consistency in the application of fines across local authorities. There is also a tendency not to fine the worst offenders, such as young urban males, as wardens perceive them to be threatening and dangerous. This has resulted in less threatening members of the public being fined and public trust in the system being eroded. Consistency in the application of penalties would improve this situation, but will require investment in enforcement capabilities and in training, so that the worst offenders can be caught and punished.

7. The creation of a new Environmental Advisory Service to promote effective knowledge sharing

The new ENCAMS should operate an Environment Advisory Service, as advocated by the Local Government Association, to act as a forum to share best practice and become a one-stop shop for local authorities that want to run their own anti-littering initiatives.

Introduction

Littering is probably the most widespread form of anti-social behaviour in the UK. Since the 1960s the amount of litter dropped annually has increased by approximately 500% and littering has become one of the most important local issues for the public.^{2,3} Rural areas face the challenge of drive-by litter, while litter on our beaches has increased by 97% since 1994.⁴

“ Litter can have a fundamental impact on the quality of life experienced in communities and there are also wider economic, social and environmental costs that cannot be ignored ”

The importance of reducing litter should not be underestimated. Litter can have a fundamental impact on the quality of life experienced in communities and there are also wider economic, social and environmental costs that cannot be ignored. Councils spend an estimated £500 million a year cleaning up litter⁵, money that could be spent on other local facilities or reducing taxes. Businesses also bear some of the costs associated with littered public spaces, as litter can push customers away. Litter can also have an impact on crime; studies show a direct link between the amount of litter and crime levels in a particular area.⁶ Finally, there is an environmental cost from wildlife ingesting litter and pollutants, which can become a potential hazard as chemicals accumulate higher up the food chain.

Despite the dramatic increase in litter and littering and rising concern from a range of urban, suburban and rural communities, our capacity to tackle the problem has not grown commensurately. As many of us can tell, keeping our public spaces clean is not getting any easier. Littering is symptomatic of social and individual attitudes towards public space and waste, and existing policies are finding it hard to alter these.

To try to turn the tide we need to find out why people drop litter and then decide on the best ways to change their behaviour, while also improving the way we clean up after those that do litter. This report has been commissioned to investigate these issues and propose workable policy options.

Section 1 exposes the extent of the problem in the UK and looks at both national and regional data from a number of sources. Section 2 looks at who litters and why, and is informed by the results of a poll commissioned specifically for the report. Section 3 analyses the main methods used to tackle litter: education, enforcement and cleaning and assesses these options in the British context using a behavioural experiment, the new polling data, and in-depth interviews with local authority officials. As we are not alone in facing the challenges from litter, Section 4 explores case studies from the United States and Australia, where successful strategies to tackle litter have been devised. Section 5 looks at the role that design could play in preventing littering and making litter easier to manage. Our recommendations propose policies to improve the way that we address littering in the UK.

2 Highways Agency, *Litter: Facts and Figures*, 2008, www.highways.gov.uk/knowledge/12043.aspx

3 Ipsos MORI, *The Rising Prominence of Liveability - Are we condemned to a life of grime?* 2002.

4 Marine Conservation Society, *Beachwatch 2007*, www.adoptabeach.org.uk/pages/press_releases.php?prID=25.

5 ENCAMS, *Issues we tackle*, 2008, www.encams.org/aboutus/sub.asp?sub=1

6 Kuo F and Sullivan W, *Aggression and violence in the inner city: Impacts of environment via mental fatigue* *Environment & Behavior*, 33(4), 543-571, 2001; Kelling G and Coles C, *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*, Martin Kessler Books, 1996.

1

How littered is the UK?

There are three main sources of information on levels of litter and littering in the UK: the Local Environment Quality Survey of England, the Beachwatch report and local authority Best Value Performance Indicator 199a.

The results of these surveys are far from encouraging. Despite marginal improvements between 2001 and 2004, the problem of litter has since grown worse, and a majority of sites are now classed as

Measuring Litter

The Local Environment Quality Survey of England (LEQSE)

Since 2000 the environmental campaigns charity, ENCAMS, has been funded by the Department for Environment, Food and Rural Affairs (Defra) to conduct an annual survey of litter in England known as the Local Environment Quality Survey of England.

Originally based on a representative sample of 54 local authorities, the survey was expanded in 2006 to cover all 388 local authorities. Areas are rated good, satisfactory, unsatisfactory or poor based on a visual rating of cleanliness (the standard quality rating). The data are broken down by region, type of environment and source of litter and provides the most accurate picture available of the country's litter levels. The survey is also used as a benchmark for local authority performance indicators (see below).

Beachwatch

Beach litter can damage wildlife by entanglement and ingestion, raising the costs of cleaning up and reducing revenue from tourism. Since 1994 the Marine Conservation Society has published its annual Beachwatch report on the state of Britain's beaches.

In 2007, 3,911 volunteers examined a total of 354 beaches along 168.5 km of coastline. Disappointingly, 2,054 items of litter per kilometer were picked up.⁷

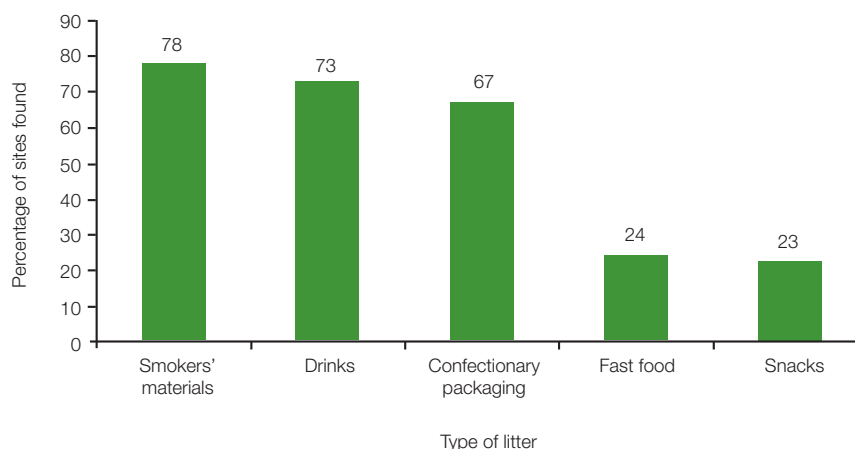
Best Value Performance Indicators

Until 2007, local authorities were obliged to assess and report their performance on a number of indicators. One of these, 199a⁸, dealt with litter and detritus. Sites were graded on a visual scale from A (clean) to D (heavy) with the percentage of sites below Grade B forming the litter and detritus indicator.

Data from the LEQSE was used to compare performance with the national average however, as of 1st April 2008, BVPIs have been replaced with National Indicators performing a similar function. For the purposes of this report analysis is confined to BVPI 199a as adequate data under the new system does not yet exist.

⁷ Marine Conservation Society, Beachwatch Summary Report 2007, www.adoptabeach.org.uk/downloads/beachwatch/Beachwatch_Summary_report_2007_web.pdf

⁸ BVPI 199 Website, 2008, www.leq-bvpi.com/introduction.asp?Printable=Yes

Figure 1: Top 5 Sources of Litter⁹

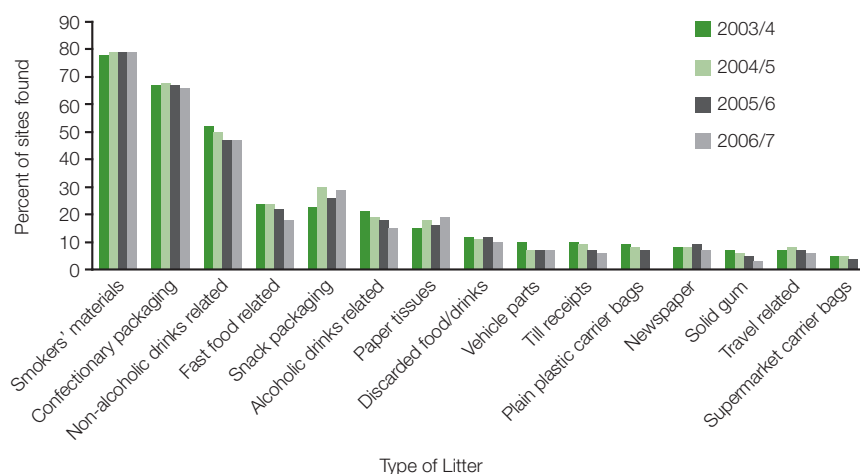
unsatisfactory. The largest sources of litter are shown above.

It is clear from Figure 1 that smoking-related litter and food and drink packaging is found at the vast majority of sites. Figure 2 shows that high profile sources of litter, such as carrier bags, contribute only a minor amount to the rubbish in communities; supermarket carrier bags were found at only 5% of sites in 2006-07, a figure similar to previous years.

Data from the annual Beachwatch survey largely corroborates these findings. The density of litter on our beaches has increased by 96.5 per cent since 1994. As in other areas, the majority of litter comes from items such as food and drink.

Local authority BVPI scores show how littering varies in different parts of the country. The top and bottom 10 performing councils for 2006-07 are given opposite:

From these rankings it is clear that the majority of well-performing councils are

Figure 2: Litter Trends by type¹⁰

9 ENCAMS, Local Environment Quality Survey of England 2006/2007, www.encams.org/uploads/publications/LEQSE_Year_6_Report.pdf

10 ENCAMS, Local Environment Quality Survey of England 2006/2007, p. 9.

Figure 3: Litter performance by council¹¹

Top 10 Councils	Score	Bottom 10 Councils	Score
West Dorset	0.4	Haringey	40.1
Berwick	1.0	Havering	38.0
Maldon	1.3	Barking and Dagenham	37.7
Scarborough	1.7	Hounslow	37.0
Oswestry	1.8	Hillingdon	35.0
West Somerset	2.0	Greenwich	35.0
Kensington and Chelsea	2.0	Ealing	34.8
Epping	2.0	Harrow	34.0
North Devon	2.0	Waltham Forrest	33.0
Oadby	2.0	Kingston Upon Thames	32.0

located in rural areas, while the worst are mainly urban. Nevertheless, success is not confined to the countryside; the densely

populated London Borough of Kensington and Chelsea still makes the top 10.

¹¹ Audit Commission, BVPI Data 2006/2007, 2008, www.audit-commission.gov.uk/performance/downloads/2006_07_BVP/Results.xls

2

The causes of littering

Recent policy has tended to focus on technical issues such as the volume of litter, its composition and strategies for collection and disposal. But this rather misses the point. If we really want to tackle this problem we must go back to the source of litter; the people who drop it in the first place.

Who litters?

The most useful research on who litters has been carried out in Australia and the United States. We examine some of the lessons these two countries have learnt.

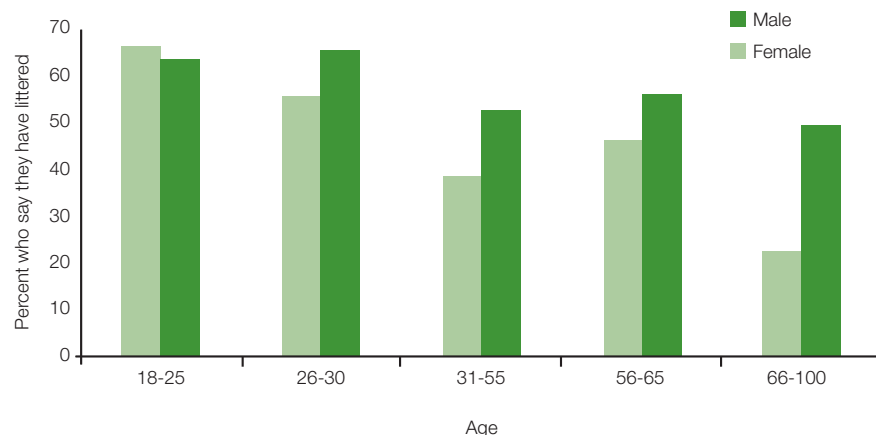
International studies

In 1953 the US federal government set up Keep America Beautiful (KAB), one of the first dedicated organisations to combat litter. Since then, a large number of surveys

have been carried out both under the auspices of KAB and at state level. A 2006 survey in Georgia found that almost half (46%) of Georgia's residents admitted that they had littered.¹² However most (94%) of those residents who said that they have littered in the past stated that they no longer or rarely litter. The survey also found that men were more likely to drop litter than women, and that young people were more likely to do so than the old.

A similar survey in Tennessee, carried out by the University of Memphis in 2006¹³, supported these conclusions. It showed that 48% of respondents admitted to having dropped litter in the past year and among them men were more likely to litter than women. Residents in urban areas were more likely than those in rural areas to have dropped litter.

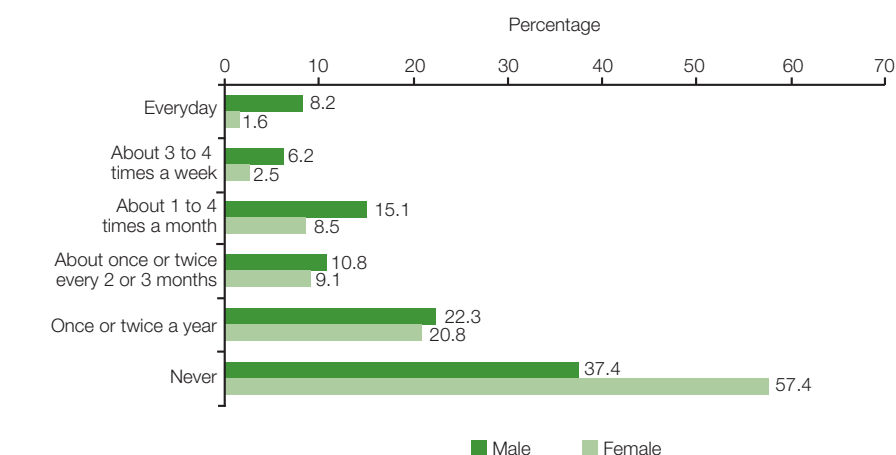
Figure 4: Littering behaviour of Georgians 18 and over by age and gender



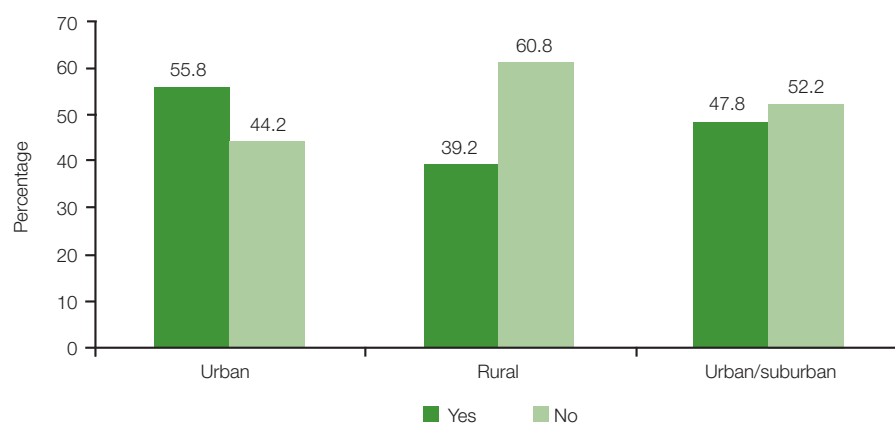
Source: Beck R, Georgia Visible Litter Survey – A baseline survey of Roadside litter, 2007.

12 Beck R, Georgia Visible Litter Survey – A Baseline Survey of Roadside Litter, 2007. The survey was conducted on behalf of the Governor's Office, State of Georgia, and the Litter Abatement and Prevention Initiative

13 Beck R, Tennessee Visible Litter Survey, 2007. Populus, 15

Figure 5: How often respondents knowingly dropped litter by gender

Source: University of Memphis Mid-South Social Survey

Figure 6: How often respondents dropped litter by area type

Source: University of Memphis Mid-South Social Survey

Data collected in Australia supports the American evidence.¹⁴ This work shows that:

- Men turn out to be slightly more likely to drop litter (40%) than women (35%);
- People over the age of 44 and under the age of 15 are much less likely to drop litter than those in between; the 15-34 age group are the most persistent litterers;
- People under 25 were most likely to drop litter when in a group of their

peers. Those over this age were most likely to drop litter when they were alone.

- Students and those currently not employed had higher than average littering rates, while those with tertiary and post-graduate qualifications had lower than average littering rates.

The UK perspective

Britain still lags far behind other countries in investigating the causes of littering. For this reason, Policy Exchange

¹⁴ Beck R, *Literature Review on litter. Keep America Beautiful*, 2007, pp 32-36

commissioned Populus to conduct an independent nationwide survey into attitudes towards litter and littering.¹⁵ To check whether peoples' responses tallied with their actions or not, the survey was complemented by information obtained from in-depth interviews with local authority personnel. The following results emerged:

- 20% of respondents were prepared to admit that they had dropped some litter in the last year.
 - Men (24%) admitted to dropping more litter than women (15%)
 - 18-24 years olds (38%) admitted to dropping more litter than those over 65 (9%);
- People were significantly more relaxed about dropping litter in urban areas than in the countryside;
- Those without a strong sense of community were 10% more likely to litter;
- Young people litter more when in groups.

It is generally young urban males who lack a sense of community attachment and they are also more likely to be among the significant minority of the population who drop litter. In this respect littering is symptomatic of a broader failure to engage with these members of society. This would help to explain why measures to reduce anti-social behaviour have also improved the quality of local environments.¹⁶ There is a compelling case to target these groups of young urban males, not only in order to reduce litter, but also to maximise wider social benefits.

Why do people litter?

American surveys have found some common reasons why people litter.¹⁷ These are:

- An area is already littered
- It is someone else's responsibility
 - Someone else will clean up the area after them.
 - There are no bins/ashtrays nearby
- It is not really littering, e.g. "I only drop biodegradable things"
- Laziness

To see whether these apply in Britain today, we looked at the research literature and incorporated pertinent questions into our Populus poll and interviews.

An area is already littered

Psychological and behavioural studies show that the condition of an area is likely to determine behaviour of people within it.¹⁸ Cialdini, Reno and Kallgren have analysed the effect of what is the normal state of affairs (or social norms) on behaviour.¹⁹ They distinguish between two types of social norm, *injunctive and descriptive*, which correspond to what is perceived *to be* appropriate behaviour within a particular context against what behaviour is actually performed within that context.

The descriptive norm is particularly important as it is held to influence behaviour. Put simply, the state of your environment will determine how much litter you drop.

To test this hypothesis Cialdini, Reno and Kallgren varied the state of the environment (clean/littered) in an experimental situation. An actor was used to change the impact of this perceived state by either dropping litter or walking by without doing so. Their results show that littering behaviour was significantly affected by the state of the environment – people were less likely to drop litter if it was clean and vice versa. This effect was stronger when this perception of the state of the environment was reinforced by seeing someone drop litter, or not doing so.

15 Survey on public attitudes to litter, 2008

16 Kuo, F and Sullivan W., op. cit.; Kelling, G and Coles C., op. cit.

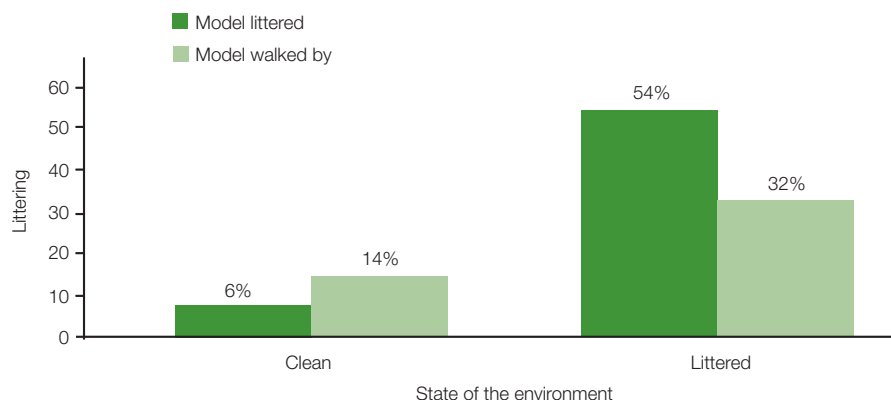
17 Arizona State University, 1998; Beck R, 2007 op. cit.; Finnie W, *Field Experiments in Litter Control*, Environment and Behaviour 5 (2) pp123-144, 1973; Krauss R, Freedman J and Whitcup M, *Field and Laboratory Studies of Littering*, Journal of Experimental Social Psychology, 14, pp109-127, 1978; Reiter S and Samuel W, *Littering as a Function of Prior Litter and the Presence or Absence of Prohibitive Signs*, Journal of Applied Social Psychology, 10 (1), pp45-55, 1980; Cialdini R, Reno R and Kallgren C, *A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places*, Journal of Personality and Social Psychology, 58 (6), pp1015-1026, 1990; Cambridge Matters Blog,

<http://cambridgematters.wordpress.com/2007/11/30/its-all-in-the-mind-the-psychology-of-littering/>

18 Kelling G and Coles C, op. cit.

19 Cialdini R, Reno R and Kallgren C, op. cit.

Figure 7: The effect of the state of the environment on littering



Source: Cialdini R, Reno R and Kallgren C, *A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places*, Journal of Personality and Social Psychology, 58 (6), pp1015-1026, 1990

These results confirm that the condition of an area is of critical importance in determining future behaviour within it.

Our polling showed that 15% of people thought that if an area was “already littered” then they were justified in adding to it. This finding was reinforced by our interviews with local authority personnel, many of whom strongly believed that an environment that was already littered encouraged littering.

It is someone else's responsibility

From our polling and interviews it was clear that many people think that if someone else is paid to clean up or if there is a lack of bins or ashtrays then littering can be justified. More specifically, those questioned often named this “someone else” as the local authority. They clearly viewed the maintenance of clean public spaces as one of its primary duties.

Our polling also found that a staggering 37% of respondents felt that littering is sometimes (or always) acceptable if there are not enough bins.

It's not really littering

The vast majority of people would probably say that dropping litter is wrong, but there is significant disagreement over what

constitutes littering. We found that people's perceptions of litter varied according to whether littering took place in an urban or rural area and whether the individual was a smoker or not.

“ Our polling showed that 15% of people thought that if an area was “already littered” then they were justified in adding to it ”

Perhaps expectedly, the urban-rural distinction appeared across several types of litter. We found that 99% of respondents thought that it was unacceptable for dog owners to leave dog excrement in urban areas, which dropped to 85% in the countryside; 77% thought it was unacceptable to drop apple cores in urban areas, which fell to 40% in the countryside. More people (32%) viewed litter as more of a problem in urban areas than in rural areas (24%).

Smoking is particularly salient because of the ban on smoking in enclosed public places introduced on 1st July 2007. Since the ban, the number of cigarette butts dropped as litter has increased considerably, as people have gone outside to

smoke.²⁰ This trend has been exacerbated by a failure to increase the number of cigarette bins and to change the attitude of smokers towards cigarette butt litter. Our polling shows that smokers have a very different attitude to cigarette butt litter than non-smokers: 42% of smokers think it acceptable to drop cigarette butts as litter, compared with 16% of non-smokers. This disparity in attitudes was confirmed in our local authority interviews.

Summary

Taken together it appears that the main factors behind littering are:

- The state of the environment
- Whether litter is seen as someone else's problem
- Whether the action is considered littering

While the condition of an environment is something that can be tackled by vigorous cleansing efforts, the other two factors point to a wider breakdown of communication between government and the public. The idea that litter is someone else's problem should be addressed by educating people about the socioeconomic costs of litter and emphasising that litter is the responsibility of the whole community and not just the local authority.

The disagreement over what constitutes litter also needs to be resolved. Smokers need to be convinced that cigarette butts are litter, and this message should be communicated effectively to all members of the community. Policy makers and local authority officers may have a clear view, but our research shows that a significant minority of the population do not.

20 ENCAMS, The Impact of the Smoke Free Legislation on Litter, 2008, www.encams.org/views/downloads/encams_smoking.pdf

3

Tackling litter

Our investigation into anti-littering efforts has found that success has been driven by education, enforcement and cleaning.

Education

The environmental campaigns charity ENCAMS is the main British body responsible for preventing litter through educational campaigning. Its roots lie in the first Keep Britain Tidy Campaign which was launched by the National Federation of Women's Institutes in 1954. Today Defra provides it with approximately £5 million a year in core funding.²¹ Iconic poster campaigns supported by celebrities from Morecambe and Wise to Marc Bolan and Michael Owen to Bill Bryson have formed the backbone of its efforts to reduce the amount of litter.



Source: ENCAMS 2007

In the past few years, its approach to educational campaigns has evolved; it has tended to target specific sources of litter, in particular used syringes, food and cigarettes. Unfortunately, there is a lack of long-term data about how effective this shift in campaigning has been.

Campaigns in action

After a 2004 survey found 150,000 discarded syringes on school grounds, an increase of 7% on 2001, ENCAMS sent out over 14,000 posters to schools, local authorities and members of the public.²² At the same time Defra issued guidance on how to deal with drug-related litter.²³ However the effectiveness of this campaign in reducing the incidence of such litter and its associated injuries has never been fully assessed. According to ENCAMS, the only outcome measures available were based on the take-up of posters rather than a reduction in drug-related litter actually dropped. This is because most of this littering occurs on land not covered by the LEQSE and local authority data does not provide sufficient detail.

In 2007 ENCAMS launched a campaign to tackle the growing problem of “takeaway trash” from fast food chains and takeaway restaurants, targeting the highly image conscious 18 – 24 year old age group. The campaign shared many similarities with the drugs-related litter campaign: campaign posters were the medium of choice and were displayed in places such as bus stops, washrooms and restaurants. During and shortly after this campaign ENCAMS reported a 35% reduction in fast food litter in key locations.²⁴ However, no specific data was collected on the long term effects of this campaign.

This lack of long-term assessment is also a feature of its most recent and high profile campaign to reduce cigarette litter. According to its data, this is now the biggest source of litter and is found on 78 % of our streets. In preparation for the smoking ban,

21 Defra Departmental Report 2006 and Defra Budget, Select Committee Report, www.publications.parliament.uk/pa/cm200607/cmselect/cmenvfru/132/132.pdf

22 ENCAMS, Drugs Litter, 2008, www.encams.org/campaigns/ma-in2.asp?pageid=139

23 DEFRA, Tackling Drug-Related litter: guidance and good practice, 2005, www.defra.gov.uk/environment/localenv/litter/pdf/drugrelatedlitter.pdf

24 ENCAMS, Food Litter, 2008, www.encams.org/campaigns/sub.asp?sub=29

ENCAMS launched poster campaigns both before and after it was due to come into effect. It also teamed up with private companies to provide a portable ashtray that smokers could use to stow their cigarette butts temporarily. As with the takeaway trash campaign, initial results were promising with reported reductions of 33% and 23% in surveyed hotspots.²⁵ These are positive results, but are inadequate to deal with the 43% growth in smoking-related litter since the introduction of the smoking ban.²⁶ The campaign thus had a short-lived and localised impact, but it was ultimately overwhelmed by changes in behaviour following the new law.

“ Smokers have a very different attitude to cigarette butt litter than non-smokers: 42% of smokers think it acceptable to drop cigarette butts as litter, compared with 16% of non-smokers ”

The Campaign to Protect Rural England's Stop the Drop campaign is the latest to attempt to educate the public about the negative consequences of littering.²⁷ Local authorities also run localised educational campaigns. Regardless of who runs a campaign, however, the majority suffer from a lack of long-term evaluation. Consequently, only short term and localised success can be assessed.

The officers' view

We asked local authority officers about the efficacy of anti-littering campaigns in their areas. Some local authorities have shown considerable initiative – “Road-shows” to display and discuss anti-littering efforts; campaigns to rally civic pride and remind people the penalties associated with littering; competitions such as “Britain in Bloom” to develop a sense of community; and prizes for businesses that demonstrate a commitment to keeping their area clean.

Some educational campaigns have targeted influential individuals within a community. Liaising with religious leaders was reported to be more effective than traditional channels in some communities. Local authorities also reported that talking to social housing landlords and charities has proved to be useful for passing on anti-litter campaign materials to tenants, as was liaising with the landlords of business premises, especially of pubs, restaurants and fast food chains. Some local authority officers have also taken an interest in school initiatives and youth groups as part of a strategy of engagement with young people.

However, some local authorities, especially in the most deprived areas, often reported that they did not have the time or resources to mount such campaigns on their own. Would an expansion of national campaigns be useful for them? To answer this question, we must see whether educational campaigns generally and national campaigns specifically, have a significant impact on littering. To measure the impact of educational campaigns on littering rates we conducted an in-situ behavioural experiment with the University of Bath. In order to judge the effectiveness of national campaigns we also looked at evidence from overseas.

The cinema study

To assess the impact of educational materials on littering behaviour we chose a cinema, a venue that could be closely controlled, yet still be an accurate representation of normal life.

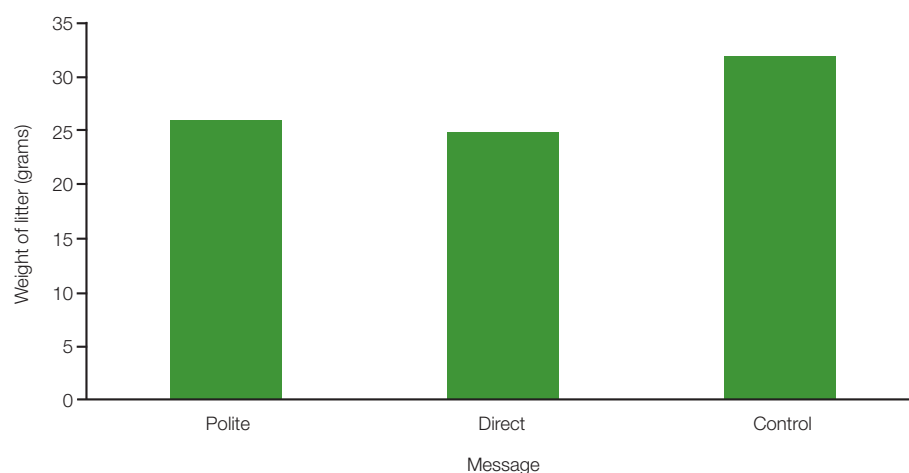
Managers also report that the social norm in a cinema is to litter due to the fact that it is often seen as part of the service. As the time and effort required of patrons to dispose of litter correctly on the way out of the cinema is minimal we hoped that by making a relatively minor psychological intervention we might change behaviour.

²⁵ ENCAMS, Cigarette Litter, 2008, www.encams.org/campaigns/su b.asp?sub=25

²⁶ ENCAMS, Cigarette Litter Campaign 2007, 2008, www.encams.org/campaigns/ma in.asp?pageid=283&sub=25

²⁷ CPRE, Litter and Fly-tipping, 2008, <http://www.cpre.org.uk/campaig ns/stop-the-drop/litter-and-fly-tipping>

Figure 8: Average weight of litter left by cinema-goers in each condition (in grams)



For each film viewing that we monitored one of three interventions was used. These interventions were in the form of flyers showing a polite, direct or non litter-related message. More details of the experiment can be found in Appendix 2.

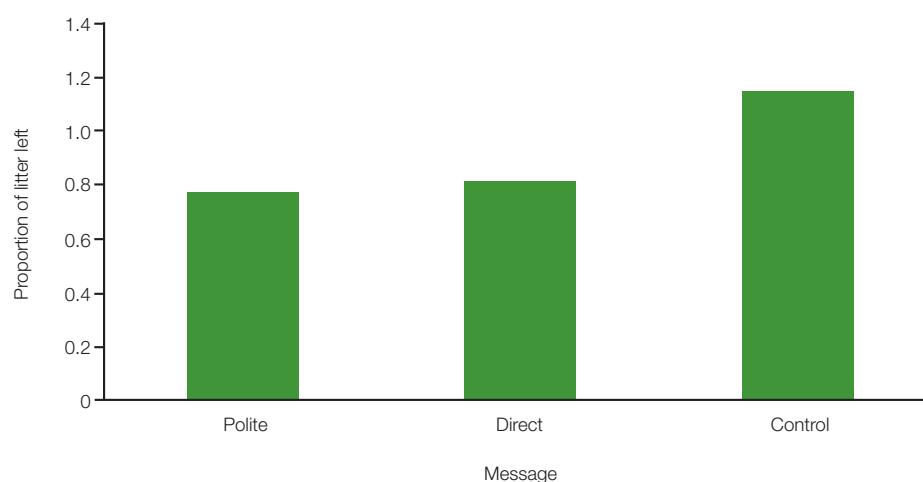
What we found

Figure 8 illustrates the average weight of litter left by cinema-goers under each condition (in grams). It shows that people leave more litter when they receive the non

litter-related (or control) message and less with the two interventions.

Figure 9 shows the average proportion of litter left under each condition. It is a ratio between the number of items taken into the cinema and the number of items dropped (excluding the flyers). The value 1 indicates that people left all the items they took into the cinema as litter, while a value lower than 1 indicates that people have placed litter in the bins in the corridor (and conceivably elsewhere) but not in the cinema itself. We

Figure 9: Proportion of litter left in the cinema under each condition



can see that for the control message a value greater than 1 was recorded, which suggests that people brought in more items than the researchers noticed and left much of them in the cinema.

“ Interventions, whether “direct” or “polite”, coupled with accessible bins reduced litter by nearly a third ”

The data shows that simple interventions, whether “direct” or “polite”, coupled with accessible bins reduced litter by nearly a third (32.2%).

Enforcement

Responsibility for the second form of anti-littering measure is shared between several government bodies, though enforcement falls primarily on local authorities. The Environmental Protection Act 1990²⁸, updated in 2005²⁹, gives local authorities the duty of maintaining the cleanliness of streets and other public areas within their boundaries. They have the power to fine individuals or business for dropping litter, generating too much litter or failing to comply with an order, all of which can result in prosecution and further fines of up to £2,500.

1. *Dropping Litter* – any individual caught by a local authority officer can be issued with a Fixed Penalty Notice and fined between £50 and £80.
2. *Generating disproportionate amounts of litter* – If the owner of a property generates an excessive amount of litter then a local authority can issue a formal Street Litter Control Notice to ensure the owner is made aware that it is their responsibility to keep the front of the premises, plus a reasonable distance either side, clear of litter.
3. *Failing to keep an area clean* – depending on the type of land involved local authorities can serve either a Litter

Abatement Notice or designate a Litter Control Area. This requires the owner to keep the area to a minimum standard and also gives the local authority the right to keep it clean and then send them the bill.

Despite being available to local authorities for some time, the use of fines has only recently become widespread since the Clean Neighbourhoods and Environment Act 2005 brought about changes in the regulatory framework.³⁰

Application of enforcement measures

Our in-depth interviews with local authority officers revealed huge variation in the application of enforcement procedures. Some local authorities use fines very rarely and only with persistent offenders. Others have well-trained teams who work closely with the police issuing on-the-spot-fines as a matter of course. Interviewees generally said that effective liaison with the Police can improve efficiency and public acceptance of enforcement.

Those who were reluctant to impose fines tended to assume that such measures could backfire. They thought that the general public would be unwilling to supply names and addresses and, in the worst case local authority officers would be putting themselves at risk. Some cited examples of people becoming abusive and threatening when they were fined, making it necessary to call the police. In some areas, even Police Community Support Officers were apparently reluctant to hand out fines, as it was a lot more confrontational than many of their other duties.

There was also concern about possible adverse publicity around fines. For this reason one of the best rated local authorities favoured environmental education over enforcement, “We are not overzealous. We don’t attract the bad publicity that some authorities do because of their attitude toward enforcement which seems to be the be all and end all.” The majority

28 Office of Public Sector Information, The Environmental Protection Act 1990, 2008, http://www.opsi.gov.uk/acts/acts/1990/ukpga_19900043_en_11#pt4-pb1-l1g88.

29 Ibid.

30 Ibid.

agreed, favouring a softly-softly approach where individuals, businesses and residents are reminded of their responsibilities and the fines they could face, with fines being imposed only as a last resort.

There were, however, notable exceptions to this view. One of the best urban authorities has had an enforcement team in place since 2000. Here uniformed enforcement officers are trained by the police, who see a link between littering and other forms of anti-social behaviour. The experience in this local authority is that if the public are approached in the appropriate way most comply; if things get out of hand each officer has radio contact with the police.

Effectiveness

In order to assess how effective fines really are, we used statistics obtained from Defra to plot levels of fining against levels of littering as defined by BVPI199a.³¹

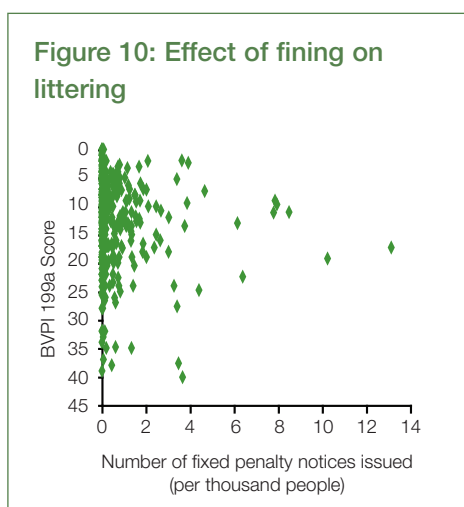


Figure 10 shows that there is no significant correlation between the use of fines and improvements in littering. Even when adjusting for different repayment rates the same pattern emerges. In fact, many of the best authorities do not appear to use fines. West Dorset, which came top, issued no fixed penalty notices in 2006-07, whereas bottom-rated Haringey issued over 821.

Figure 11: Effect of change in fining on littering



However, perhaps an increase in fining would bring about a corresponding reduction in littering?

The data in Figure 11 did not show a significant correlation between the change in the number of fixed penalty notices issued and the changes in littering. From our data, increasing the number of fines does not appear to have a significant effect on littering. However, it should be noted that the time series data available was too short to rule out fining as a tool in the fight against littering. Our interviews also showed that local authority officers welcomed having the power to fine even if it was rarely used.

In addition, contrary to many assumptions, fines are not significant revenue raisers for local authorities. The amount collected from the 43,624 litter penalties issued in 2006-07 was only £1.5 million in comparison to the annual £500 million it costs to clean litter annually.³² At this rate of return litter enforcement officers would need to issue approximately 17.5 million fines a year to cover cleaning costs.

Cleaning

The final form of litter reduction is the most obvious – picking it up. As with enforcement, local authorities are primarily responsible. It is their job to keep the land

31 Audit Commission, BVPI Data 2006/2007, 2008, www.audit-commission.gov.uk/performance/downloads/2006_07_BVPResults.xls;

Audit Commission, BVPI Data 2005/2006, 2008, www.audit-commission.gov.uk/Performance/Downloads/200506BVPIdata.xls

32 Defra, Local Environment Quality: legislation and enforcement, 2008, www.defra.gov.uk/environment/localenv/legislation/fpn/fpn-apr06mar07.xls

Figure 12: Defra litter guidelines³³

	TYPE OF ZONE			
	High intensity of use	Medium intensity of use	Low intensity of use	Special circumstances
Nature of the area	Areas which, through intense pedestrian and/or vehicular movements, are prone to fluctuations in litter and refuse and require both high levels of monitoring and frequent cleansing	Areas affected by moderate levels of pedestrian and vehicular activity and therefore less prone to fluctuations in litter and refuse, usually situated outside centres of retail or commercial activity, but used regularly by members of the public	Areas subject to low or infrequent levels of pedestrian and vehicular activity and therefore less prone to fluctuations in litter and refuse, often located in more rural areas	Types of land where issues of health and safety and reasonableness and practicability are dominant considerations when undertaking environmental maintenance work (includes legislative restrictions for all land types)
Maximum response time to restore to grade A standard if it falls below grade B	1/2 day This means by 6pm if reported before 1pm or by 1pm the next duty day if reported between 1pm and 6pm on the previous day	1 day This means by 6pm the following evening	14 days	28 days or as soon as reasonably practicable

within their jurisdiction clean and litter free. Guidelines issued by Defra suggest minimum response times for cleaning up an area. Exactly how they meet these guidelines is up to the individual local authority and can be contracted out if desired.

Evidence suggests that in carrying out their cleaning duties urban and rural authorities face very different problems:

- Rural councils have to deal with “drive-by” littering and fly-tipping, which are much harder both to clean up and prosecute.
- Urban authorities have high volumes of both people and traffic to contend with, as well as security concerns that limit the placement of bins in crowded areas. As a result officers are unable to site bins where they are most needed.
- Suburban councils have to manage areas that require completely different

cleaning strategies. Some of these authorities have created costly “hit squads” that complement regular cleaning patrols by targeting hotspots.

A number of local authorities have introduced regular resident satisfaction surveys, over and above those required by statutory duty allowing them to measure changes in the quality of service provision and to respond more appropriately to littering and litter in specific communities.

In one case a local authority that was experiencing complaints from the public and poor morale among its street cleaners introduced flexible work patterns. Whereas before an area would be cleaned at a set time and date regardless of need, new groups of cleaners were made responsible for small areas and they tailored daily efforts to tackle heavily littered places. Alongside these reforms, the local author-

³³ Defra, Code of Practice on Litter and Refuse, 2006, <http://www.defra.gov.uk/environment/localenv/litter/code/pdf/copp-litter.pdf>

ity provided a selection of modern mechanical cleaners, which raised morale and reduced staff turnover.

This kind of constructive response to local concerns seems to be the exception rather than the rule. Interviewees said that a major problem was a lack of knowledge of best practice. If and when best practice is shared, it is done through a plethora of small forums, which include ENCAMS subscription-based Cleaner, Safer, Greener Network and the Association of Public Service Excellence. The sheer number and complexity of these small-scale forums can be overwhelming. As a result, the Local Government Association is trying to establish an Environment Advisory Service, which would bring all these together. As yet, funding has not been secured and knowledge sharing continues to be impeded.

Bin placement

Perhaps the most pressing issue for local authorities is bin placement. Our research shows that the amount of littering is largely determined by the number of bins provided. According to our polling, 37% believe that a lack of bins justifies littering and 91% of the public believe increasing the number of available bins is the most effective way to reduce litter.

Some local authority officers who we interviewed agreed with this view and a number planned to increase the number of conventional bins. Others were more sceptical about whether increasing the number of bins would reduce litter. Some even stated that they would actually like to reduce the number of bins, whilst locating the remainder more sensibly and visibly.

Almost all local authority officers agreed that if they were to provide extra bins, these must be serviced adequately. Bins that are not emptied regularly tend to overflow, causing litter to escape into public spaces, which in turn encourages more littering.

“ 37% believe that a lack of bins justifies littering and 91% of the public believe increasing the number of available bins is the most effective way to reduce litter ”

The main question is clearly one of resources. Managers who have improved their performance have in many cases received injections of money ranging from £750,000 to £4 million. But, in general, money for reducing litter is not tied to demographics or indeed any of the other factors that affect littering levels in the first place.

Finally, there is a distinct lack of community involvement: the general view is that local authorities are solely responsible for providing bins and cleaning up. Despite this, several local authority officers have experimented with community clean-up initiatives with some success. But they reported that without some sort of national strategy it would be hard to develop them further.

As with education and enforcement, cleaning would also benefit from a more co-ordinated approach. A more rational approach to cleaning schedules with more responsibility being given directly to cleaners and improved sharing of best practice and community involvement will be vital if we are to improve the way we clean up litter.

4

International experience

While the UK may have its problems with litter, other countries have faced similar issues and in some cases tackled them to great effect. To find out more about these successes, we have studied two examples – New South Wales (NSW) in Australia and New York State in the United States. The legal systems and institutions of both countries, as well as the nature of their populations, are sufficiently similar to ours to provide practical options for UK policy makers. In the NSW case study we look primarily at their approach to education; in the New York State case study we focus on their much cited deposit scheme.

New South Wales, Australia

In just a few years NSW has achieved an astonishing reduction in the amount of lit-

ter dropped in its public spaces. Although littering has increased nationally, NSW has defied this trend - the average number of items found per sq km has dropped from significantly above the national average to well below it.³⁴

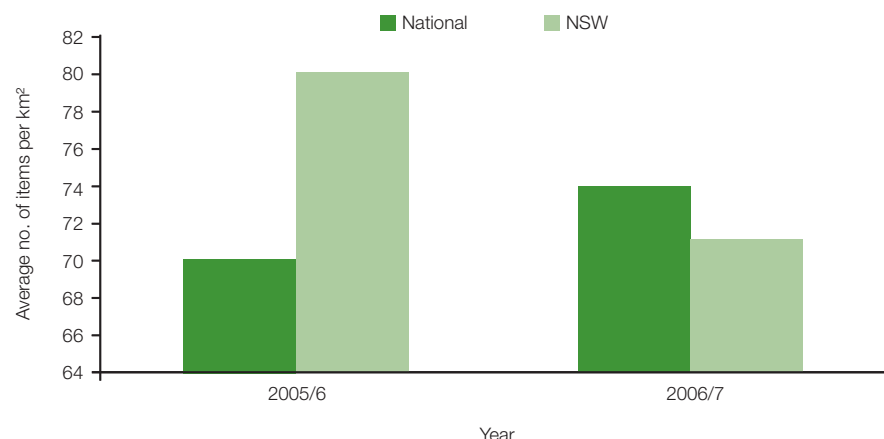
In contrast to the UK, where beach litter has risen by 96.5% in recent years, the Australian National Litter Index reports that the average number of litter items found per sq km on beaches in NSW fell by 46%, from 110 to 60 in just one year.³⁵

How has this rapid reduction been achieved and what lessons could be applied to the UK?

Co-ordination

Part of the success experienced in NSW is due to the effective coordination of

Figure 13: National/NSW items of litter dropped between the years of 2005 and 2007



Source: Keep Australia Beautiful

34 Keep Australia Beautiful, National Litter Index, 2007, www.KeepAustraliaBeautiful.org.au/_dbase_up/a%20NLI%20report%200607%200506.pdf

35 Marine Conservation Society, Beachwatch 2007, www.adoptabeach.org.uk/pages/press_releases.php?prID=25, Keep Australia Beautiful, National Litter Index, 2007

anti-littering efforts by both the state and federal governments. The establishment of a dedicated national body to tackle litter, Keep Australia Beautiful, has complemented NSW's own Litter Prevention Programme. Federal efforts have inculcated a strong national attitude and local initiatives have helped to engage communities directly in anti-littering activities.

There are a number of initiatives organised at a federal level that have been particularly successful and two of these are outlined below.

Clean Beaches: The Australian Beach challenge

Clean Beaches is an inter-state competition that aims to help to keep Australia's beaches litter free and encourage care and protection of coastal regions. It also involves beautification, education, environmental and safety programmes as well as community pride and partnerships.³⁶

Keep Australia Beautiful judges the competition taking into account each beach's geographic, environmental and economic circumstances. It assesses how efficiently and effectively the community uses the resources available to it against a range of criteria. These include tidiness, litter abatement, resource conservation, waste management and the conservation of flora and fauna. Social criteria for projects include community interaction, youth activities and local government leadership within a community.

In terms of litter abatement, the judges look for anti-litter education and awareness programs, literature and/or signage by local council, schools and community groups such as surf life saving clubs. Beaches should have a litter management strategy as well as adequate, well-placed litter bins in beachside commercial areas, public parks and playgrounds. These must have frequent and adequate collec-

tions as well as appropriate directional signage. Accessible dog-litter bags and disposal facilities, or dog prohibition must also be in place, as must facilities for disposing of cigarette butts. Finally, there must be regular beach clean-up activities by the community and/or local council.³⁷

“ Rather than a disjointed string of one-off campaigns, litter education in NSW is integrated with enforcement and cleaning, and targets communities and authorities ”

Clean Up Australia Day

This is Australia's largest community 'tidy up' which brings together councils and volunteers from local communities. Every year, on Clean Up Australia Day, thousands of Australians repair their local environment by collecting and removing litter. Since it began in 1989, six million Australians have participated, collecting over 200,000 tonnes of litter. In 2008, 800,000 volunteers cleaned up 7,000 tonnes of litter at 6,000 sites across the country.

Education

NSW has run a Litter Prevention Programme since 1999. Rather than a disjointed string of one-off campaigns, litter education in NSW is integrated with enforcement and cleaning, and targets communities and authorities. Broadly speaking it consists of:

- A continuous series of public education media campaigns paid for by the state
- Community education projects
- Training and support for councils, government agencies and community organisations

36 Keep Australia Beautiful, "Clean Beach Challenge", 2008 http://portal.environment.wa.gov.au/portal/page?_pageid=1378,6838630&_dad=portal&_schema=PORTAL

37 Keep Australia Beautiful – Tasmania, "Clean Beach Challenge", 2007 <http://www.kabtas.com/cleanbeach.shtml>, Keep Australia Beautiful – New South Wales, "Clean Beaches" <http://www.kabnsw.org.au/Whatcanyoudo/CleanBeaches.aspx>

Don't be a tosser

Part of the latest stage of NSW's Litter Prevention Programme is the campaign "Don't be a tosser." The campaign combines public education about the harmful effects of litter on the environment and its social unacceptability with enforcement and fines that range from AUS\$60 to \$750 (£30 to £365).³⁸

The campaign uses television, radio and outdoor advertising, to broadcast its message, accompanied by tailored press and radio campaigns in half a dozen minority languages.

The evidence from local councils indicates that the campaign has been successful and has reduced the general need for enforcement and cleaning.³⁹ The phrase "Don't be a tosser" has also become synonymous with anti-littering.⁴⁰

The community projects that have taken place under the auspices of the Litter Prevention Programme have been designed to promote community awareness, disseminate community experiences of litter prevention and build community capacity to undertake activities such as clean-up days.⁴¹

Activities have included:

- Distributing an information and resource kit for community organisations wishing to run a litter prevention programme
- Running workshops for community organisations and council educators on the Litter Prevention Programme and community education
- Funding Keep Australia Beautiful to administer a programme of local litter prevention grants in 2002
- Funding Clean Up Australia for two community-based litter prevention projects focused on beach and school littering.

The government of NSW has taken steps to help local authorities to identify litter hot-spots and make sure that officers understand littering offences and their powers to issue penalty notices.

Precise data on the efficacy of each measure is hard to come by, however, the overall figures (see Figure 13) paint an encouraging picture.⁴³ Education has played an important role. It forms part of an ongoing strategy to prevent littering that is integrated with enforcement measures and linked to community action.

Enforcement

The responsibilities for cleaning and enforcement fall on the local authorities of NSW. New laws were introduced between 2000 and 2001 covering littering and advertising material that extended the range of littering offences and penalties available to authorities. As well as providing powers to fine littering offenders the updated legislation made it illegal for advertising material to be left in places where it has the potential to become litter.⁴⁴

Tidy Towns

Tidy Towns was launched in 1981 by Keep Australia Beautiful NSW. Some 130 cities, towns and villages throughout NSW participate each year in this competition to identify the cleanest towns.

The project also aims to improve facilities and recreational areas, reduce waste and to promote a healthier environment, respect for Australia's Indigenous and non-indigenous cultural heritage and contribution to regional sustainability.⁴²

38 New South Wales Government, Don't be a tosser media fact sheet, 2008, https://www.dec.nsw.gov.au/litter/council_kit/download/factsheets/fact_sheet_03.doc.

39 New South Wales Government, Educating the Community About Litter, 2005, www.livingthing.net.au/rc/research/2005608_LitterReport.pdf.

40 Ibid.

41 New South Wales Government, Community Projects, 2008, www.environment.nsw.gov.au/warr/NSWgovernment.htm#tosser.

42 Keep Australia Beautiful, "Tidy Towns Turns 40", 2009, http://portal.environment.wa.gov.au/portal/page?_pageid=1378,5782919&_dad=portal&_schema=PORTAL.

43 New South Wales Government, Educating the Community About Litter, 2005, www.livingthing.net.au/rc/research/2005608_LitterReport.pdf.

44 New South Wales Government, Don't be a tosser media fact sheet, 2008, www.dec.nsw.gov.au/litter/council_kit/download/factsheets/fact_sheet_03.doc.

Figure 14: Litter Penalties in New South Wales⁴⁵

On-the-spot fines	Penalty	
	Individuals	Corporations
Depositing advertising material in a public place, open private place (i.e. private land outside of a building) or on a vehicle	AUS\$200	AUS\$400
Causing or asking a person to deposit advertising material in a way that breaks the law	AUS\$200	AUS\$400
Matters taken to court	Maximum Penalty	
	Individuals	Corporations
Depositing advertising material in a public place, open private place (i.e. private land outside of a building) or on a vehicle	AUS\$550	AUS\$550
Causing or asking a person to deposit advertising material in a way that breaks the law	AUS\$770	AUS\$3,300

Fines for littering have received high levels of community support: more than three in four people agree or strongly agree that people who litter should be fined.⁴⁶ Evidence from specific areas in NSW show that fines only seem to reduce littering among those who have been fined.⁴⁷ Fines are not seen as a credible deterrent by the wider community as a whole.⁴⁸ Consequently, fining is only likely to be an effective instrument if a large number of people are caught and fined, or if it is used selectively to target repeat litterers. Both options would demand that the authorities responsible spend more on apprehending, recording, monitoring and fining litterers.

Lessons for the UK

There are several clear lessons for the UK. The first is that central government activities should be coordinated with local ones. Policy must be set centrally, while local Government mobilises anti-littering activities within communities. The second is that campaigning should be long-term and consistent and not ad hoc and disjointed. The third is that for fining to be effective, authorities need to catch and fine many more litterers or target the worst repeat litterers. The fourth lesson is to set clear rules

about the placement of advertising material in order to prevent it from becoming litter. The final lesson and perhaps most important, is the need for community engagement in both cleaning, through initiatives like Clean Up Australia Day, and educational campaigns that engage people through a broad range of organisations, such as schools and community groups.

“ Fines are not seen as a credible deterrent by the wider community as a whole. Consequently, fining is only likely to be an effective instrument if a large number of people are caught and fined, or if it is used selectively to target repeat litterers ”

New York State, USA

The New York State deposit scheme began in 1983. One of its associated benefits is to provide us with good long term information about the viability and success of deposit schemes in a large and diverse area, which encompasses New York City as well as extensive adjacent suburban and rural areas. In many respects it is an area comparable to large parts of the UK. There are

⁴⁵ Ibid.

⁴⁶ DEC Social Research Studies, Educating the Community About Litter, 2003.

⁴⁷ Ibid.

⁴⁸ Ibid.

Incentivising virtuous behaviour

Principles of behavioural and social psychology underpin the design of deposit schemes. By rewarding “good” or desirable behaviour, in this case not littering, the assumption is that we can help to perpetuate it.

There are a number of tools available to begin these virtuous circles:

- Integrating positive behaviour into an individual’s sense of identity. For example, this could take the form of making recycling part of being a responsible citizen.
- Utilising social norms, or the perception of what is normal behaviour. If an individual believes that the majority are behaving in a certain way he will often follow suit.
- Financial reward. Creating a financial incentive can help to outweigh the costs of good behaviour, such as inconvenience, which result in people choosing a less socially desirable option.

also obvious similarities in culture, institutional structure and legal framework.

The principles behind deposit schemes are simple: people are paid to return their used containers to designated areas. By investigating the experience of New York State we hope to find out whether they can reduce littering and if so, at what cost.

The New York State Returnable Container Act 1983, colloquially known as the “Bottle Bill”, took a broad-based coalition of farmers, local governments and environmentalists nearly ten years to achieve.⁴⁹

The Act aimed to control the growing amount of litter from discarded bottles and cans. It covered a range of beverages including: carbonated soft drinks, bottled water, beer and wine cooler containers. All have at least a 5 cent deposit. Deposits were also required for glass, metal and plastic containers up to one gallon and refillable containers were included to encourage their re-use and recycling.⁵⁰

The new law was an immediate success: litter in New York State declined by 30%.⁵¹ Over the past 25 years, according to official figures, the Act has:

- Reduced container litter by 70-80% and roadside litter by 70%⁵²
- Achieved redemption rates between 65-80%⁵³

- Recycled 90 billion containers (equal to 6 million tons of materials) at no cost to local authorities
- Saved more than 52 million barrels of oil
- Eliminated 200,000 tonnes of greenhouse gas emissions each year⁵⁴

By preventing containers from becoming litter, the Act has also significantly reduced clean-up costs and demand for landfill space.⁵⁵

What about the cost? Between 2004-05 the total cost of the scheme to consumers (unredeemed deposits plus handling fees) came to US\$171.6 million (approximately £118 million).

Nevertheless, a survey of New Yorkers in 2004 showed that: 84% of voters said that they support the Act; 78% agreed that it has made the state much cleaner; and 81% agreed that sidewalk recycling by itself is not enough to control litter in New York State.⁵⁶ With this level of public support, it is perhaps unsurprising that New York State is looking to extend the scheme.

Non-carbonated products such as spring water, tea, juice, milk products or sports drinks were not included because these products didn’t exist in single-serve sizes when the law was originally passed but now account for 27% of the market share of beverage containers.⁵⁷ To address

49 *New York’s Bottle Bill: 20 Years of Happy Returns*, Bigger Better Bottle Bill Campaign, December 2003, www.nypirg.org/Enviro/bottlebill/BB_20-YearReport.pdf

50 New York State Department of Environmental Conservation, www.dec.ny.gov/chemical/8834.html

51 New York Public Interest Research Group, www.nypirg.org/enviro/bottlebill/myths.html; Bottle Bill Resource Guide, www.bottlebill.org/legislation/usa/newyork.htm

52 Kruman J, *Bottle Bill at 25*, New York State Conservationist, August 2007, New York State Department of Environmental Conservation, www.dec.ny.gov/chemical/8500.html

53 New York State Department of Environmental Conservation Beverage Container Deposit And Redemption Statistics: October 2004 - September 2005, 2006

54 New York State Department of Environmental Conservation, www.dec.ny.gov/chemical/8500.html

55 Kruman, op. cit.

56 Survey of New York Registered Voters: Attitudes Toward New York’s Bottle Bill and Proposed Reforms, Public Policy Associates, February 2004

57 Kruman, op. cit.

this, in 2002, a coalition of business, community and environmental groups launched a campaign to pass the *Bigger Better Bottle Bill* which proposed several changes to the current legislation. These included adding bottled water and other non-carbonated beverages to the Bill, as well as requiring beverage companies to transfer unclaimed bottle deposits to the state's Environmental Protection Fund to support clean air, water, parks and open space. The proposed Bill will generate at least US\$100 million a year to support the Environmental Protection Fund, and by some estimates more than US\$200 million.⁵⁸

There is strong consumer support for the new bill, with seven out of ten New Yorkers agreeing that the Bottle Bill should include non-carbonated beverages while 86% support transferring the unclaimed deposits to the state to fund environmental programs.⁵⁹

Lessons for the UK

New York State's deposit scheme has been successful, the most tangible evidence of this being high levels of public support. It

has reduced littering significantly and has helped to promote a virtuous cycle of behaviour.

“ A survey of New Yorkers in 2004 showed that: 84% of voters said that they support the Act; 78% agreed that it has made the state much cleaner ”

Discussions with stakeholders have, however, revealed industry concerns about establishing such a scheme in the UK. For instance, many existing and proposed contracts to build recycling facilities for local authorities are based on contractors expecting minimum amounts of material to recycle. If much of this material were instead diverted back to retailers and suppliers through a deposit scheme, the economics of such arrangements would be undermined, hindering growth of recycling capacity. This situation is not insoluble and it is worth exploring the potential for a similar scheme in the UK, but only in the context of a fuller review of waste policy that is beyond the remit of this report.⁶⁰

58 New York Public Interest Research Group, www.nypirg.org/enviro/bottlebill/info2.html

59 Public Policy Associates, op. cit.

60 This report is forthcoming and will be published by Policy Exchange in 2009.

5

Design

While most litter reduction efforts have been focused on education, enforcement and cleaning, the ongoing renewal of our public spaces is an opportunity to explore how design can play a role in preventing litter.

“ This is a social dilemma in which multiple individuals acting independently in their own self-interest can ultimately destroy a shared resource ”

Britain is about to embark on what has been described as the “largest public building programme for more than half a century.” At least £45 billion is to be spent, including infrastructure improvements such as Cross Rail, 160,000 new homes in the Thames Gateway region, new Olympic facilities and the first new towns for 40 years.⁶¹ This provides a unique opportunity to design new public spaces so that they discourage littering. In this section we explore and assess this potential.

Why public space matters

The public spaces in our towns and cities – the streets, squares, parks and green spaces – are the one public service we all use all the time. The moment we step out of our front doors we are all users of public space, and the quality of the public spaces we use impacts upon our quality of life, the experiences we have and how we regard our local areas.

Over the past decade the contribution of good quality urban public spaces to a wide range of desired policy outcomes has been increasingly recognised. These include:

- Promoting health and well-being
- Enhancing safety and security
- Helping with community cohesion
- Addressing environmental and social justice
- Generating economic activity
- Reducing green house gas emissions and adapting to climate change.

With the widespread renewal of our infrastructure and buildings, in part due to the 2012 Olympic Games, there is an opportunity to add litter prevention to this list.

How design can contribute

The quality of public spaces is largely determined by the way in which they are designed, managed, maintained and used. Good design is both an iterative process and an end result. It's not just about how places look, it's also about how they feel and work for the people who manage, maintain and use them.

Well designed, managed and maintained public spaces tend to be used in a positive way, encourage pro-social behaviour and generate positive social, economic and environmental value for local areas.⁶² However, the role of design in ensuring ease of management and maintenance is often overlooked.

On the other hand poor quality public spaces which are badly designed, managed and maintained can contribute to, or exacerbate anti-social behaviour such as graffiti, littering and fly-tipping and result in fewer people using those spaces.⁶³ These problems are more severe for deprived neighbourhoods which tend to suffer from low quality public spaces.⁶⁴

61 Commission for Architecture and the Built Environment, Corporate Strategy 2006/7 – 2008/9, 2006, <http://www.cabe.org.uk/AssetLibrary/8758.pdf>.

62 RSA, Pro-social behavior, 2000, www.thersa.org/projects/pro-social-behaviour; CABE, The value of public space, 2004

63 CABE Space, Decent parks? Decent behaviour? The link between the quality of parks and user behaviour, 2005.

64 Hastings, A et al, Cleaning up neighbourhoods: Environmental problems and service provision in deprived areas. 2005.

A designer's view of litter

From a designer's point of view, litter is generally defined as "waste in the wrong place" and invariably the place it ends up in is a public space. Although a costly problem, litter can to some extent be considered a temporary one, as it is only "litter" and in the "wrong" place until someone puts it in the right place. As found in previous chapters there is an assumption, particularly in urban areas, that it is someone else's job to do clean up. The problem with litter is that it is symptomatic of societal and individual attitudes towards both public space and waste. In many ways it can be considered 'a tragedy of our commons'. This is a social dilemma in which multiple individuals acting independently in their own self-interest can ultimately destroy a shared resource even where it is clear that it is not in anyone's long term interest for this to happen.

The message uncollected litter sends to users of that space is perhaps more important than the litter itself. In some areas litter is not regularly collected or is impossible to remove completely and builds up, turning what might be a short-term problem into an enduring one.

The presence of litter or an overflowing bin on a street or in a park, can lead to more littering as it sends out the message that this is the norm in that public space. By contrast, a street or park with conveniently located and frequently emptied bins, is more likely to see litter correctly disposed of at the end of a journey or visit.

Design and bins

The design process can help to determine the right number and location of litter and recycling bins in public spaces, whether in parks, on housing estates, next to bus stops, outside shops or along streets. Well located bins enable people who want to put their waste or recycling in bins, to do so, thus preventing litter.

Looking at pedestrian flows and patterns of use in conjunction with information about local land use and adjacent building types can identify hot spots where there may need to be more bins permanently, and hot times where there may need to be more frequent collections, or larger bins installed temporarily. This would allow a more tailored and efficient approach to local clean-up. Some local authorities are beginning to take advantage of these methods but the practice is not yet widespread.

On an aesthetic level good design can make bins as pleasant to use as possible. For example a four month pilot project which introduced Cowbins™ (pictured below) to a communal recycling site in New Cross, Deptford resulted in a 61% increase in rates of recycling⁶⁵, and no incidences of graffiti, fly-posting, fly tipping or vandalism around the site over the period - previously a considerable and costly problem.



Cowbins™ in London, a highly visible addition to the character of the area.

Although Cowbins™ may not appeal to all, the trial demonstrated the social, economic and environmental value of investing in imaginatively designed waste and recycling bins. The initiative used a combination of practical and symbolic techniques for treating and preventing the problem of litter.

In some areas, for example historic town centres, it may be more appropriate for

⁶⁵ The Onyx Environmental Trust, *The Art of Recycling*, 2006, www.taylorcows.co.uk/pdfs/CowbinsPilotReport.pdf

bins to blend in with their surroundings, in others it may be more important for the bins to make a visible statement. A key design consideration is how the bins will work with existing street furniture to allow public access, ease of collection and to minimise clutter. Clear signage on and around bins is also important so people know what to put where, as well as being aware of the bins in the first place.

“ The role of design in ensuring ease of management and maintenance is often overlooked ”

Avoiding waste becoming litter

Bin design can also have wider implications for waste storage. In residential areas, design and management has an important role to play in the ability of households to dispose of and store their waste effectively. This is important as the presence or absence of adequate bin storage space at street level determines whether legitimate household waste becomes undesirable litter or not.

One solution would be to provide more well designed and maintained covered

communal “bring” points and storage areas for waste, as well as for recycling, based on a spatial analysis of local need and patterns of behaviour. These will become increasingly important in existing high density urban areas, where retrofitting waste and recycling will be the only design and management solution. In new developments, making space for waste and recycling should be integral to the design of all internal and external spaces, which is not the case at present.

In some high density urban areas where space is at a premium one increasingly common design solution is underground waste storage, particularly in new housing developments. Systems can be gravity-fed and mechanical, or more technologically advanced using suction and vacuum. But these can be constrained by existing subterranean infrastructure, and there have been technical difficulties with the servicing of underground systems.

Some local authorities have produced sustainable design codes and streetscape design plans which make consideration of waste collection and storage an intrinsic part of street design in both residential and commercial areas, but for many others it is an unresolved issue.⁶⁶

Design in action

Parks and urban green spaces

One way to see the potential for design is in its effect on parks and green spaces. People tend to use these more during the summer months, at lunchtime, over the weekends or when there is a music festival. Areas close to entrance gates, or large flat grassy areas may experience more use and through flow. The increased use of parks and green spaces at these times usually results in large amounts of rubbish being generated, and either left strewn across the park, or in plastic bags next to overflowing bins.

The provision of temporary additional bins during busy periods in green spaces, such as lunchtime on a summer's day, assists in preventing litter at the end of the day.

Parks and green spaces which deal successfully with litter and recycling could become beacons of good practice, enabling environmentally positive behaviour and encouraging environmental stewardship. There are local authorities and parks departments that take a strategic design and management approach to litter and recycling. For example, the Royal Parks in London piloted innovative designs for new recycling bins in Hyde Park over summer 2008 and will install more bins when it decides on the best design. It will then extend the scheme to the other Royal Parks.

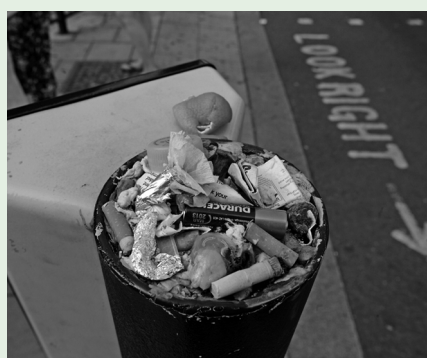
⁶⁶ South Oxfordshire Local authority, Sustainable Development, 2008, www.southoxon.gov.uk/ccm/cms-service/stream/asset/?asset_id=565406

Responses to the smoking ban

As a result of the ban introduced in England in July 2007 people who would have previously smoked inside with ashtrays on tables, now have to smoke outdoors. This is changing the social dynamic and environmental quality of public spaces outside buildings, office blocks, pubs, restaurants, stadiums and shopping centres. Local authorities and businesses have had to adapt and respond to this appropriation of previously unoccupied public spaces, the standard solution being a proliferation of wall-mounted ashtrays and smoking shelters. If not carefully designed and located, these additional elements of street furniture can detract from the quality of those public spaces in more ways than a few cigarette butts left on the pavement. Architects, urban designers and product designers will have to think creatively to accommodate the impact of the smoking ban in public spaces⁶⁷, taking the rights and preferences of both smokers and non-smokers into consideration.



A well designed ashtray in keeping with the local street scene.



An impromptu and unsightly ashtray, which has attracted more than cigarette butts. Source: CABE/Stephen McLaren

In the above examples it is easy to see how intelligent design, both of waste and recycling systems as well as buildings and public places can lead to sharp reductions in litter, and in the long run, reduce costs and improve the quality of our local environment.

Make clean-up easier

Although some new public spaces look good in photographs and win design awards, they may be difficult to clean and maintain. If so, the quality of those public spaces will soon deteriorate. To ensure that they are easy to maintain, commissioners and designers of public spaces should engage with the people who will use, manage and maintain them as early as possible in the design process.

Where next for design?

The publication of *Towards an Urban Renaissance* by the Urban Task Force in

1999, and *Green Spaces, Better Places* by the Urban Green Spaces Taskforce, in 2002 were key in raising the political profile of public space and urban green space.⁶⁸ The Cleaner, Safer, Greener initiative launched in 2003⁶⁹ was part of a wider response to improving the quality of public space over and above the problem of litter, and focussed on improving the environmental quality of residential areas, town centres and parks and open spaces. It was bolstered in July 2004 by Public Service Agreement 8 which required the delivery of cleaner, safer and greener public spaces in deprived communities and across the country with

67 Northern Office for Research and Design, 2008, www.nordarchitecture.com/ceramichash.html; Northern Office for Research and Design, 2008, www.nordarchitecture.com/urbanngreen.html

68 Urban Task Force, *Towards an urban renaissance*, 1999; Urban Green Spaces Task Force, *Green Spaces, Better Places*, 2002.

69 Cleaner Safer Greener, 2008, www.cleanersafergreener.gov.uk/en/1/csgc.html

measurable improvement by 2008, and the Clean Neighbourhoods and Environment Act in 2005.

“ Commissioners and designers of public spaces should engage with the people who will use, manage and maintain them as early as possible in the design process ”

70 National Audit Office, Enhancing Urban Green Spaces, 2004.

71 Local Government Association, Reputation Campaign booklet, 2005.

Encouragingly many local authorities have integrated the Cleaner, Safer, Greener ethos into their policies and strategies for public space design and management. This

has had a considerable impact with marked improvement in the quality of certain kinds of spaces; particularly large public space projects in town centres and those parks and green spaces that have benefited from lottery funding.⁷⁰ Cleaner, Safer, Greener also informed the Local Government Association's 2005 Reputation Campaign which identified the actions local authorities could take to make a positive impact on their reputation.⁷¹ Many of these actions involved keeping public spaces clean, safe and green. However, there is still more to do in using design to tackle the problem of litter in public spaces.

6

Recommendations

Litter is both more important and more complex an issue than is generally perceived. Its ability to impact on our fundamental quality of life has been underestimated for too long. Hundreds of millions of pounds are now being spent tackling a problem that only seems to be getting worse.

There is hope though. Our research has shown how the situation can be improved. Litter can be reduced if we develop and implement a coordinated national strategy and draw on better design, develop long-term educational campaigns, share best practice and create mechanisms that change people's behaviour for the better. The key elements of this essential new approach are:

1. The re-establishment and reform of ENCAMS as the national body responsible for coordinating anti-littering initiatives, campaigns and programmes

ENCAMS should become the national body responsible for co-ordinating anti-littering activities across the country. This would help eliminate duplication and international experience has shown that effective national bodies are essential in creating a successful anti-littering strategy. In its existing form, ENCAMS is unable to fulfil such a role because its funding base is too small. National organisations, such as Keep Australia Beautiful, have the resources to campaign nationally and consistently over the long term. In-depth interviews conducted as part of our research have revealed considerable business interest in supporting anti-littering campaigns, while local authority officers have indicated a willingness to re-direct

existing anti-litter funding. This indicates that funding could be increased without impacting adversely on the public finances.

2. The development of a permanent educational campaign with a consistent message to target littering

The new ENCAMS should initiate and manage a new permanent educational campaign that has a consistent set of messages that target groups who are particularly likely to litter, such as young urban males and smokers. Polling data, international case-studies, in-depth interviews and experimental evidence all reveal that educational campaigns are effective, especially if applied consistently and over the long-term. The new permanent educational campaign should also include nationally co-ordinated clean up initiatives to develop civic pride, on the pattern of Clean Up Australia Day and Tidy Towns.

3. The provision of bins and ashtrays in strategic sites

Our polling found that 37% of people felt that littering is sometimes or always acceptable if there are no bins or ashtrays available. This has clear policy implications. But some local authorities have failed to address this problem by providing more bins. In part this is due to some local authorities believing that bins actually encourage litter. Many more see an associated rise in the costs of waste management, as bins and ashtrays need to be emptied regularly. Both of these two forms of inertia need to be overcome.

Local authorities should also place bins in sites carefully selected on the basis of

evidence, to ensure that they are in locations that are heavily littered or used.

4. The introduction of a national deposit scheme

The UK should introduce a national deposit scheme and make sure that it is properly linked into broader waste and recycling policy. New York State's experience with a deposit scheme appears to have been positive, the most tangible evidence of this being high levels of public support and dramatic falls in container and drive-by litter. The scheme has reduced littering significantly and has helped to promote a virtuous cycle of behaviour.

5. Taking account of litter and littering behaviour in the design of our public spaces

An intelligent approach to designing public spaces, bins and disposal systems can yield reductions in littering without any increase in funding. Design is an overlooked tool in reducing litter, yet with much of our infrastructure and public spaces up for renewal there is a unique opportunity to reduce litter by this means. It is crucial that we ensure that the commissioners and designers of public space try to design out littering, by engaging with the people who use, manage and maintain those public spaces as early as possible in the design process.

6. Greater consistency in the application of penalties for littering across local authorities

There is no consistent view across local authorities of what constitutes littering

and when fines should be applied. Only a small minority make use of the powers to fine available to them. As a result, our research found that there was no significant correlation across the country between the use of fines and improvements in UK littering rates. This does not mean that fines cannot act as a deterrent, only that they currently fail to do so because most people do not consider fines a credible or probable sanction.

To improve the efficacy of fining as a deterrent, there should be greater consistency in the application of fines across local authorities. There is also a tendency not to fine the worst offenders, such as young urban males, as wardens perceive them to be threatening and dangerous. This has resulted in less threatening members of the public being fined and public trust in the system being eroded. Consistency in the application of penalties would improve this situation, but will require investment in enforcement capabilities and in training, so that the worst offenders can be caught and punished.

7. The creation of a new Environmental Advisory Service to promote effective knowledge sharing

The new ENCAMS should operate an Environment Advisory Service, as advocated by the Local Government Association, to act as a forum to share best practice and become a one-stop shop for local authorities that want to run their own anti-littering initiatives.

Appendix 1: Questionnaire study

Small fines (about £10):

Valid	Valid %	Cumulative %
Not effective at all	21.6	21.6
Not very effective	31.6	53.3
Fairly effective	32.9	86.2
Very effective	11.6	97.8
Don't know	2.2	100.0
Total	100.0	

Large fines (about £70):

Valid	Valid %	Cumulative %
Not effective at all	13.9	13.9
Not very effective	18.0	31.9
Fairly effective	23.8	55.7
Very effective	39.5	95.1
Don't know	4.9	100.0
Total	100.0	

Civic pride campaigns, encouraging people to care about their local area

Valid	Valid %	Cumulative %
Not effective at all	10.1	10.1
Not very effective	27.7	37.9
Fairly effective	43.3	81.2
Very effective	16.0	97.2
Don't know	2.8	100.0
Total	100.0	

Informative/educational programmes (seminars, debates...)

Valid	Valid %	Cumulative %
Not effective at all	15.6	15.6
Not very effective	42.0	57.6
Fairly effective	33.7	91.3
Very effective	5.7	97.0
Don't know	3.0	100.0
Total	100.0	

Increase in the number of bins available

Valid	Valid %	Cumulative %
Not effective at all	13.9	13.9
Not very effective	18.0	31.9
Fairly effective	23.8	55.7
Very effective	39.5	95.1
Don't know	4.9	100.0
Total	100.0	

Policy Appendix 2: Cinema Study

Methodology

The research was conducted over nine days, including two weekends. Eight screens were available in the cinema varying in capacity from 50 to 310 seats. Each day the researchers were given access to three of these screens for the early evening performances two of which were showing *Hancock* and the third *Chronicles of Narnia*. These films were chosen as the cinema manager expected that they would attract similar audiences; teenagers and family groups.

Customers bought drinks and food, that they could take into the auditoriums with them. Once finished they exited via corridors in which several bins had been placed (the cinema chain does not provide bins in the auditoriums themselves).

Cinema-goers could:

- Leave the litter by their seats when the show is over
- Place litter in the bins provided in the corridors
- Bin it outside the cinema
- Take their litter home

The key to the experiment lay in small interventions by the researchers who handed out flyers before each performance. For each performance two researchers would

stand outside the auditoriums. The first researcher handed out the leaflets and the second counted the number of bags of popcorn, drinks and other foodstuff being taken in. The leaflets took one of three forms:

- The first simply advertised a forthcoming film – the “control” condition.
- The second contained the same information plus a direct appeal, which read: *Contrary to what people might think it is not OK to litter in this cinema. Thank you.*
- Condition three replaced this wording with: *Please help us to keep your cinema tidy by using the bins outside the auditorium. Thank you.*

Condition two was designed as a more forthright appeal challenging the social norm. Condition three was a somewhat softer approach appealing to a sense of community responsibility. During each set of performances one set of leaflets was distributed to one particular auditorium so that all three versions were used.

Screen Sets and Conditions

After the performance the researchers collected up the rubbish, including the leaflets, then weighed it and classified it

Date	Screen 3 <i>Hancock</i>	Screen 7 <i>Narnia</i>	Screen 8 <i>Hancock</i>
Sat 05/07/08	Polite	Control	Direct
Sun 06/07/08	Direct	Polite	Control
Mon 07/07/08	Control	Direct	Polite
Tue 08/07/08	Polite	Control	Direct
Wed 09/07/08	Direct	Polite	Control
Thu 10/07/08	Control	Direct	Polite
Fri 11/07/08	Polite	Control	Direct
Sat 12/07/08	Direct	Polite	Control
Sun 13/07/08	Control	Direct	Polite

before disposing of it appropriately. The question was could it be shown that the leaflets with the anti-littering messages reduced the amount of litter left in the auditoriums compared to the control?

Results

Attendance figures for each individual screening were provided by the management so that the average amount of litter dropped per person in each condition could be calculated. The amount of litter left was also compared to the amount of

packaging taken in. Finally the number of leaflets left behind can be compared to the number of leaflets handed out.

An unanticipated result was that the audience in the control condition appear to have left even more litter behind than the researchers saw them take in, which indicates that they were bringing additional food and drinks of their own in carrier bags and leaving these items behind as well. The researchers themselves also helped to create litter as approximately 50% of the leaflets were left behind in all conditions.

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