Street cleanliness in deprived and better-off neighbourhoods

A clean sweep?

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An exploration of why affluent neighbourhoods tend to have higher levels of street cleanliness than deprived neighbourhoods and what local authorities can do to narrow this gap.

This study brings together evidence from across England and Scotland on the relationships between street cleanliness, neighbourhood characteristics and local authority service provision and expenditure. It also includes three local authority case studies, which examine cleanliness in relation to different neighbourhood contexts and levels of public service.

The study focuses on:

- how local government street cleansing services contribute to the creation of contrasting levels of cleanliness between affluent and disadvantaged neighbourhoods;
- how street cleanliness is linked to the particular characteristics and needs of neighbourhoods;
- how to identify and target need; and
- ideas, strategies and tools that service providers can use to form more targeted approaches.

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Narrowing the gap between deprived and better-off neighbourhoods – particularly in relation to the outcomes achieved by public service providers – has been an important issue for policy and practice over recent years.

This report focuses on the gap in cleanliness between these kinds of neighbourhoods and examines whether and how local government street cleansing services have been able to tackle the cleanliness gap. It details research which brings together national-level evidence from England and Scotland on the relationships between cleanliness outcomes, the characteristics of neighbourhoods and expenditure patterns across local authorities, as well as in-depth evidence on these issues in three local authority case studies. An innovative aspect of the research is that, for the case studies, the analysis is conducted at the spatial scale of the street, allowing for subtle analysis of how cleanliness outcomes relate to the particular characteristics of neighbourhoods as well as the detail of resource allocation and distribution.

The report will be of interest to everyone interested in how public service provision could be more closely aligned with need. Using street cleansing as its example, it provides a clear basis for organising services according to need in order to close the outcome gap. The research also details three distinctive approaches to narrowing the gap in relation to street cleanliness, exploring and assessing the organisational challenges and financial costs involved as well as the impact on actual cleanliness outcomes. In addition, service providers across a range of public agencies with either a neighbourhood focus or catchment will find the report a source of ideas, strategies and tools which could be used to take forward more targeted approaches. Importantly, in this time of public spending constraint, the focus of the report is on how outcomes could be enhanced and inequalities addressed within existing budgets.

Is there a cleanliness gap between deprived and better-off neighbourhoods? If so, is it narrowing?

The study clearly exposes the extent to which there is a national 'problem' in terms of a gap in neighbourhood cleanliness. It uses data on the self-reporting of litter and rubbish problems by neighbourhood residents in both Scotland and England and – for a sample of 40 English local authorities – shows that a similar pattern emerges when cleanliness levels are assessed by independent surveyors (as part of the *Local Environmental Quality Survey of England*). Indeed, the independent surveys show that on average more affluent neighbourhoods show a cleanliness level above the standard expected in national performance monitoring while for less affluent neighbourhoods the tendency is to perform below the standard. The analysis also evidences a trade-off at work between achieving higher average grades and more outcome equality.

The evidence from the case studies is also clear on the cleanliness gap, showing that this is a phenomenon at the level of the street as well

as of wider neighbourhoods. The case study analysis also exposes the value of a fine-grained examination of outcomes which goes beyond assessing outcomes on average to consider patterns in where the extreme grades occur. In terms of whether the gap is narrowing or not, the longitudinal data accessed for the case studies is able to cast light on this, whereas this data was not available for the national-level analysis. Two of the three case studies were of English local authorities, and there is clear evidence of a narrowing gap in these cases. In the remaining Scottish case study, the evidence is of an improvement in overall outcomes, yet a slightly widening gap between poor and better-off streets. The study highlights the possibility that a distinctive feature of the Best Value regimes in place at the time of the surveys may be part of the explanation for this.

What are the risk factors for poor street cleanliness and do local authorities recognise these in resource allocation?

An important objective of the research was to understand more about how the specific features of neighbourhoods predict need in relation to environmental services. This meant going beyond analysing outcomes relative to deprivation to explore the particular aspects of neighbourhoods which put them at risk of environmental problems. The national-level analysis – which synthesised a number of data sets and provided sufficiently large numbers of cases for quantitative regression analysis – was particularly fruitful for exploring this, but important insights were also made possible by the case study work.

The study identified a number of risk factors for poor street cleanliness. These related to the demographic and social composition of neighbourhoods such as low income, child density and the proportion of young-adult households. Clearly, some of these factors tend to be more prevalent in deprived neighbourhoods, thus helping to explain *what it is* about deprived neighbourhoods that makes them more likely to have environmental problems. Crucially, however, the analysis highlighted the importance of these factors even when area deprivation was controlled for: child density matters wherever it occurs. These findings extended to the impact of the physical characteristics of neighbourhoods, showing that high housing density, small or no gardens and disused buildings pose a risk for poor cleanliness whatever the deprivation level of the neighbourhood.

The three case studies exhibited significant differences in terms of the impact of the various risk factors identified in the research, suggesting that individual local authorities should carefully assess their local context. (The report offers guidance on this.) However, across the various parts of the national and local analysis, two characteristics were consistently identified as risk factors: low-income households and higher-density housing irrespective of who lives in it.

Emerging from this, a key question for the research was to identify whether resources were targeted towards mitigating these risks. In relation to the broader category of deprivation, there was evidence of a skewing of resources towards deprived neighbourhoods at both the national level and within the case studies (although the evidence is more secure at the case study level). In fact, there were important differences between the case studies, with one spending five times as much in streets in the most deprived decile compared to the least (in another it was three times as much and in the final one skewing was much more minor). High-density housing also attracted additional expenditure across the case studies and was evident in the national picture as well. However, in only one was expenditure targeted towards streets with lower-income households.

Initial analysis explored in broad terms whether higher expenditure was associated with better outcomes. Indeed, at the national level, higher expenditure (in aggregate) appeared to be associated with worse outcomes and within the case studies the continued outcome gap between more and less deprived neighbourhoods suggested that there was no obvious correlation between targeted resource allocation and more equal outcomes. The study did not stop at this broad-brush analysis, however, with further more subtle analysis conducted within the case studies which suggested a more complex — and indeed positive – relationship between expenditure and cleanliness.

The case study evidence: under the skin of how services and neighbourhood characteristics impact on street cleanliness

A second substantive aspect of the study was to provide an in-depth exploration of the reality of policy and practice within each of the three case studies and to draw out distinctions between them. The report suggests that each of the case studies offers clear 'pathways' to narrowing the gap and delivering a clean sweep, each of which negotiates the significant political and practical challenges inherent in targeting needs in quite different ways. In outline, the three pathways involved:

- standardised programmed provision to all residential neighbourhoods, topped up by extensive use of responsive services to mop up problems not resolved by programmed services;
- apparent standardised programmed provision, but an actual allocation of programmed resources and staff time which recognised the extra work required in neighbourhoods with higher needs;
- a clear skewing of programmed provision towards need, with additional top-up services provided via core-funded responsive services and additional non-mainstream services funded from neighbourhood renewal income streams.

The research examines each of these approaches in detail, showing how they are responses not only to the variety of needs within neighbourhoods (such as those already identified), but also to other kinds of pressures and influences such as national performance and audit systems or the demands of less obviously 'needy' affluent neighbourhoods. This part of the report draws on qualitative evidence from service managers and from frontline operational staff who were shadowed and interviewed in order to gain a better insight into the challenges of different neighbourhood contexts and how these could be tackled.

Finally, this part of the report also extends the quantitative analysis of resource allocation, throwing additional light on the links between resources, neighbourhood contexts and outcomes. One key finding was that it is critical to take account of workload size (rather than service frequency) when assessing the distribution of services. Indeed, in one case study, when workload size was taken into account, a resource allocation which appeared to be progressive relative to deprivation was shown in fact to be regressive. A second key finding was the need to take account of both the absolute level of service provision and relative service levels when assessing whether service provision is commensurate with need. Thus, the analysis suggested that the authority which targeted five times as much expenditure on its most deprived streets still fell short of providing the same absolute level of service to these areas relative to that provided in the other two case studies. Finally, the report raises questions about the effectiveness of mechanised modes of service delivery in deprived and high-density neighbourhoods. This raises a wider, more generic issue: namely, that the impact of service provision on outcome equality will depend on the appropriateness of the mode of service delivery to the local context, as well as on whether the absolute level of service provided is sufficient to meet needs. It would be easy to get distracted by debates on the relative shares of service, but a mainstreaming approach implies the need to take a more holistic view of how services match up with needs.

1 Background and rationale for the report

Narrowing the gap between deprived and better-off neighbourhoods

Policy and practice has long recognised the need to try and close the gap in the outcomes achieved for public services in deprived and better-off neighbourhoods. In the 1980s and 1990s, a range of special area-targeted approaches were devised to try to achieve this. However, by the 2000s concern had grown that such special initiatives were not only ineffective in tackling the problems of poor areas in a fundamental way, but that they could actually mask the real nature and scale of the issues. The potential contribution of mainstream services in narrowing the gap became central to policy debates for a while. It was argued that if key services were better organised and monitored, then the gap in outcomes might begin to close. Crucially, policy was energised by the idea that if service provision could be aligned more closely with levels of need, then a greater impact would be made on outcomes in poor neighbourhoods.

However, relatively quickly enthusiasm appeared to wane for the mainstreaming approach. It became apparent that mainstreaming was difficult to achieve and a range of technical difficulties, including problems with budget disaggregation, hampered developments (ODPM, 2005). Influencing the mainstream was a key objective of the flagship neighbourhood renewal programmes in both England and Scotland (New Deal for Communities and Social Inclusion Partnerships respectively). The evaluations of these programmes concluded that a failure to commit to mainstreaming and to think strategically about how core services could work better in regeneration areas meant that progress was limited (Stewart and Howard, 2004; ODS Consulting, 2006). At the level of broader policy, the floor targets designed to ensure minimum outcomes for deprived areas and groups lost prominence and the Neighbourhood Renewal Fund (which provided resources to local authorities wishing to improve service provision in deprived areas) was phased out.

Quite suddenly however, the Government appears to have renewed its commitment to the role of mainstream services in tackling deprivation. The 2009 social mobility White Paper *New Opportunities: Fair Chances for the Future* argues that public bodies and services, including local government, are central to tackling inequality. At the time of writing, the Government is considering and consulting on developing a legislative framework '*to make clear that tackling socio-economic disadvantage and narrowing gaps in outcomes for people from different backgrounds is a core function of key public services*' (HM Government, 2009, p. 10). Further, the new Comprehensive Area Assessment framework re-emphasises the role of public agencies in tackling inequality (Audit Commission, 2009).

The reaffirmed commitment to tackling inequality using public services comes at a time when the governmental emphasis on **outcomes** produced from the delivery of public services has never been greater. This is reflected in recent policy developments in different parts of the UK:

- In Scotland, Single Outcome Agreements, introduced in 2008/09, detail the local outcomes which local authorities and their community planning partners are seeking to achieve in order to support the delivery of 15 national outcomes (Improvement Service, 2008). These national outcomes are contained in the Scottish Government's National Performance Framework and also reflect established corporate and Community Plan commitments across councils and Community Planning Partnerships. Although there is no explicit requirement to narrow the gap within Super Output Areas (SOAs), there

is the provision to set differential targets for different client groups or territorial areas, with 'addressing inequalities' a cross-cutting theme of the process (COSLA, 2008, p. 2).

- In England, Comprehensive Area Assessment has been introduced since April 2009 as a performance framework designed to assess how well a range of public bodies – including local authorities, the police and fire and health services – are delivering specific outcomes. Outcomes are assessed via a set of compulsory and optional National Indicators (which replace Best Value performance indicators). Again there is no explicit requirement to narrow the gap, although some indicators specify national minimum standards in order to protect vulnerable groups (Audit Commission, 2009, p. 35) and, additionally, differential targets for areas and groups can be agreed in the Local Area Agreements which affirm the collective strategic priorities of public bodies at city, town or neighbourhood level.

This report focuses on the service of street cleansing specifically, examining in detail a series of questions pertinent to narrowing the outcome gap between deprived and better-off neighbourhoods. The report is therefore very timely as it:

- provides clear evidence on the rationale for organising services according to need in order to tackle inequality;
- sets out detailed evidence on three distinctive approaches to narrowing the gap in relation to street cleanliness between deprived and better-off neighbourhoods, providing assessments of the organisational challenges and financial costs involved;
- assesses the impact of these different approaches on narrowing the gap, evidencing changes in outcomes and showing how these fit within the broader local context;
- provides ideas, strategies and tools which local authorities can use to design policy and practice capable of narrowing the gap with relation to street cleanliness, which will also be of relevance to service providers in other arenas;
- should also help service providers explore how they might enhance the outcomes they achieve from existing budgets, given the growing constraints on public spending.

A closer look at street cleansing

Street cleansing is a service arena we can take very much for granted. It involves a set of activities concerning the cleanliness of the street (usually defined as pavements and adjoining edges of roads and grassed and planted areas) and therefore involves street-sweeping (whether manual or machine), litter-picking, the uplift of fly-tipped refuse and the removal of graffiti and fly-posting.

When street cleansing services are effective, we barely know that they are there, but when they are ineffective the evidence is visible and can be substantial. Indeed, the significant impact which this service arena has on quality of life and the attractiveness of neighbourhoods, towns and cities is increasingly recognised:

- There is growing evidence on the impact which local environmental quality has on quality of life and satisfaction with neighbourhood (Parkes *et al*., 2002).
- There is also concern that attempts to build more socially mixed neighbourhoods as well as social cohesion at the town or city scale can be compromised where there is a gap in environmental quality between neighbourhoods (Silverman *et al*., 2006).
- The links between environmental problems and other forms of disorder and crime have been prominent in policy debates: see, for example, the Respect Action Plan (Home Office, 2006).
- The contribution which good environmental quality can make to urban development in helping make places attractive to tourists, investors and mobile workers is increasingly recognised (Hastings *et al*., 2005).

Further, politicians of all parties are clear that local environmental cleanliness is an issue which features prominently on the doorstep and in elections and the passing of new legislation in 2005, the *Clean Neighbourhoods and Environment Act*, is a reflection of this. Importantly the Act focused not on the nature or quality of service provision, but on the behaviours which can lead to environmental problems – enhancing, for example, the existing powers of local authorities to deal with littering and fly-tipping.

Clearly, behaviours such as littering and fly-tipping are important drivers of environmental problems. During the 2000s, strategies have been developed by local authorities to address these issues, including fining those caught littering or fly-tipping, as well as seeking to prevent such activities through outreach work in schools and youth centres, or through a range of community engagement activities designed to increase a sense of ownership of local environmental quality (Lewis *et al*., 2009). However, in parallel with these developments, there has also been significant organisational change and innovation within the environmental service departments of local government over this period (Hastings *et al.*, 2005). In particular, there has been a shift from providing a standard, one-size-fits-all service (e.g. all streets get the same amount of service) to approaches which aim to provide services that correspond more to local variations in the extent of problems. In some authorities, this reflects a view that environmental problems are not just the result of careless or destructive behaviours, but that local neighbourhood characteristics can present distinctive and indeed quite fundamental challenges. As a consequence, targeted service provision could be seen to improve outcomes and provide a more equal 'playing field' for residents in different neighbourhood contexts in terms of keeping their area clean. Indeed, it is argued that better services would create the conditions for better behaviour.

The starting point of this research is that differences in cleanliness outcomes at the neighbourhood level are not simply a reflection of differences in the extent to which residents care for their neighbourhood environment. This premise is based on the findings of earlier work with those who provide environmental services (Hastings *et al*., 2005). This work suggested that key aspects of the physical, demographic and social characteristics of neighbourhoods could lead to specific environmental problems and create a more challenging context for service provision. It implies that key to achieving good outcomes within neighbourhoods is the extent to which service provision is appropriate to the local context. Further, it suggests that if good outcomes are to be achieved across diverse neighbourhoods – or indeed if the outcome gap is to be narrowed – then a reconfiguration and perhaps redistribution of service provision might be required.

The politics of redistributing services are clearly difficult, particularly when it means reducing services in affluent areas in order for them to be augmented in more disadvantaged areas. The widespread belief among the public that bad behaviour causes dirty neighbourhoods, together with the infamous ability of the middle classes to demand the best public services (Goodin and Le Grand, 1987), creates a tricky *realpolitik* for this agenda. The report takes cognisance of this, exploring the political and policy challenges of achieving a clean sweep as well as more technical or organisational aspects.

A very significant advancement in the field of environmental service provision during the 2000s has been the development of comprehensive audit systems designed to monitor environmental quality and enhance service performance. Arguably, it is the introduction of the close monitoring of outcomes and performance under the banner of Best Value which has been the key driver of change within environmental service provision during recent years. It is therefore important to set out, at this point, some of the detail of how this system has operated in the field of environmental services, including its recent incorporation into Comprehensive Area Assessment in England. This is also necessary as the research makes use of the extensive data collected as part of the Best Value process.

Auditing environmental quality: Best Value and beyond

The introduction of a national Best Value indicator on environmental cleanliness in April 2001 in England was the first attempt to measure, systematically, variations in environmental

cleanliness at the very local level within the UK (ENCAMS, 2006). Developed from the *Local Environmental Quality Survey of England (LEQSE)* which had been devised by ENCAMS (the environmental campaigning organisation, renamed Keep Britain Tidy in June 2009), the BV 199 indicator was designed to capture variations in litter and detritus by surveying 50-metre-long 'transects' of streets in representative parts of every local authority, in terms of land use and deprivation. In 2005, the range of the indicator was extended to capture graffiti, fly-posting and fly-tipping. In 2009, BV 199 was incorporated into the Audit Commission's new Comprehensive Area Assessment framework and, with minor adjustment, was given the status of compulsory National Indicators (NI 195 and NI 196), making environmental cleanliness core to how both areas and public agencies are assessed.

In Scotland, a parallel *Local Environmental Audit and Management System (LEAMS)* was developed and managed by Keep Britain Tidy's sister organisation, Keep Scotland Beautiful. Similar to BV 199 in many respects, LEAMS was designed to monitor cleanliness at the level of the transect across the range of land uses within Scotland's 32 local authorities. The results of the survey became a Statutory Performance Indicator for local authorities in April 2004.

While there are some minor differences between the English and Scottish indicators (for example, the English system uses a seven-point grading scale, the Scottish one has four points), in a key respect they are identical. Under both systems, an acceptable cleanliness threshold is stipulated. This B grade can be exceeded as well as failed, but it can be understood to be a nationally agreed minimum standard which all local authorities in England and Scotland try to maintain in residential as well as other kinds of areas. Photos 1 to 4 below are taken from the latest guidance on implementing NI 195 which covers litter, detritus, grafitti and fly-posting, to show pictorially the four main grades which can be awarded.

This grading system provides a concrete framework for examining the outcome gap and how it might be closed in relation to environmental services. It allows for an exploration of different ways in which the gap could be revealed (what

Photo 1: Grade A – no litter or refuse

Photo 2: Grade B – predominantly free of litter and refuse except for some small items

Photo 3: Grade C – widespread distribution of litter and refuse, with minor accumulations

Photo 4: Grade D – heavily littered, with significant accumulations

kinds of areas tend to fail the acceptability threshold, where does the excellent A grade get awarded?) and, as will be seen, suggests distinctive ways in which a closing of the gap could occur.

To conclude this closer look at street cleansing, key characteristics of this service arena can be summarised as follows:

- Street cleansing is a particularly labour-intensive public service, particularly in those areas where mechanised pavement sweeping has not been embraced.

- It is a relatively cheap public service, costing in the range of £15 to £25 per capita annually. This is considerably less than the per capita costs of, say, education or social work.

- Service provision is usually organised under two categories: routine, **programmed** services where staff work to a set agenda in terms of the location and frequency of services; and ad hoc **responsive** services which are designed to mop up additional or unanticipated problems.

- It has not tended to rely on advanced technology in either the delivery or design of the service. However, in the past couple of years a number of authorities have begun to experiment with using more sophisticated information systems (including GIS) to track and manage the removal of problems.

- While it is a service which is closely monitored, with explicit statutory performance indicators, the framework does not explicitly foreground the need to narrow the gap in outcomes between poor and better-off neighbourhoods.

About this report and the research

About the report

This report aims to provide a practical guide to developing and implementing policies and practices which place mainstream service provision at the centre of an agenda to narrow the gap between deprived and better-off neighbourhoods. We hope that this report will be used rather than simply read. It is therefore written to provide a mix of detailed research evidence, both on the need for mainstreaming approaches to tackling deprivation and on the impact of such approaches, as well as practical ideas, strategies and tools for bringing this into effect.

The substantive focus of the report is on street cleansing services as the research evidence underlying the report applies specifically to this service. As has been highlighted already, street cleansing – like all service arenas – has specific characteristics, challenges and constraints. However, we expect that both the analysis and policy/practice messages derived from the analysis will have a more general applicability. In particular, we hope that as well as environmental service managers, anyone involved in the following spheres will feel compelled to read on:

- neighbourhood renewal and regeneration;

- neighbourhood management and the broader localisation agenda;

- Local Strategic Partnerships, Community Planning Partnerships and any other forum concerned with how well public services work;

- those involved in overview and scrutiny roles within local authorities and other public agencies, those with remits around Policy and Performance and the delivery of outcomes;

- the Crime and Grime agenda; those involved in Crime and Disorder Reduction Partnerships or similar;

- those interested in the development and performance of local government, including those involved in the Local Government Association (LGA), the Association for Public Service Excellence (APSE), the Convention of Scottish Local Authorities (COSLA) and the Society of Local Authority Chief Executives (SOLACE).

About the research

The research underpinning this report is both substantial and complex. It has involved identifying and synthesising an array of different sources and kinds of data in order to conduct detailed analysis around a set of central questions:

1 Is there a gap in cleanliness between deprived and better-off neighbourhoods?

2 If there is a gap, is it closing? If so, in what ways and to what extent?

3 Given that 'deprivation' captures a broad basket of indicators, what are the more specific social and physical characteristics of neighbourhoods which predict higher levels of need for environmental services?

4 Do resources and services follow need, and to what extent?

5 What is the effect on street cleanliness when service levels are adjusted such that they are provided more in line with need?

6 Can we determine the relationship between neighbourhood contexts, service inputs and cleanliness outcomes?

Overall, the research is driven by an underlying question which emerged from the earlier research on which this project builds:

7 *Why* do certain kinds of streets have lower standards of cleanliness and/or *why* do they cost more to keep clean?

The research focuses on three case study local authorities in different parts of the UK: London, the North of England and Scotland. The case study data is further contextualised in an analysis of broader patterns across all relevant local authorities in Scotland and England. Full detail on methods is provided in the Appendices and some methodological detail is also provided in relation to specific parts of the analysis. In this part of the report we therefore provide a brief overview of the research methods used.

National analysis of patterns across local authorities: outline of methods

The analysis at the national level involved the integration of a range of different sources of data to understand the big picture in terms of the relationships between cleanliness outcomes, levels of need and service inputs at the small area level.

For all local authorities in England and Scotland, data on cleanliness outcomes was obtained from large-scale official household interview surveys (e.g. the *Survey of English Housing*) which ask residents to self-report cleanliness levels. To understand the neighbourhood context of this data, the surveys were linked to the Government's official indices of neighbourhood deprivation[2] and to databases capturing physical and social characteristics at the small area level. This part of the analysis was carried out at spatial scales which varied between the Census Output Area (COA) and the ward.

For a subset of 40 English local authorities, data providing a more objective measure of cleanliness outcomes at a smaller spatial scale was available. This data comes from Keep Britain Tidy's *LEQSE* survey mentioned above and involves independent surveyors conducting a detailed cleanliness survey of parts of streets (transects). These surveys have been linked to neighbourhood deprivation and other characteristics at the Lower Super Output Area (LSOA), which – at a spatial scale of around 300 persons – represents a more fine-grained analysis of cleanliness in its neighbourhood context than COAs or wards.

Data on service inputs was only available at the level of whole local authorities and uses expenditure on specific service headings provided by local authorities in returns to government or the Chartered Institute of Public Finance and Accountancy (CIPFA).

Appendix A provides in-depth detail on the national analysis.

Local authority case studies: outline of methods

Three contrasting local authorities in Scotland and England are the focus of the case study work: the London Borough of Lewisham, Leeds City Council and Fife Council. In selecting these, we aimed to gain a reasonable coverage of the diversity between local authorities in terms of the contexts in which environmental services are delivered in terms of urban, town and rural circumstances. (See the boxes below for detail on the case study sites.) However, selection also hinged on the quality of the data available in each authority, as well as willingness to work with us in an 'open-

book' fashion: making budgetary information available, for example. The process of selection therefore involved extensive consultations with a range of potential candidates, as well as using the expert knowledge of Keep Britain Tidy in relation to data quality, openness to research and so on.

Within each case study, there was a very significant quantitative element to the research (Appendix B) augmented and triangulated with qualitative methods (Appendix C). The research focused on residential neighbourhoods only and analysed in detail relationships between:

1 The nature and level of street cleansing **service inputs**. The quantitative element involved detailed mapping and apportioning of a range of expenditure down to the level of the street and – in Lewisham – street segment. Qualitative research involved shadowing and interviewing street cleansing operatives to understand which streets and areas required additional effort.

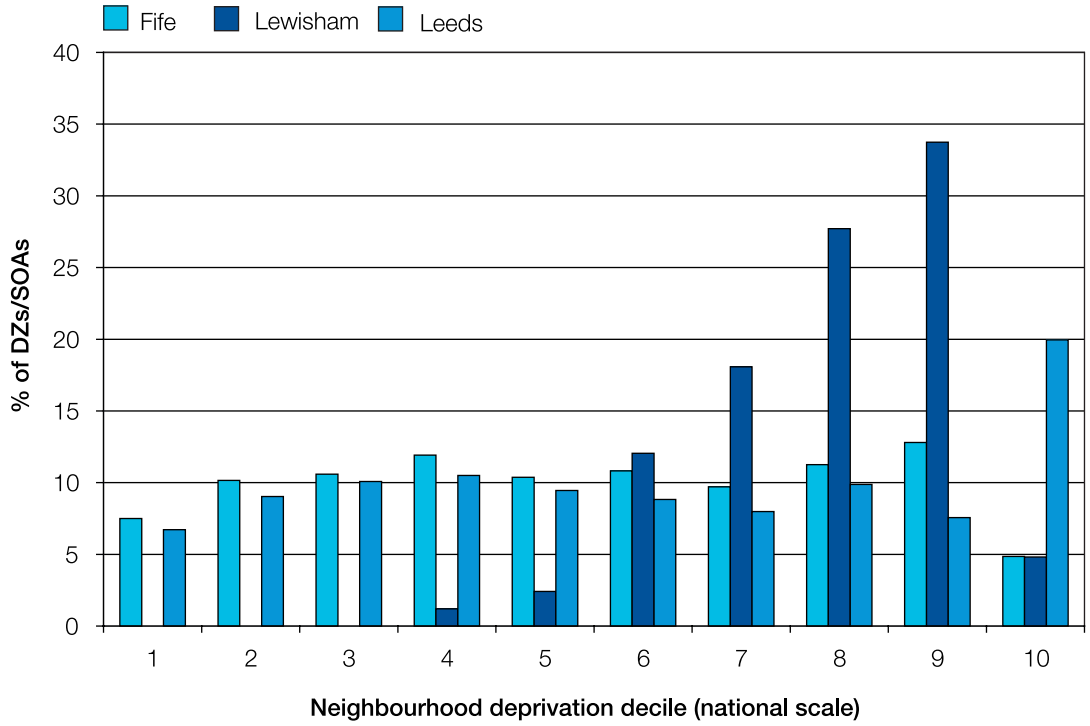
2 The physical and social **neighbourhood characteristics** of streets or the neighbourhoods in which they were located. This was obtained by estimating the characteristics of streets and street segments from knowledge of which LSOAs they fell into.

3 **Cleanliness outcomes** at the level of the street and street segment, assessed and graded by independent surveyors as part of the Best Value performance framework. Some parts of the analysis of the two English case studies also use the allied and more detailed *LEQSE* survey, also used in the National Analysis.

Introducing the case studies

The boxes below introduce the case studies, in terms of the contexts in which street cleansing services are provided. (Detail on their service provision is reserved for Chapter 3.) Within each case study there is clearly significant diversity in terms of the physical and socio-economic characteristics of the neighbourhoods to which services are provided. There is also diversity between the case studies, particularly in relation to the nature and mix of urban and rural environments. However, it is important to highlight one key contrast in terms of how the deprivation profiles of the three case studies compare. As Figure 1 shows, whereas both the Fife and Leeds

Figure 1: Neighbourhood deprivation profiles for the three case studies



Sources: IMD 2007; SIMD 2006. Notes: Fife – Datazones (DZs), relative to Scotland (SIMD, 2006); Lewisham and Leeds – Super Output Areas (SOAs), relative to England (IMD, 2007).

case studies capture the full range of concentrated affluence and deprivation, the population of Lewisham is concentrated in the most deprived half of the distribution. The implications of this are explored in the report.

Pen portrait of Fife Council

Fife Council covers a large area of eastern central Scotland. The council area has a population of around 350,000 living in around 150,000 households.

It encapsulates very significant diversity. For example, its large towns include the historic university town of St Andrews, the industrial and commuter towns of Dunfermline and Kirkcaldy, and the new town of Glenrothes. Across these towns, neighbourhood contexts vary from older high-density inner locations, both older and modern suburban environments, garden-style social housing estates and modernist, non-traditional high- and low-rise planned settlements. In addition, Fife has numerous former mining settlements in rural locations and a spread of (often fairly affluent) commuter villages.

In terms of its average deprivation, Fife sits in the middle of the distribution for Scotland. However, within the council area there is significant variation in relation to deprivation – as Figure 1 shows, there are small areas within both the most and least deprived deciles at the Scottish scale. Much of the deprivation is concentrated in the old mining villages in the west of the council area, but there are significant pockets of deprivation in social housing areas within the larger towns in the central part of the area. Affluent areas tend to be commuting villages within easy reach of the city of Edinburgh or the eastern part of Fife near to St Andrews.

Pen portrait of Leeds City Council

Leeds is the third largest city and the second largest metropolitan district council in England. The district population is about 715,000 living within 301,600 households. It is the largest by population of the three case studies.

In relation to neighbourhood contexts, it is a city of considerable diversity. The inner urban ring of the city comprises a mixture of older housing areas at the 'low-quality' end of the private rented and owner-occupied markets, characterised by substantial numbers of small terraced and back-to-back houses and houses in multiple occupation (HMOs). More suburban areas adjoin these, with property values lower than the average for the city and containing some difficult patches of social and private housing, including substantial student housing. Further out from the centre are peripheral council estates, some garden city-style, some modernist with high turnover and high voids and levels of social deprivation similar to the inner city. The city also extends into a substantial green belt of free-standing towns and dormitory villages, characterised by high house prices, high demand and limited supply of social housing. More affluent outer suburbs are located in the areas at the edge of the city bordering on the green belt (Leeds City Council – Leeds Housing Strategy 2005/06–2010/11).

In terms of deprivation in Leeds, Figure 1 shows a spread of the population across the full range of deprivation. However, some 20 per cent of the population live in areas which are in the most deprived 10 per cent nationally. Indeed there is a sizeable and clear gap between parts of the city where there is considerable affluence and buoyant (and often overheating) housing markets, and parts where housing is in poor condition, housing markets are frail, and where there exists significant social and economic deprivation. Demographically, the city's population is projected to grow, there is a sizeable student population and 8.1 per cent of the population are from black and minority ethnic (BME) communities (Leeds City Council – Leeds South Homes, 2004).

Pen portrait of Lewisham Borough Council

Lewisham is the third largest London borough and the second largest in inner London, with a population of 248,922 living in 110,800 households. It is the smallest of the three case studies by population.

As a slice of metropolitan London, it is probably the least diverse of the three case studies in terms of the context for service provision. Nonetheless it encapsulates significant diversity, particularly between inner and outer Lewisham. A third of properties comprise purpose-built flats on estates or in multi-occupancy dwellings (Robert Long, 2005). These tend to be concentrated in the inner part of the borough. Relatively dense terraced housing characterises the more central part of the area, whereas the outer part is a mixture of garden-style social housing estates, higher-rise, non-traditional social housing developments and leafier, suburban areas with wide streets and detached and semi-detached housing.

Lewisham is the most deprived of the three case studies. In the Indices of Multiple Deprivation 2004, Lewisham ranked 52nd out of 352 authorities in the country (i.e. in the most deprived 20 per cent). Indeed, as Figure 1 shows, the vast bulk of the population is concentrated in deciles 6 to 9. There is a notable absence of areas of concentrated affluence at a national scale and over a third of the population lives in an area in decile 9 or above. In other dimensions, Lewisham is diverse. It has a strong BME population, for example.

Structure of the report

Chapter 2 provides an in-depth analysis of the evidence on how cleanliness outcomes vary with context, the aspects of neighbourhoods which seem to explain this and how service provision relates to these patterns. The chapter draws on the evidence from both national data sources and the case studies. Chapter 3 drills deeper into the case study evidence, highlighting the political and practical challenges involved in aligning service levels with need, as well as exploring the outcomes of the different approaches adopted in each case study. The final chapter draws together the lessons and implications of the research for national and local government, as well as other public agencies.

2 Neighbourhoods, services and outcomes

Introduction

This chapter pulls out the key findings from our work. It presents results which draw on national data sources, covering all local authorities in the country or a large sample of them. And it presents data on our three case study authorities, two in England and one in Scotland.

We try to assess each local authority's services on two different criteria:

- Effectiveness of the service, judged in terms of the average cleanliness outcomes achieved by an authority across all neighbourhood types. This is the type of measure used in national performance and audit systems at the time the research was carried out.

- Equality achieved by the service. This is assessed in terms of whether an authority achieves equal outcomes between streets and neighbourhoods. In particular, we are interested in whether the authority manages to achieve equal standards in streets and neighbourhoods which are more or less affluent. It is a criterion which clearly relates to the 'narrowing the gap' agenda and therefore to the focus of this research.

The chapter examines each of the questions below in turn. Within each section, we consider the national picture first and then the evidence of our three case studies.

A Is there a gap in cleanliness between deprived and better-off neighbourhoods? And is it widening or narrowing?

B What specific neighbourhood characteristics matter for street cleanliness? How important are they and to what extent do they predict need for service?

C Do resources follow need? Do more deprived areas (or those with other forms of need for service) get higher or lower levels of expenditure?

A. Is there a gap in cleanliness outcomes between deprived and better-off neighbourhoods?

If so, is it widening or narrowing?

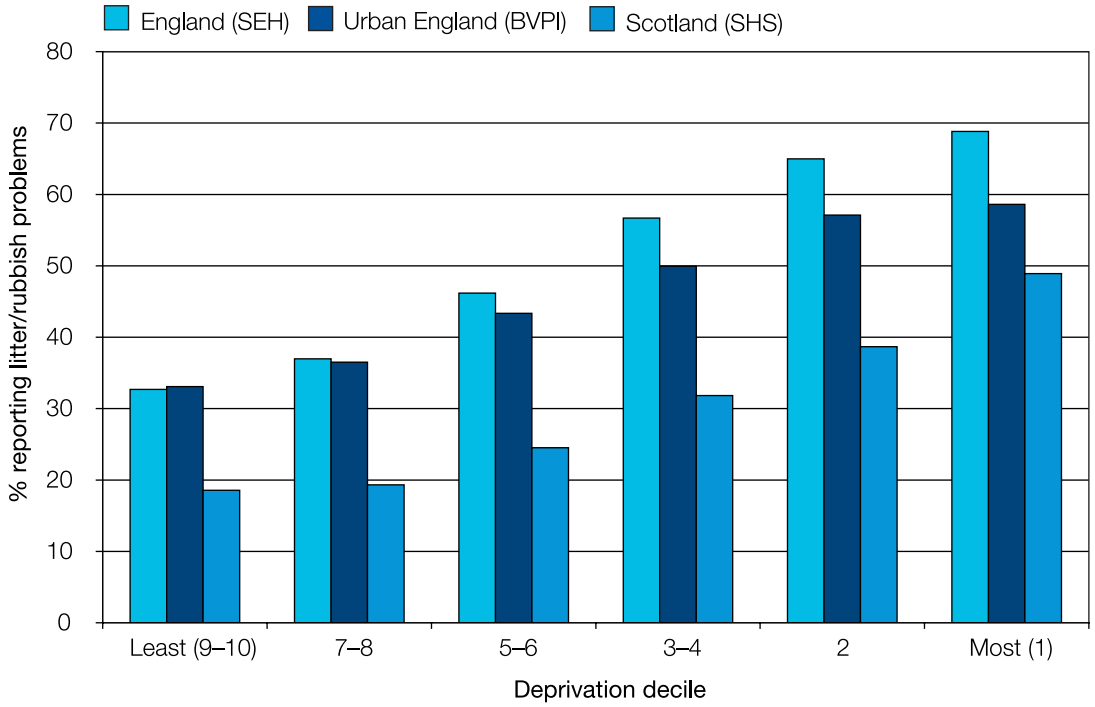
The national evidence

The answer to this first question is a categorical 'yes'. Poor neighbourhoods tend to have lower standards of street cleanliness than better-off neighbourhoods, particularly in relation to litter and rubbish. The discussion which follows evidences this important finding and highlights some key trends relevant to policy and practice. It concludes by suggesting that, with the current performance measurement system, local authorities may be faced with a 'trade-off' between the pursuit of effectiveness in terms of achieving good outcomes across the local authority as a whole and the achievement of equality of outcomes between areas. This becomes apparent when we look at the performance of individual local authorities in the context of the national picture.

There is a strong relationship between neighbourhood deprivation and the proportion of residents in the area identifying problems with rubbish and litter (Figure 2). The figure draws on data from three major surveys in England and Scotland, covering tens of thousands of people. There are some slight differences in the places covered and in question wording (see note to Figure 2) but they all show a similar pattern. Residents in the most deprived neighbourhoods are around twice as likely to identify problems as those in the least deprived (most affluent) neighbourhoods.

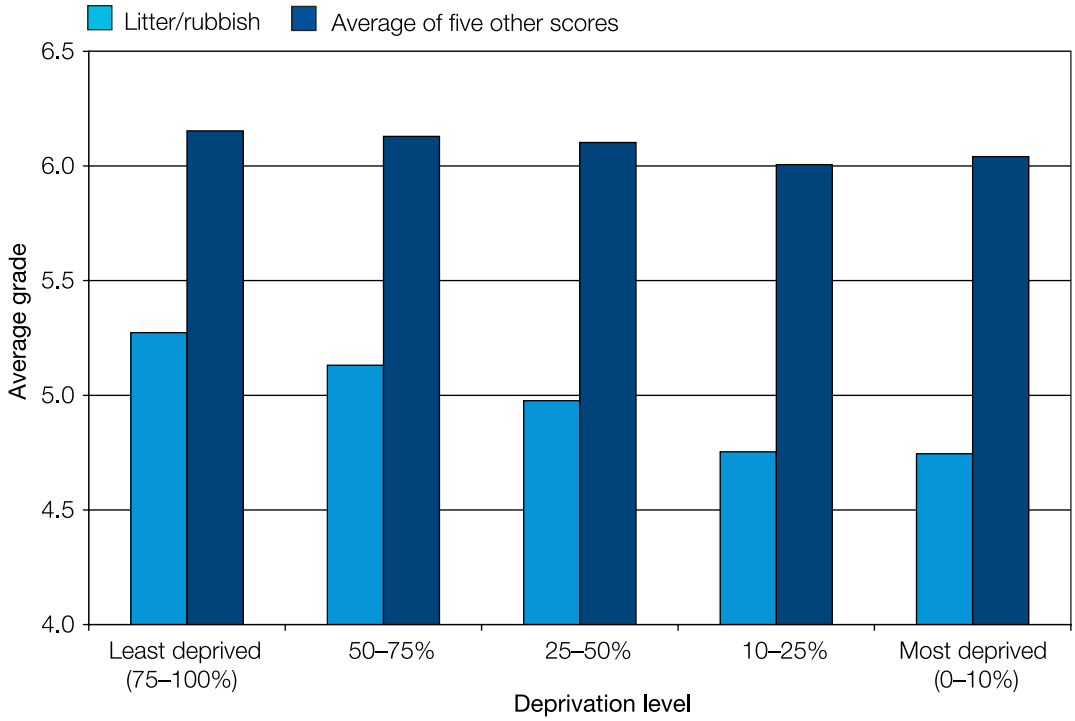
The BVPI data for urban local authorities (LAs) in England (the middle series of bars) is particularly interesting because it is the most recent and is based on a very large sample. Compared with the earlier SEH data, it shows a slightly smaller gap between the most and least deprived neighbourhoods. This might reflect successful action by local authorities in 'narrowing the gap' but differences between the data sources make direct comparisons impossible (due to differences in LAs covered and in the definition of neighbourhood). We will say more about changes over time below.

Figure 2: Resident perceptions of litter and rubbish by neighbourhood deprivation – England and Scotland



Sources: SEH: Survey of English Housing 2003/4 – survey of residents across England. Neighbourhood characteristics identified by respondent's Super Output Area. BVPI: Best Value Performance Indicator Survey 2007 – survey of residents in 110 urban local authorities in England. Neighbourhood characteristics identified by respondent's ward. SHS: Scottish Household Survey 1999–2005 – survey of residents in Scotland. Neighbourhood characteristics identified by respondent's Datazone. Note: Scottish question wording is slightly different, probably accounting for lower average scores.

Figure 3: Surveyor measures of litter and other street cleanliness problems – England



Sources: LEQSE surveys in 40 LAs in England in 2007. Data supplied by ENCAMS – authors' analysis. Notes: Neighbourhood characteristics measured at the SOA level. The second series is the average grade for: leaves and blossom; weeds and detritus; fly-posting; fly-tipping; and graffiti.

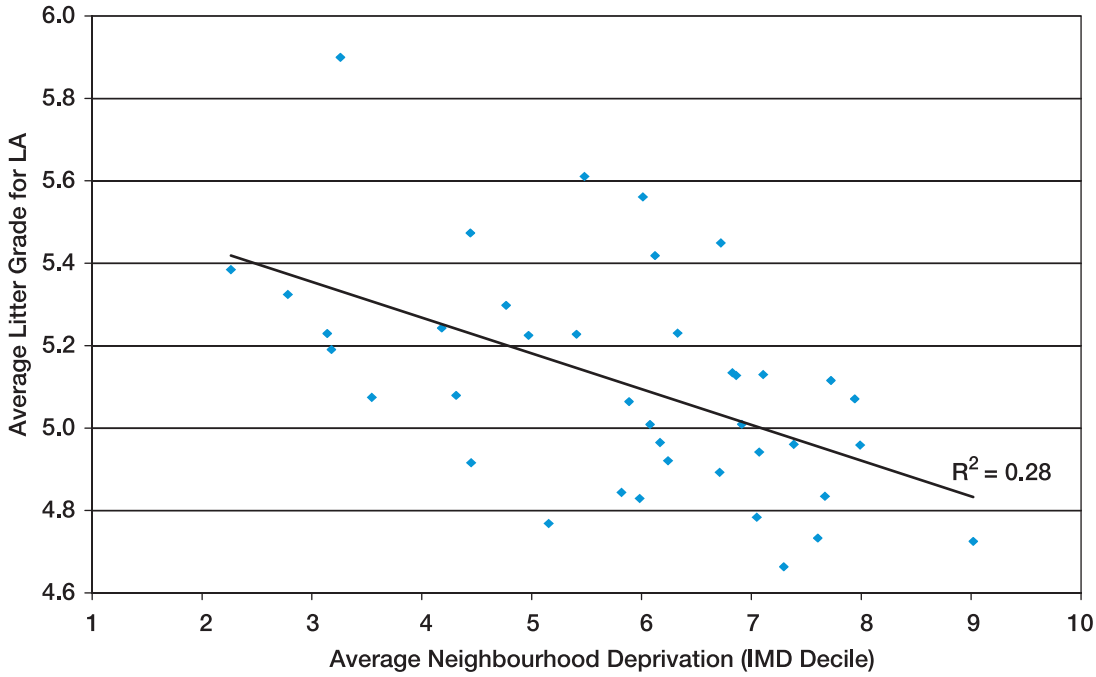
Figure 3 shows the relationship between neighbourhood deprivation and cleanliness for a sample of 40 English LAs. Where Figure 2 drew on residents' perceptions, this data is taken from LEQSE inspection surveys conducted by trained surveyors, and validated by an independent body (the environmental campaigning organisation, Keep Britain Tidy, previously ENCAMS). The data is for 2007. Surveyors assess the cleanliness of a random sample of streets by surveying a section of that street (called a 'transect'). As well as giving a grade for litter and rubbish, they grade five other aspects: weeds and detritus; leaves and blossom; fly-posting; fly-tipping; and graffiti. Grades are recorded on a seven-point scale running from A to D (where A is the high score). We have converted those grades so that A is scored as 7 and D as 1. The 'acceptable' standard for the purposes of national performance monitoring is B which corresponds to 5 on our scale (see Photo 2 in Chapter 1 for an illustration).

As previously, this data suggests significantly lower standards are being achieved in more deprived neighbourhoods. The gap is particularly large on the grade for litter and rubbish. Indeed, it is striking that, on average, the most affluent neighbourhoods tend to score *above* the acceptable threshold while the most deprived tend to be *below*. In the remainder of the report, we focus on problems with litter and rubbish as this is the measure most directly related to the street cleansing services that we examine.

There are potentially two distinct ways in which the relationships identified in Figures 2 and 3 might arise. One factor might simply be that *more deprived local authorities have lower average outcomes*. There is evidence that this may be at least part of the story. Figure 4 shows the data for the same 40 LAs, plotting average litter and rubbish grade against the average neighbourhood deprivation score for each authority. Authorities with higher levels of deprivation tend to have lower grades on average. The scattering on the figure also shows that there is considerable variation between authorities.

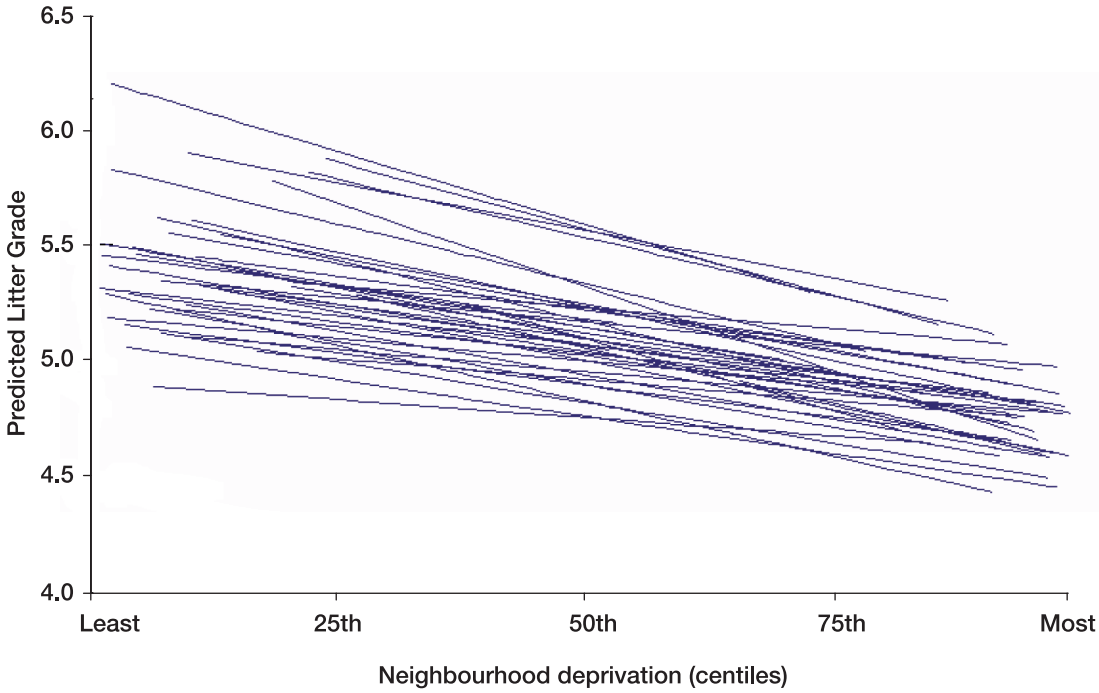
The other factor might be that, *within each authority, more deprived neighbourhoods tend to have worse standards*. Again, there is initial evidence that this may also be part of the story. In Figure 5, each of the 40 LAs is represented as a line which shows how litter and rubbish grade varies with neighbourhood deprivation in

Figure 4: Litter/rubbish grade versus neighbourhood deprivation – whole authority



Sources: LEQSE surveys in 40 LAs in England in 2007. Data supplied by ENCAMS – authors' analysis.
Note: Neighbourhood characteristics measured at the SOA level.

Figure 5: Litter/rubbish grade versus neighbourhood deprivation within each authority



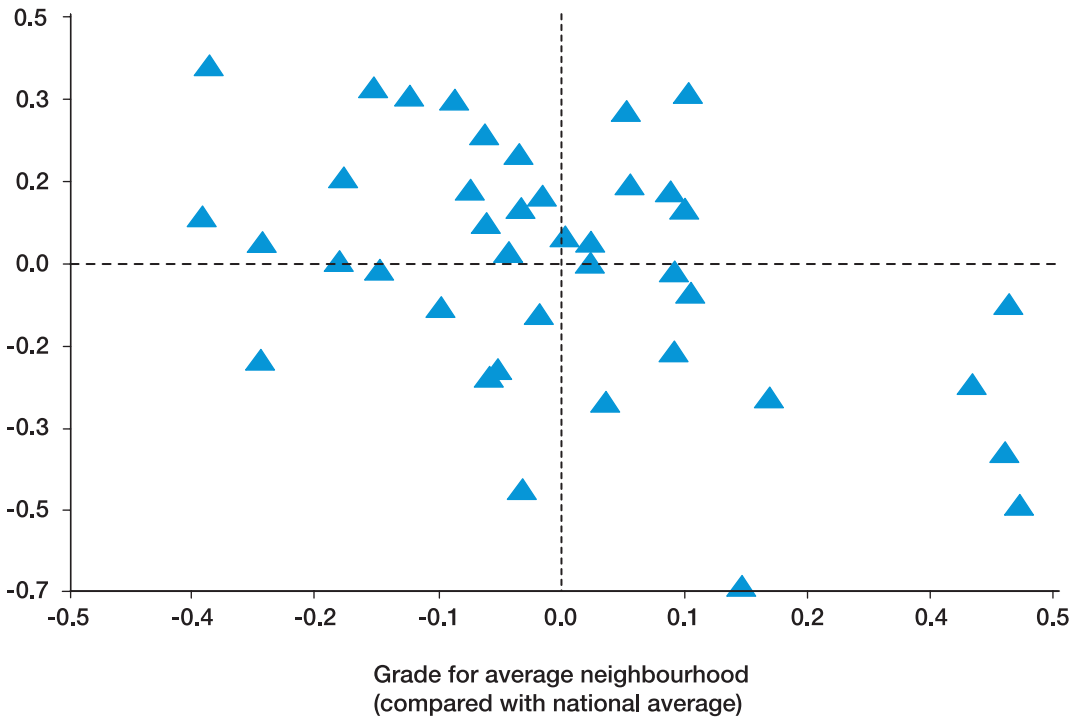
Sources: LEQSE surveys in 40 LAs in England in 2007. Data supplied by ENCAMS – authors' analysis.
Note: Neighbourhood characteristics measured at the SOA level.

that authority. The figure shows that, within every authority, more deprived neighbourhoods tend to have lower grades for litter and rubbish (indicated by the downward-sloping gradients of the lines for each authority), but some authorities have more equal outcomes than others; their lines are less steep, indicating less of a gap on average between most and least deprived neighbourhoods.

Lines that are higher up in Figure 5 represent authorities that achieve higher standards on average. Looking at the highest and lowest group of lines, there is the suggestion of one further pattern. The lines at the top appear to have a steeper gradient than those at the bottom, suggesting that authorities with higher average outcomes also tend to have more unequal outcomes between more and less deprived areas. Figure 6 shows this more clearly by plotting the standard achieved in an 'average' neighbourhood in each authority against the equality of outcomes (measured as the gradient of the lines in Figure 5). This figure shows a fairly consistent relationship. *Councils with higher average standards appear to achieve this at the expense of equality of outcomes between neighbourhoods* (the group in the top left of the figure). Conversely, authorities which achieve more equal outcomes do so at the apparent expense of achieving higher average standards (the group bottom right).

There does not appear to be any intrinsic reason why authorities getting higher averages should also have more unequal outcomes. Indeed we might expect the opposite: that high-performing authorities could achieve high standards across their whole area. The fact that that does not seem to be common suggests that there may be something within the measures or the way in which we grade street cleanliness. Perhaps the 'cost' of keeping difficult-to-clean streets up to an acceptable (B) standard is disproportionately high. The grades imply that moving from a C to a B is the same degree of improvement as moving from a B to an A when, in practice, the step-up in terms of service required might be quite different. This is something we return to in the last part of this section when we look at change over time.

Figure 6: Grade for 'average' neighbourhood versus equality of outcomes



Sources: LEQSE surveys in 40 LAs in England in 2007. Data supplied by ENCAMS – authors' analysis.
Notes: Grade for 'average' neighbourhood is the grade expected for a neighbourhood with a deprivation score in the middle of the national scale. Zero means the authority has a grade equal to the average for the group of 40 LAs. Equality of outcomes is measured as the gradient of the line in Figure 5. Zero means the authority has a gradient equal to the average for the group of 40 LAs. A positive value indicates that the gradient is less steep (the average gradient is negative so a positive value means it is closer to horizontal).

The case study evidence

For our three case studies, we gathered as much data on cleanliness outcomes as was available from the authorities. Most of this had been collected so that the authorities could assess their standards against the relevant national performance indicator but, at times, authorities also collected other information that could provide an insight into standards and how they varied. In all three case studies, relatively high average standards of cleanliness are achieved overall. Thus for litter/rubbish, in Fife only 5 per cent of transects fell below the acceptable B grade. For the two English authorities, the comparable figures were 19 per cent (Leeds) and 13 per cent (Lewisham). However, the key focus of this research is on the distribution of outcomes relative to neighbourhood characteristics, and the discussion focuses on this.

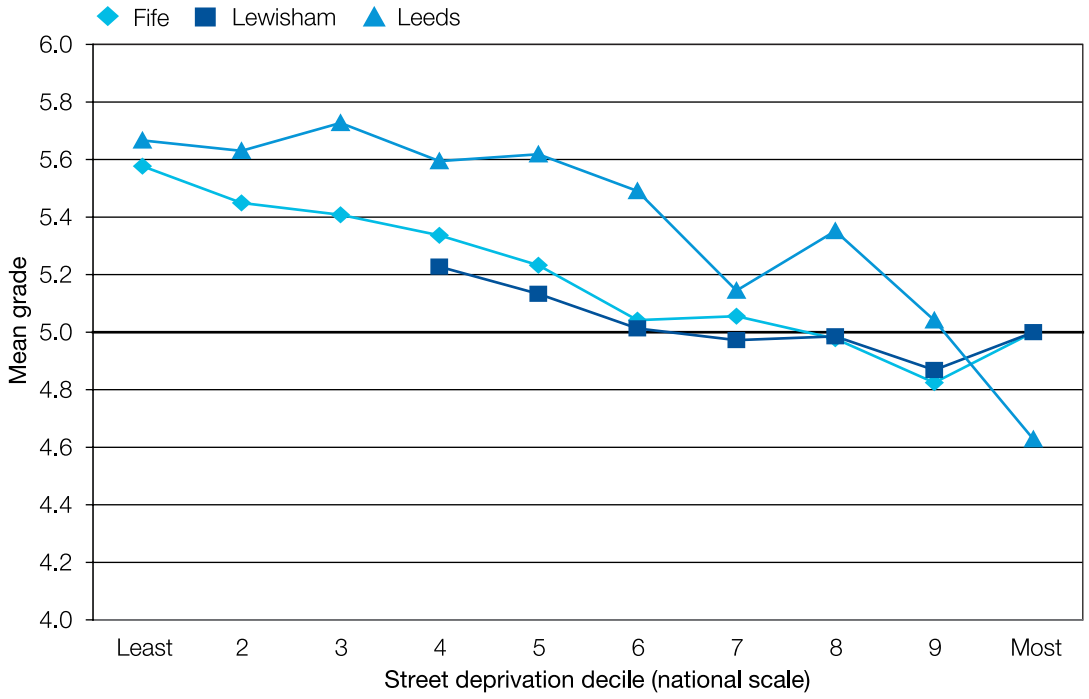
The relationship between levels of litter and rubbish and the relative deprivation of streets for each of the case studies is shown in Figure 7.

For each authority, there is a tendency for more deprived streets to have lower grades although this is more pronounced in Leeds and Fife than in Lewisham. The figure also reminds us that Lewisham does not have any streets in the least deprived three deciles; the line for Lewisham does not extend beyond decile 4. The implications of this are explored further in Chapter 3.

A more fine-grained way of exploring how cleanliness standards vary by deprivation is to examine the proportion of transects *failing* to meet the 'acceptable' threshold (B or 5.0). More deprived streets are much more likely to be graded below the acceptable threshold (Figure 8) but there are some variations between the case studies:

- In Leeds, there are particularly large proportions below B in the most deprived four deciles; in the most deprived decile, almost 40 per cent of transects were below the standard.

Figure 7: Average grade for litter/rubbish by street deprivation – three case study LAs



Sources: Fife – around 1,500 LEAMS surveys for 2004/5 to 2006/7; Lewisham – around 1,200 LEQS surveys for 2005/6 to 2007/8; Leeds – around 2,000 BVPI surveys for 2004/5 to 2007/8.
Notes: The Scottish cleanliness measure rates transects on a four-point scale while the English measure rates them on a seven-point scale. Although measures cannot be directly compared, the measures have both been converted so that the minimum and maximum scores are 1 (D) and 7 (A), and the 'acceptable' standard (B) is represented by 5.0. The scale therefore runs from B+ (6) to B/C (4) on the English measure. Street deprivation is estimated from the Datazone or SOA where the transect was conducted.

- In Fife, there is a fairly consistent but much more modest increase in the proportion below standard as deprivation increases. For the most deprived decile, standards appear better than in the next group; transects in the ninth decile are at least three times more likely to fail than transects in the first seven deciles.

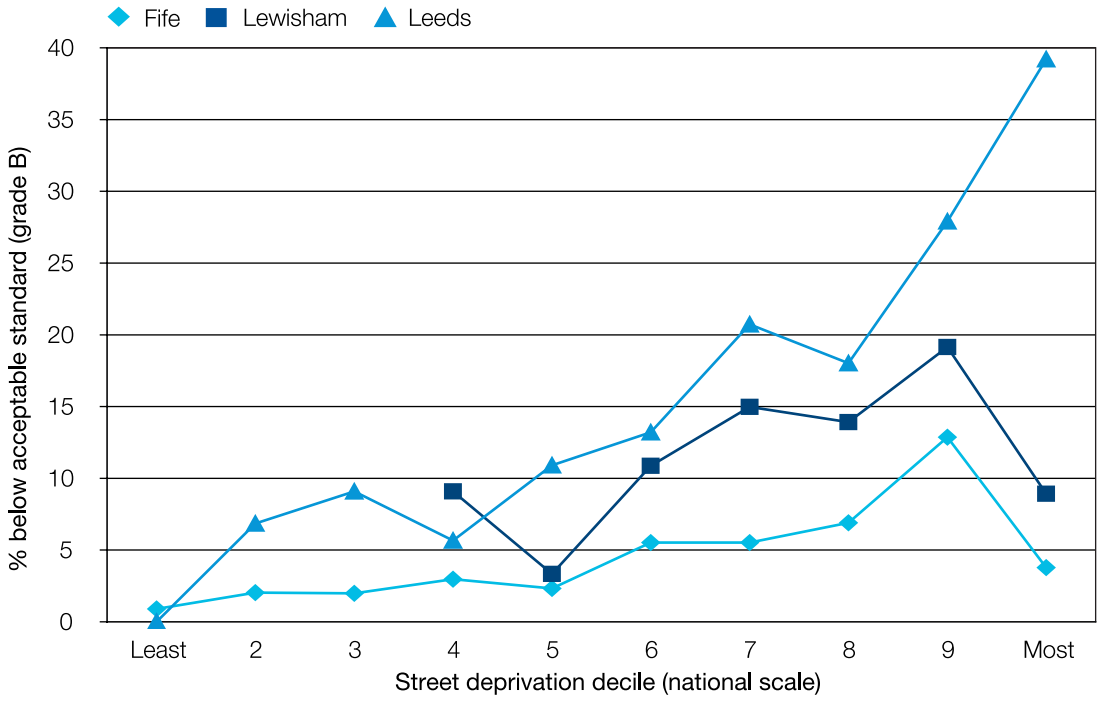
- Lewisham looks a little different, partly because there are no transects in the three most affluent deciles (and also very few in the fourth and tenth deciles making results for those two groups rather uncertain). Focusing on the trend between the fifth and ninth deciles shows the same pattern, with transects in the ninth decile four times more likely to fail than in the fifth.

One final way of looking at the relationship between cleanliness and street deprivation is to focus just on the distribution of those surveys which record an excellent (A) grade (i.e. the complete absence of litter and rubbish – Photo 1 in Chapter 1). The association between A grades and deprivation is stark in both Fife and Leeds, but completely absent in the case of Lewisham where virtually no A grades were awarded (Figure 9). This suggests that the three case studies may be making different policy choices in terms of how they balance effectiveness and equality. In particular, Lewisham appears to place more emphasis on outcome equality than the other two authorities. This is considered in more detail in Chapter 3.

Taken together, Figures 7 to 9 suggest a strong relationship between levels of deprivation and levels of litter and rubbish in our three case studies. The analysis shows the benefit of extending the focus beyond average grade. Indeed, the framework document for the new Comprehensive Area Assessment warns that reporting outcomes in terms of averages can mask important inequalities, and advises service providers who are serious about tackling this to use more fine-grained ways of understanding the distribution of outcomes relative to need (Audit Commission, 2009, para. 56).

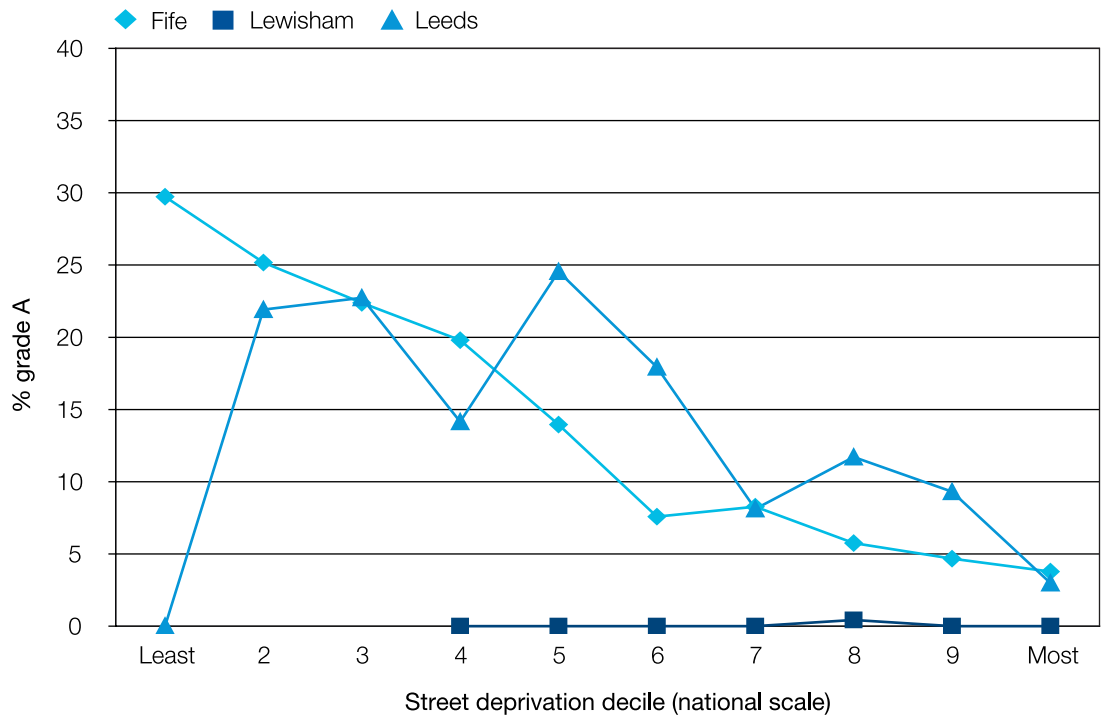
The analysis in this section examined how cleanliness standards are related to street deprivation. It uses the national Indices of Multiple Deprivation for England and Scotland (the IMD and SIMD[1]) and it matches transects at the level of SOAs (England) or Datazones (Scotland).

Figure 8: Proportion of transects below acceptable standard for litter/rubbish by street deprivation



Sources: As Figure 7.
Notes: For Fife, the scale measures the percentage of transects at C or D. For Lewisham and Leeds, it measures the percentage at B/C or below.

Figure 9: Percentage of transects graded A by street deprivation



Sources: As Figure 7.
Note: In all three authorities, the scale measures the proportion of transects graded A.

Cleanliness is measured for much smaller spatial units (short sections of a street called transects). As indicated in Chapter 1, an early phase of the work analysed the relationships at a much finer spatial scale by estimating deprivation for each street or section of street in the authority. This involved a great deal of extra effort but did not change the picture significantly. In the later section on recommendations to local authorities about how to conduct a similar analysis themselves, we therefore recommend working at the SOA/DZ scale (see Chapter 4).

Is the gap widening or narrowing?

The case study data can also be used to give an assessment of how standards are changing over time and, in particular, whether the gap between neighbourhoods is widening or narrowing. Street cleanliness has risen up the political agenda over the past five or so years with performance improvements encouraged under the Best Value regime across the UK. We might expect, therefore, that cleanliness scores will also have improved over this period. And, indeed, in all three case studies improvements are evident. The proportion of streets below the acceptable standard fell by 11 percentage points in Lewisham (i.e. from 22 to 11 per cent), by 8 points in Leeds and by 1 point in Fife (from a low starting point).

For this research, however, the key issue is whether outcomes have become more or less equal. The Best Value system did not explicitly encourage local authorities to attempt to 'close the gap', as noted above, but the way that standards are defined can give authorities more or less of an incentive to focus on this issue in practice. Here, there are minor but important differences between the systems in England and Scotland:

- In Scotland, performance is measured by taking the average score for all the transects surveyed, with an average equivalent to B as the expected level. This scoring system therefore allows for compensation to occur; A grades can effectively 'cancel out' C grades and mitigate the effect of D grades. Faced with the need to improve their performance, local authorities can choose to try to improve Cs and Ds (which are more likely to be in deprived neighbourhoods) but the same result can be achieved by raising Bs to As. The scoring

system does not encourage a focus on areas of deprivation.

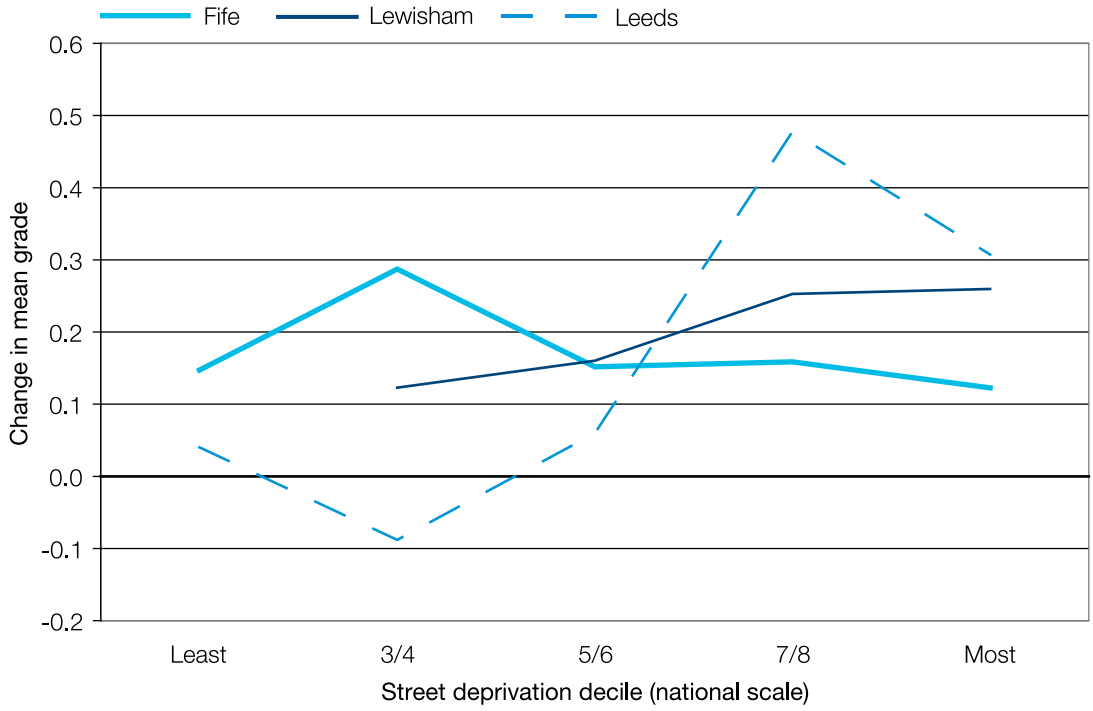
- In England, performance is measured in terms of the proportion of transects which fail to meet the acceptable standard (those below grade B). Here there is effectively no compensation; achieving an A rather than a B will have no impact on the authority's performance measure. Given that deprived neighbourhoods have much higher concentrations of transects below B, this scoring system does indirectly encourage authorities to focus their efforts on those areas. It supports the 'narrowing the gap' agenda, albeit indirectly.

From this, we might expect the two English authorities to show greater reductions in the gap between neighbourhoods over time and that is indeed what we find. Figure 10 shows how average scores in each decile have changed over time (comparing data before April 2006 with that after). In Lewisham, there is improvement across the board with average grades rising in all deciles but faster increases in the most deprived deciles. In Leeds, the improvements are confined to the most deprived deciles, showing a more striking narrowing of the gap. In Fife – the Scottish case study – there is no evidence of a narrowing of the gap. If anything, it has widened slightly. All deciles show an improvement but the improvements are slightly greater for the least deprived neighbourhoods.

Figure 11 shows the same change but measured in terms of the proportion of transects below the acceptable threshold. Lewisham shows a fairly neutral picture with equal reductions across the board but this has a positive impact overall because a larger proportion of transects in the most deprived streets were below standard to start with (as shown in Figure 8 above). Leeds shows a more obviously progressive picture with little or no change for the least deprived but marked improvements for the most deprived. In Fife as in Lewisham, there is a fairly even picture but with some evidence of faster reduction in the more deprived areas.

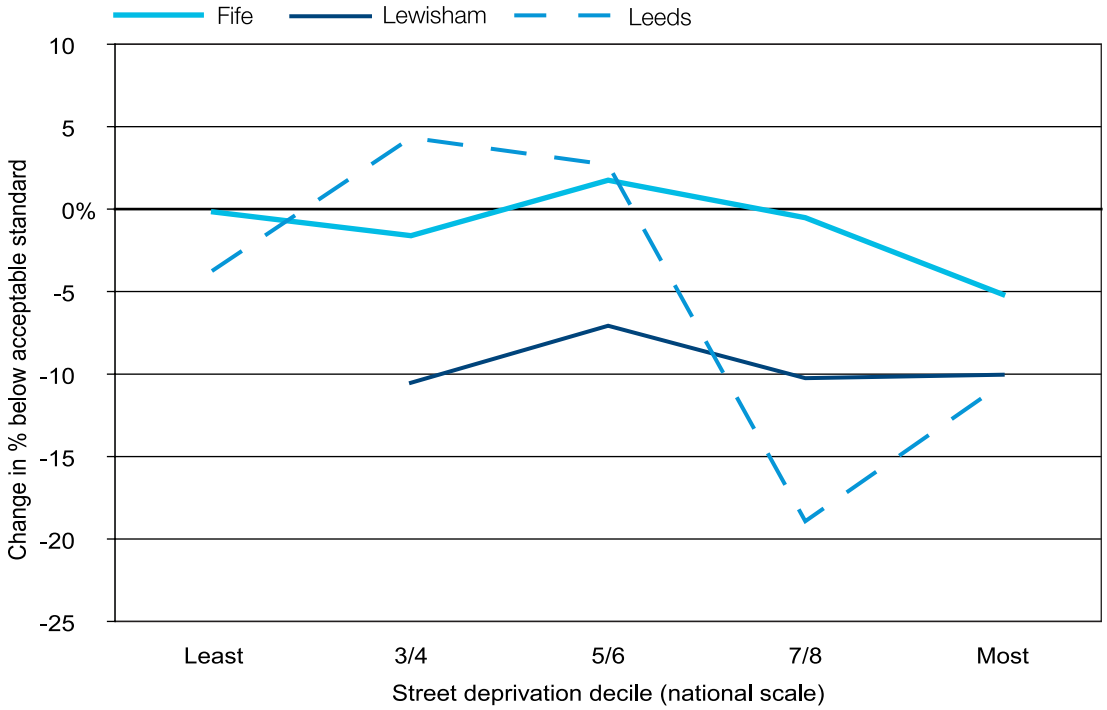
Examining change over time in the proportion of A grades reinforces the picture (Figure 12). In the English case studies, the improvements are more modest and skewed to more deprived neighbourhoods. In the Scottish case study, they

Figure 10: Change over time in average grade by street deprivation, 2004–6 to 2006–8



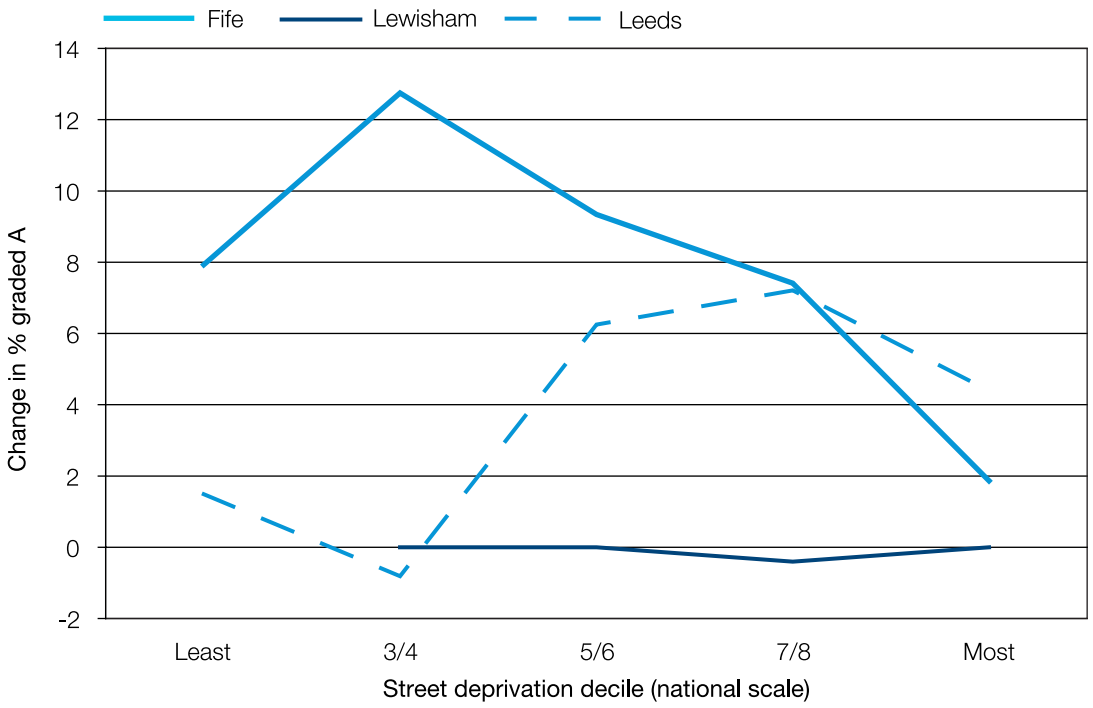
Sources: As Figure 7.
Note: In all three authorities, the scale measures the proportion of transects graded A.

Figure 11: Change over time in proportion of transects below acceptable standard by street deprivation, 2004–6 to 2006–8



Sources and notes: As for Figure 10.

Figure 12: Change over time in proportion of transects graded A by street deprivation, 2004–6 to 2006–8



Sources and notes: As for Figure 10.

are more significant and higher in the less deprived neighbourhoods.

Clearly, we should not draw too strong a conclusion on the basis of three case studies. It would be useful to conduct a similar analysis using a national sample of authorities. We do not have the data to do this at this point (although there is some evidence from national household surveys in England that there has been a narrowing between 2003 and 2007). Nevertheless, there is a suggestion that the ways in which the national performance measures are specified can affect the attention given to 'narrowing the gap'. Under the Scottish scoring system, Fife improved its performance measure by improving standards in better-off areas. Under the English system, Lewisham has secured improvements by reducing the proportions below standard in deprived areas as fast as in other areas while Leeds has focused improvements almost exclusively on the most deprived neighbourhoods.

This is not to imply that a deliberate strategy was in place in Fife to target 'easier wins' for improvement. However, there is a suggestion that the policy signals in Scotland do allow for performance targets to be achieved and improvement made without targeting the least clean areas, whereas in England the target indirectly encourages a focus on deprived areas. Chapter 4 explores this important issue in more depth.

Key messages

- There is a gap in cleanliness outcomes between deprived and better-off neighbourhoods, with poorer outcomes in more deprived areas. This is clear in both the national and case study analyses.

- The national analysis also shows key ways in which authorities can vary in their performance: achieving higher or lower standards on average, and more or less equal outcomes across neighbourhoods. Thus, while deprived neighbourhoods may be at greater risk of having poor cleanliness, the risk varies between authorities.

- Importantly, there appears to be a trade-off between effectiveness and equality: higher average standards seem to accompany less equal outcomes between neighbourhoods, and vice versa. But there is also variation.

- The gap is narrowing in the two English case studies, but not in the Scottish one. This could be related to distinctive feature of the Best Value regime in the two case studies although many other factors may also be at work.

- Local authorities can readily check how their cleanliness outcomes relate to deprivation and whether and how any gap is narrowing. Chapter 4 provides guidance on how to do this. There is a value in going beyond average grades to assess outcomes, for example by focusing on where standards are below the expected threshold.

B. Going beyond deprivation: what specific neighbourhood characteristics matter for street cleanliness?

A key aim of the study was to understand more about how the specific characteristics of neighbourhoods predict need in relation to environmental services. The earlier study on which this research builds strongly suggested that some neighbourhood contexts were more challenging to keep clean than others. During 2002/3, detailed discussions were held with environmental service providers: strategic managers and elected members, locally based service managers and supervisors, and the operational staff who push brooms and lift fly-tipped refuse into trucks. These discussions suggested that certain factors at street and neighbourhood level made their jobs more demanding. As part of this current study, we spoke again to the same kinds of people about these issues. The answers in 2002/3 and 2007/8 were strikingly similar, and are summarised in the box below.

Risk factors in relation to environmental problems (service provider perspectives)

- There are key **physical characteristics** which matter: open and landscaped areas are problematic, as are obstructions such as parked cars and street furniture. Streets which act as wind tunnels present particular problems, as well as lanes, alleys and paths which are difficult to monitor.

- **Social composition** may be important. The presence of children and young people was strongly associated with littering. Low-income households were thought to produce more bulk refuse as they could not afford durable household items. High unemployment could lead to a higher daytime population.

- **The intensity of use** matters. Local authorities obviously spend more in town and city centres, around shopping areas and along major arterial routes. There are also variations of use between residential areas with higher pedestrian and car traffic on main roads. Density of housing or population may also lead to more intense use of an area, and it is a factor that correlates with deprivation as low-income households tend to live in smaller properties, often terraced housing and flats.

- The **attitudes and behaviours** of neighbourhood residents towards their environment was also said to matter. Despite making the above points about aspects of neighbourhoods which are not simply behavioural, it is important to note that for many staff a key aspect of the problem was the behaviours and attitudes of residents.

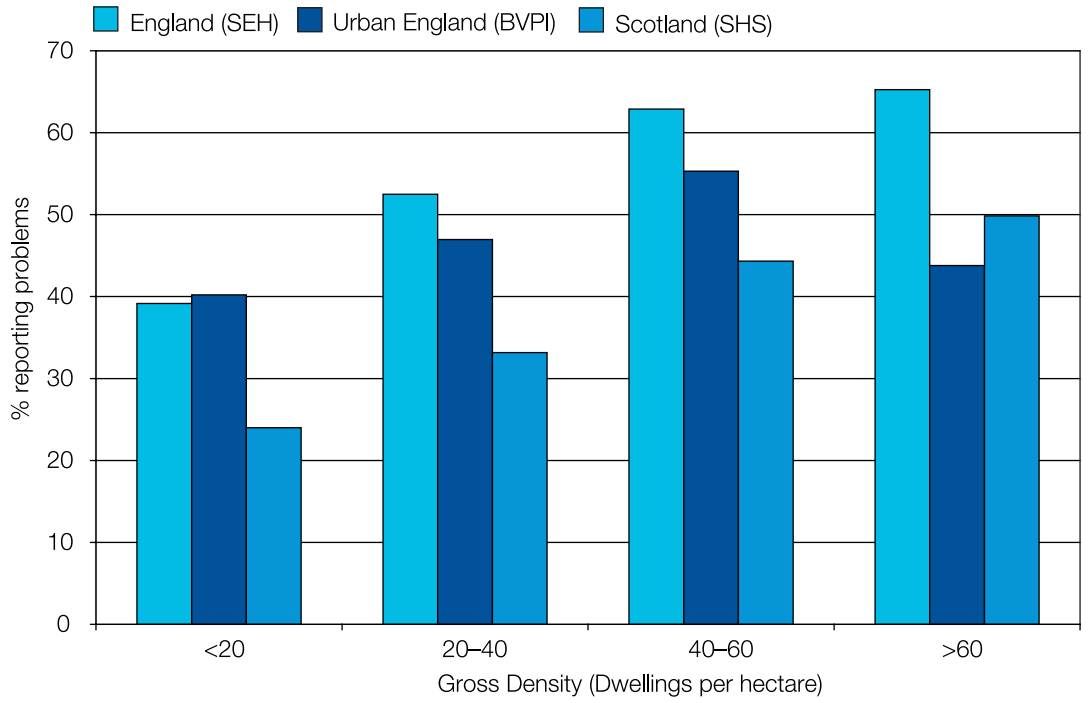
An important aim of this research was to test whether the views of service providers were supported by the evidence. Some factors which are thought to be important are difficult to measure: for example, we have not attempted to look at attitudes and behaviours directly. Arguably, the effect of differences in residents' attitudes cannot be determined unless the impact of the other risk factors has been allowed for. Ideally, this research would achieve this indirect account of the effect of behavioural differences. As will be seen, however, the complexity of both data and policy/practice on the ground means that a clear picture does not always emerge on this issue. Caution should therefore be exercised in using the research to draw conclusions about the nature and impact of behavioural issues.

The national evidence

The analysis which follows explores which neighbourhood characteristics are associated with environmental problems.

To start with, we can look at the simple relationships such as that between density of dwellings and problems with litter or rubbish (Figure 13). On the surface, there appears to be a clear relationship. Using the same national data sets as in Figure 2 above, we see that residents are much more likely to report problems with litter or rubbish if they live in higher-density neighbourhoods, although the relationship seems less clear at the highest-density levels in the BVPI data for England.

Figure 13: Resident perceptions of litter and rubbish by housing density – England and Scotland



Sources: SEH: Survey of English Housing 2003/4 – survey of residents across England. Neighbourhood characteristics identified by respondent's Super Output Area. BVPI: Best Value Performance Indicator Survey 2007 – survey of residents in 110 urban local authorities in England. Neighbourhood characteristics identified by respondent's ward. SHS: Scottish Household Survey 1999–2005 – survey of residents in Scotland. Neighbourhood characteristics identifies by respondent's Datazone. Note: Scottish question wording is slightly different, probably accounting for lower average scores.

The problem with this kind of figure is that denser areas also tend to be more deprived areas, so this apparent relationship may in fact be due to deprivation. To study the separate influence of different neighbourhood factors, it is necessary to undertake more detailed regression analysis modelling. We have been able to undertake such modelling using four different national data sets.[2] The surveys were linked to a wide range of measures of neighbourhood social and physical characteristics. Some measure cleanliness outcomes through residents' views, others through inspection surveys.

Controlling for area deprivation (and indeed for the effect of other variables), several other neighbourhood characteristics also appear to predict low cleanliness scores. These include:

- higher density;
- central locations;
- more young adults;
- social rented housing;
- families and high child density;
- lone parents;
- single-person households;
- overcrowding;
- ethnic minorities;
- terraced housing;
- in some but not all cases, flats.

The number and variety of factors which emerge is potentially confusing, and it is fair to say that some of these individual variables are closely correlated with one another. A clearer picture can be obtained by combining variables into groups which identify the same kinds of problem or neighbourhood: single people and flats tend to occur in the same

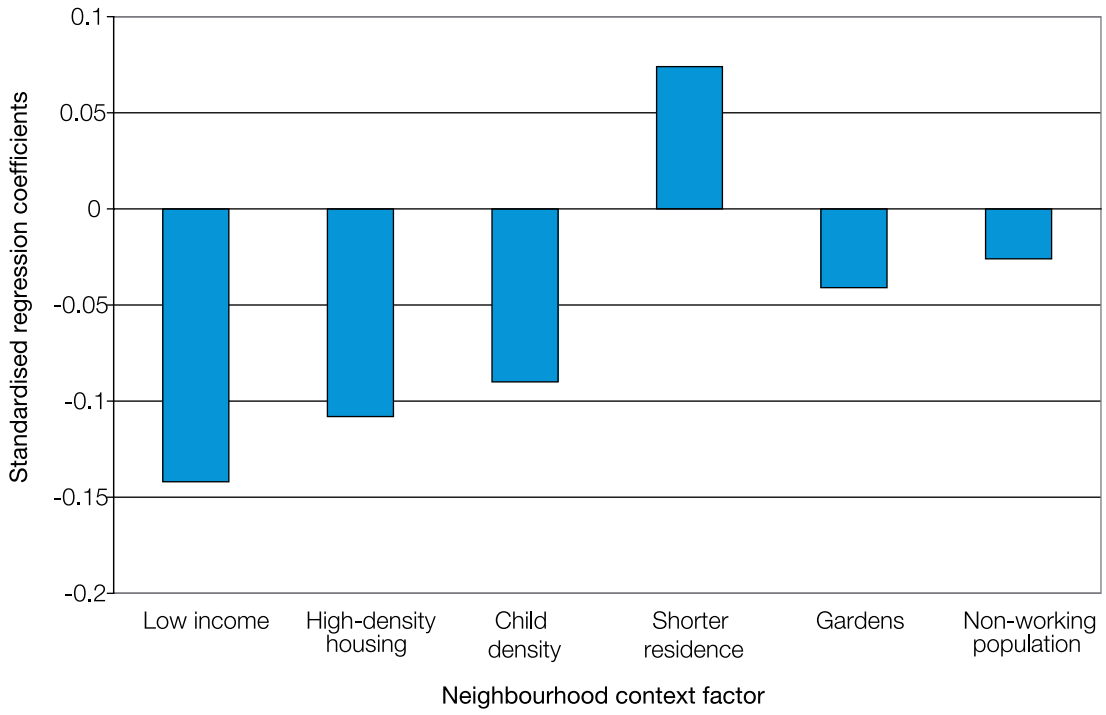
places, for example. This was done with the largest and most recent of our national data sets (the BVPI household survey data covering 110 urban local authorities in 2007). Factor analysis was used to create six relatively independent groups of variables:

- low income (variables such as lone-parent households, social housing, poor health or low educational attainment);
- high-density housing (variables such as density, flats and single-person households);
- child density (variables such as children or families and minority ethnic households);
- shorter residence (proportion of residents present for less than a year);
- gardens (garden area as a proportion of total);
- non-working population (variables such as unemployment or inactivity rates).

Regression analysis was used to assess the association between these factors and residents' perceptions of litter and rubbish. Figure 14 shows the results. In this figure, a positive score (rising bar) indicates that a given factor is associated with better outcomes, on average. Low income (strongly associated with the area deprivation measure used previously) has the strongest relationship, after controlling for other factors, but high-density housing and child density are nearly as important. Surprisingly, having a large proportion of residents reporting short-term residence was associated with better outcomes while a larger proportion of land area given over to gardens was associated with negative outcomes.

This shows that low income and closely related factors (such as lone-parent households or social rented housing) have the strongest association with problems of litter and rubbish, even after controlling for other factors such as housing density. It also shows that several other factors have an independent influence on the risk of poor standards, notably housing density and child density.

Figure 14: Impacts of neighbourhood context scores on problems with litter/rubbish – national analysis



Sources: Best Value Performance Indicator Survey 2007: survey of residents in 110 urban local authorities in England. Neighbourhood characteristics measured at the level of the respondent's ward.
Notes: Outcome measure is proportion of respondents identifying litter/rubbish as a problem (measured in standard deviations). Measures of neighbourhood context as described in text.

In a final piece of analysis, the project has also been able to access particularly detailed data on urban form or physical characteristics from a study of five cities.[3] This gives some additional insights into the influence of aspects of the physical environment on cleanliness outcomes. The data shows that problems tend to be greater in areas where there are:

- more small dwellings (usually equating to higher density);
- properties without gardens or yards;
- more mixed-use properties (retail or other uses in addition to housing);
- disused buildings;
- certain types of street layout, for example streets which act more as thoroughfares across the city.

The case study evidence

With the case study data, a similar approach was taken to identifying the factors associated with environmental problems as with the national analysis. A range of measures of social and environmental characteristics of the neighbourhoods were collected and these were combined to form six groups. Formal statistical techniques (factor analysis) were used initially to identify the more appropriate groupings but in the final analysis, indicators were simply combined together in a way that would be easy for local authorities and others to replicate. The groupings were similar to those used in the national analysis but, because different data sets were used, they are not identical.

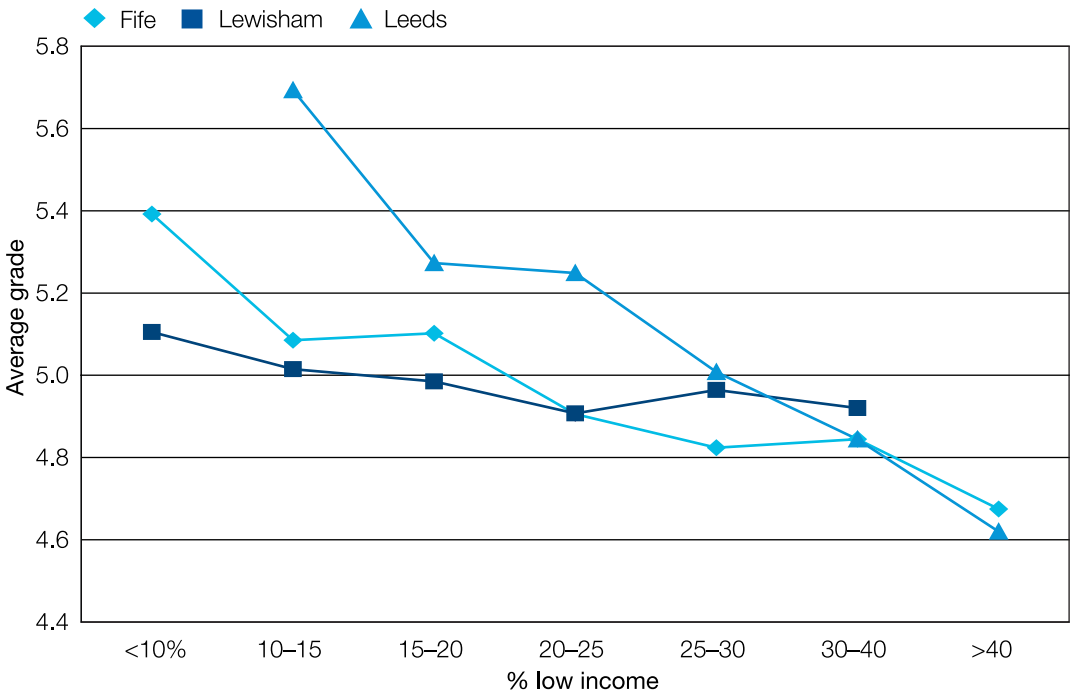
Thus, the analysis used simple average scores for a number of variables[4] to calculate the following six scores for each area:

- low-income score: average of seven proportions (unemployed or inactive population; population lacking qualifications; population with poor health (limiting long-term illness); social housing; overcrowded households/population; lone parents with dependent children; routine/semi-routine occupations);
- higher-density housing score (proportion of housing in terraces or flats);
- four demographic scores:
  - young adults (average score for proportion 20–29 and proportion in the private rented sector);
  - young families (proportion 0–9 plus 30–39);
  - older families (proportion 10–19 plus 40–49);
  - older adults (proportion 60 and over).

To begin with, we can examine the simple relationships between cleanliness outcomes and low-income (Figure 15) or high-density housing (Figure 16). These show very similar patterns to those previously identified between cleanliness and deprivation. There is perhaps a sharper falling off in cleanliness when the low income rate reaches a certain threshold (Leeds and Fife) than was evident with respect to deprivation. Again Lewisham has the most equal outcomes (weakest gradient) and Leeds has the strongest, most unequal gradient. Outcomes are clearly better where densities are lower but once flats or terraced housing reach about 40 per cent of the total, further increases have relatively little impact on outcomes.

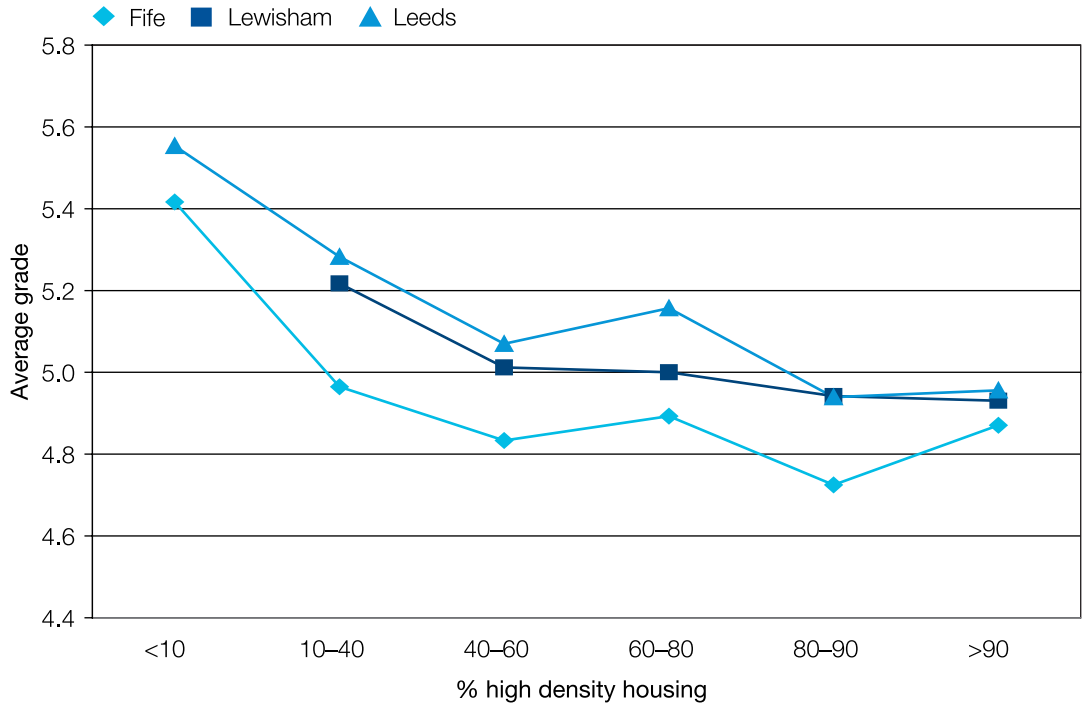
As we did with the national analysis, we can look at the impacts of these factors simultaneously in order to try to identify their independent, separable influence (Figure 17). As in Figure 14 above, a rising bar indicates that a given factor is associated with higher grades, on average. When we do this, it is evident that there is significant variation between local authorities in terms of the relationships between factors and outcomes. This suggests that local authorities should assess their own individual risk factors in relation to environmental problems. Across the three case studies, the proportion of low-income households in the area is the most important factor but its

Figure 15: Average cleanliness grade by proportion of population on low income – three case studies



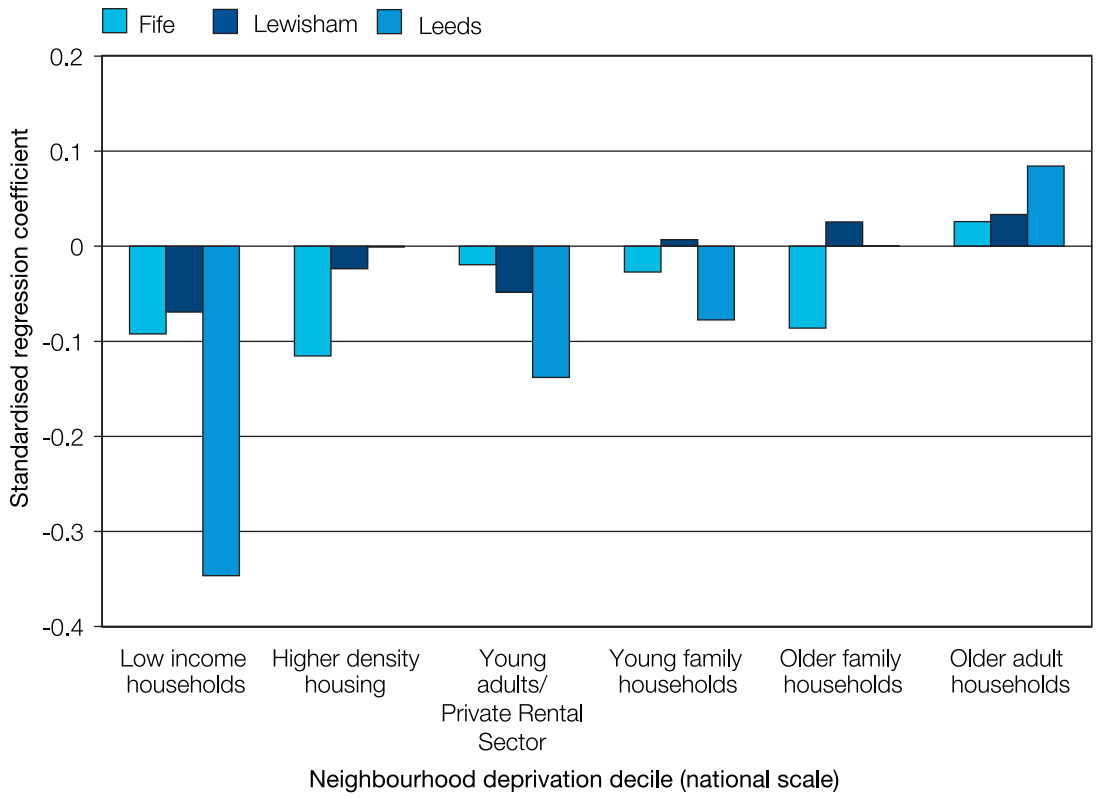
Sources: Fife – around 1,500 LEAMS surveys for 2004/5 to 2006/7; Lewisham – around 1,200 LEQS surveys for 2005/6 to 2007/8; Leeds – around 2,000 BVPI surveys for 2004/5 to 2007/8.
Notes: The Scottish cleanliness measure rates transects on a four-point scale while the English measure rates them on a seven-point scale. Although measures cannot be directly compared, the measures have both been converted so that the minimum and maximum scores are 1 (D) and 7 (A), and the 'acceptable' standard (B) is represented by 5.0. Low-income measure as described in text.

Figure 16: Average cleanliness grade by housing density – three case studies



Sources and notes: As for Figure 15.

Figure 17: Impacts of neighbourhood context scores on problems with litter/rubbish – three case studies



Sources and notes: As for Figure 15.

influence varies: it is far stronger in Leeds than in either of the other two. In one case study, Fife, housing density has a stronger influence on outcomes than low income. Of the demographic factors, the presence of older adults tends to be associated with fewer problems with litter or rubbish while the presence of young adults (along with private rented housing) has the opposite effect. The presence of children is sometimes associated with problems but not always; in Lewisham, it is the opposite.

The national and case study evidence confirms the views of environmental service providers that environmental problems are not simply caused by the carelessness of residents. The national-level analysis in particular suggests that a range of neighbourhood characteristics are associated with environmental problems. The case study evidence also suggests some important socio-economic factors are important, along with density. (NB: we were unable to measure the impact of a range of physical factors at the case study scale.)

Interestingly, however, low-income households emerge as a strong predictor of problems in all three case studies, although it should be emphasised that it is not *just* low income which has these associations. Arguably, the research has not managed to explain what it is about low income that is related to problems. Indeed, we can end up in a rather circular discussion by suggesting that low-income areas will tend to be associated with some of the physical risk factors identified in the national analysis (e.g. small houses) which the case studies have not been able to test. (The qualitative evidence presented in Chapter 3 further emphasises the importance of physical features of disadvantaged neighbourhoods.) Importantly, these results neither confirm nor reject the idea that resident attitudes and behaviours are significant drivers of environmental problems. One way to take the import of this analysis further is to explore whether resource and service distribution is targeted towards low-income neighbourhoods, as well as other need factors. This is the focus of the next part of the chapter.

Key messages

- Certain neighbourhood characteristics make some residential areas more difficult to maintain than others. These 'risk factors' are partly about the social composition of the population but also about the physical environment and how it is used.

- The presence of low-income households is consistently identified as a risk factor but so is higher-density housing (irrespective of who lives there).

- There is significant variation between local authorities in the risk factors identified. This suggests that authorities should carry out their own investigations locally where possible, informed by these results. They might consider how they could investigate physical environmental factors as well as socio-demographic issues. Chapter 4 provides guidance on how local authorities can identify their particular risk factors.

C. Where does the money go? How is expenditure related to neighbourhood deprivation and other contextual factors?

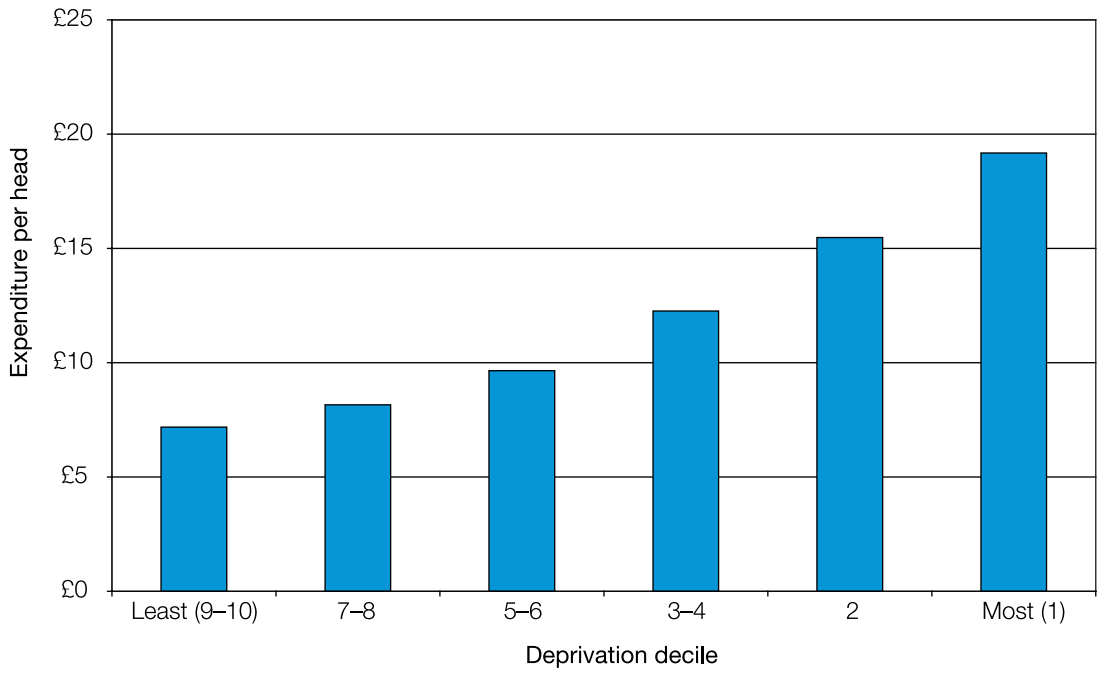
The national evidence

The question of where the money goes is difficult to address at the national scale. Data on expenditure and resource distribution is only available at the local authority level from information compiled for national reporting. The first difficulty is that there may be inconsistencies in the ways that authorities record expenditure on street cleansing as it can be listed under different headings or combined with a range of other services. Thus, variations in the figures recorded may not reflect variations in actual expenditure or service levels. Indeed, *recorded* figures for street cleansing vary between zero and £42 per person in England, and between £8 and £25 per person in Scotland.[5] The second difficulty is that we do not know how this expenditure is distributed between neighbourhoods or streets within each authority.

The case study analysis therefore provides a significantly more detailed picture on the distribution of resources to neighbourhoods but, for a wider set of authorities, we can at least explore variations in expenditure at the authority level.

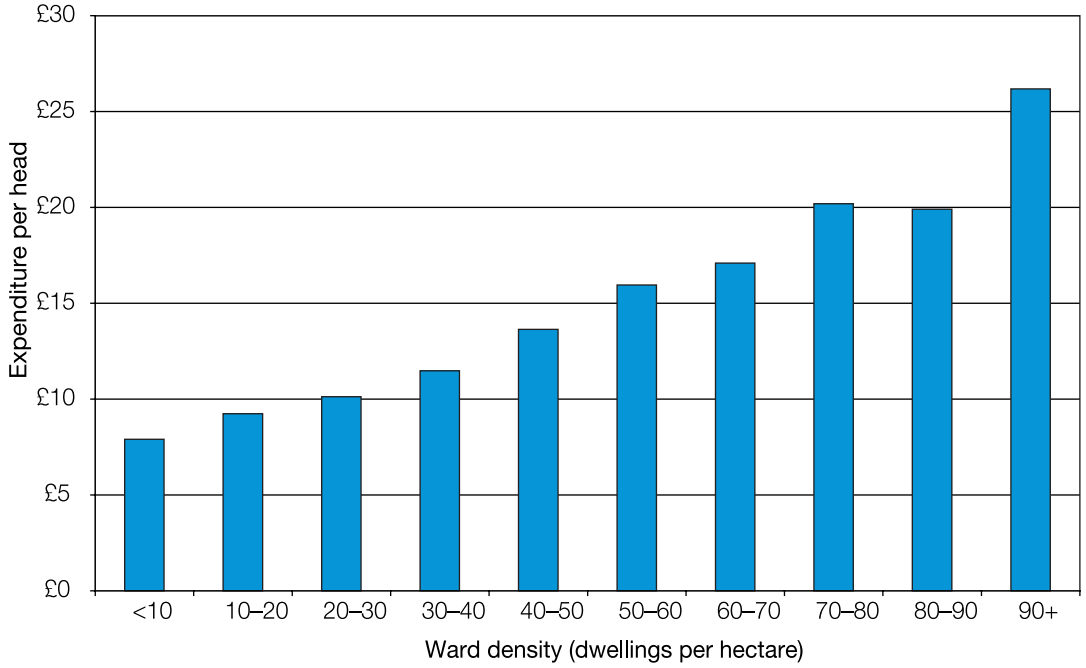
We can estimate differences in expenditure by neighbourhood characteristics by assuming that each authority distributes resources equally between different kinds of area. Figure 18 suggests that expenditure is higher in authorities that are more deprived (i.e. it is higher in local authorities that have more wards in the higher deprivation bands). Figure 19 shows a similar picture for neighbourhood density. We have shown earlier that both deprivation and density are factors making for worse cleanliness outcomes. This evidence suggests that the issue is not one of there being *no* tendency for expenditure resources to relate to the difficulty of the task. Rather, the issue is whether the expenditure response is *sufficient* to the task, and also how it is used within local authorities.

Figure 18: Expenditure on street cleansing by neighbourhood deprivation – English local authorities, 2002/3



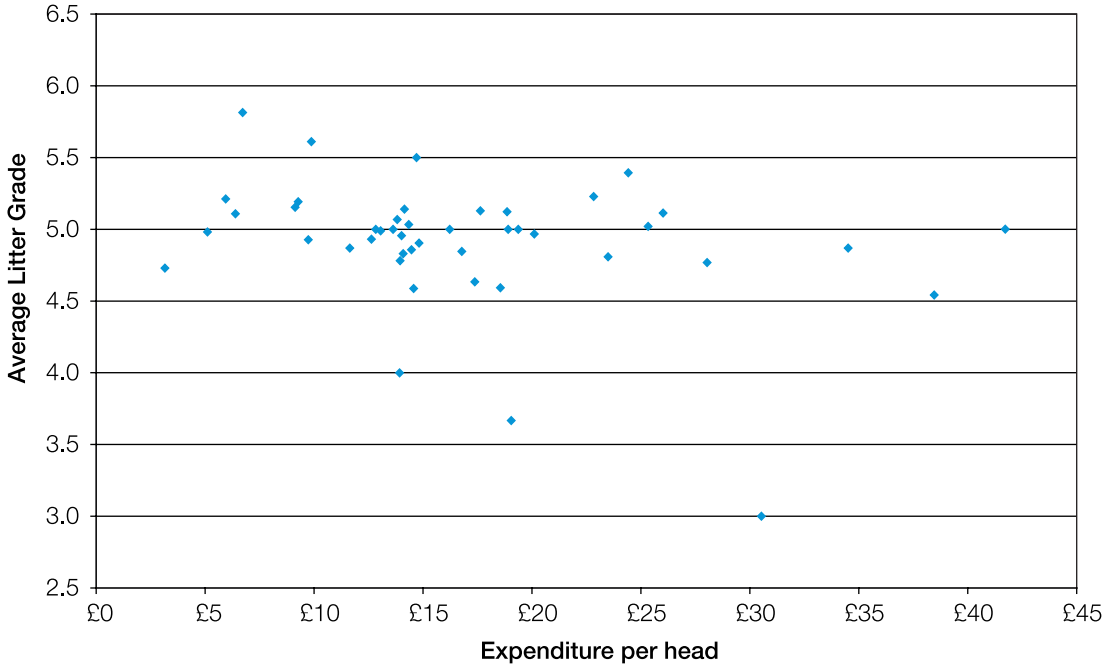
Source: CLG Local Government Finance Revenue Outturn data.
Notes: Covers all LAs. Spend is based on local authority-level figures. Deprivation is an average for each authority based on ward-level scores.

Figure 19: Expenditure on street cleansing by neighbourhood density – English local authorities, 2002/3



Sources: CLG Local Government Finance Revenue Outturn data.
Notes: Covers all LAs. Spend is based on local authority-level figures. Density is average for each authority based on ward-level scores.

Figure 20: Local authority expenditure on street cleansing by outcomes – English local authorities

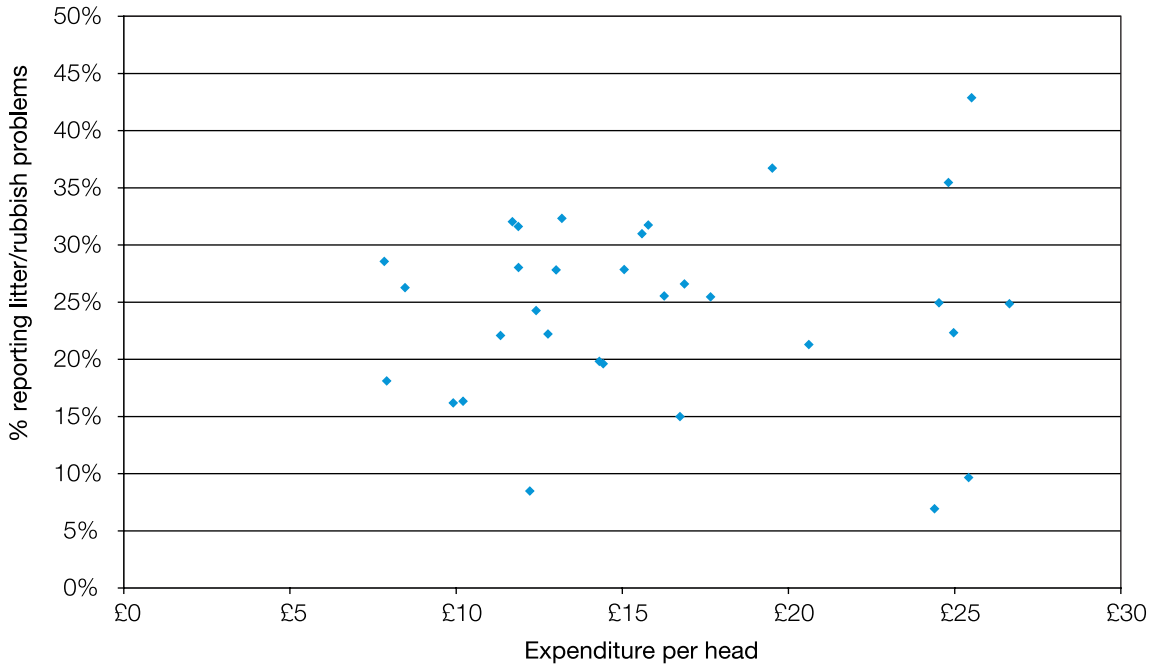


Sources: CLG Local Government Finance Revenue Outturn data and LEQSE.
Note: Covers 45 LAs in England.

We can also examine how levels of expenditure relate to outcomes. Figure 20 shows the picture for the 40 English local authorities for which we have data in the LEQSE while Figure 21 shows all 32 Scottish local authorities. In both figures it is apparent that higher expenditure is not related to better outcomes; if anything, the relationship tends to be negative. There are good reasons why this might be the case. Some authorities may spend more because they face higher costs (for staff as in London) or because they have neighbourhoods that are more difficult to keep up to standard (i.e. more of the risk factors identified above) or because of the way in which they categorise expenditure data. It may also be that authorities are not targeting their resources according to needs at a neighbourhood level. The case study work attempts to understand this further. Crucially, this does not mean that *in reality* greater expenditure does not affect cleanliness.

We did attempt to carry out more complex modelling to see whether higher expenditure was associated with better outcomes once we controlled for neighbourhood characteristics. With two of the data sets (the SEH and the BVPI), there is a positive association between expenditure and environmental quality although the relationship is not very strong. This finding is not replicated in Scotland, where the number of separate local authorities is small, nor in an analysis of the LEQSE data. In these cases, the association of expenditure with outcomes is negative. We would not place great store on this analysis (and have not attempted to report it in detail) as we have very little information on how resources are distributed within authorities and that is obviously key. More detailed work with the case study data is reported below.

Figure 21: Local authority expenditure on street cleansing by outcomes – Scottish local authorities



Sources: CIPFA Rating Review and SHS.
Notes: Covers all 32 LAs in Scotland. Spend is for 2002/3. Resident perceptions of litter/rubbish by aggregating data for 1999–2005.

The case study evidence

The purpose of this section is to identify at the case study level how resources are distributed and how this affects outcomes. To start with, Table 1 provides headline statistics about service expenditure although Chapter 3 explains in more detail how these are made up. Total per capita expenditure is similar in Fife and Leeds although it is worth noting that, in Leeds, some of the expenditure comes from beyond core budgets through budgets for time-limited special initiatives. Lewisham has a higher per capita expenditure although, if we allow 25 per cent on salary costs for a London weighting, the more comparable figure would be £16.80. Lewisham's figure is average for London.

The first issue is whether resources are spread evenly between more or less deprived neighbourhoods. Within each authority, we carried out extensive research to try to trace where the money went and we believe that the picture we have been able to produce provides a uniquely detailed insight. In brief, we identified the expenditure in each street as follows:

- Programmed services were delivered through a combination of manual and mechanised street sweepers. We mapped the beats or routes that they followed, identifying how often they swept each street and how many other streets they had to sweep on the same round. This allowed us to estimate the share of programmed expenditure going to each street.

- Responsive services were delivered by mobile teams, reacting to requests for services from the public and from other council staff. We identified how many requests were made in each street and hence the share of expenditure that each received as a result.

- In some cases, special initiatives provided additional services for particular neighbourhoods and that expenditure was also allocated out to streets based on the areas covered and records of activities undertaken.

This enables us to identify how expenditure was distributed across each authority in relation to levels of neighbourhood deprivation (Figure 22). There are three slightly different patterns in evidence here. In Fife, expenditure is relatively equal in the more deprived half of streets but the less deprived streets get slightly less. Lewisham shows a steady increase of expenditure with deprivation, with a third more expenditure in the most deprived streets than in the most affluent streets within the authority. The Leeds case varies most, showing a fairly equal distribution in the most affluent half of the distribution but sharply increasing expenditure in the more deprived half. In Leeds, the most deprived streets have around *five times* as much spent on them as the least deprived, in part due to top-up Neighbourhood Renewal Fund (NRF) funding.

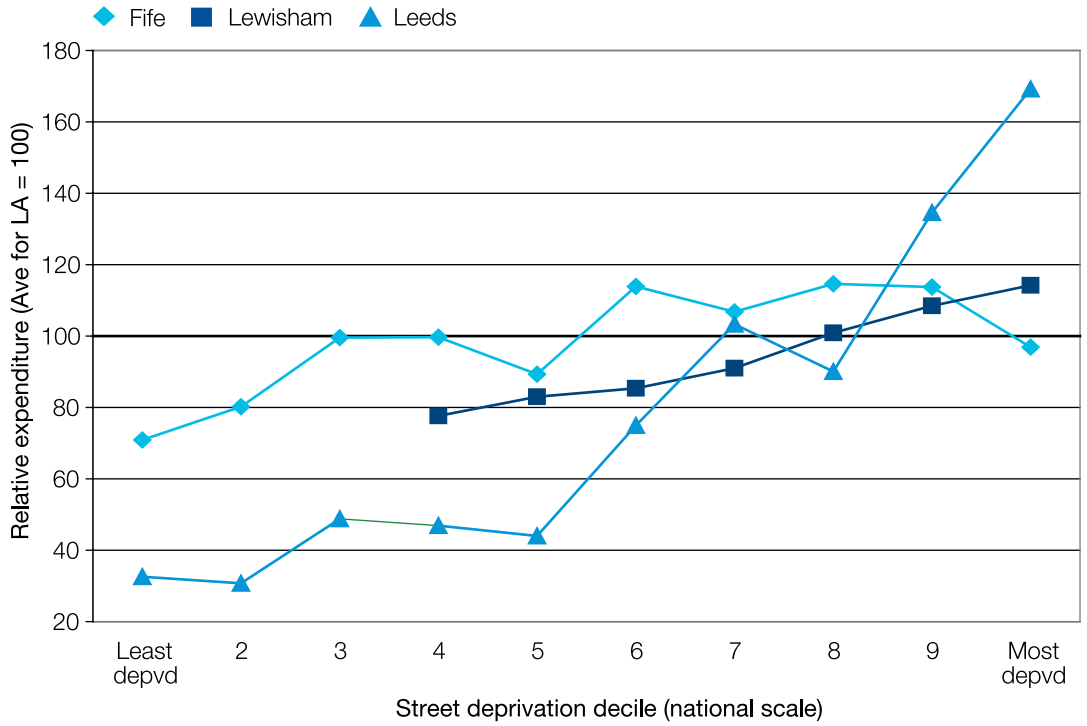
Recalling that cleanliness outcomes are generally worse in more deprived areas, however (see Figure 7 above), this picture of increasing resources targeted at deprived areas suggests an apparently salutary warning. The national analysis reached a similar conclusion as increased expenditure appeared to be associated negatively with outcomes. However, in Chapter 3 we are able to examine the evidence of the case studies much more closely. As will be seen, the case studies suggest a much more complex – and indeed more positive – view of the relationships between services, contexts and outcomes.

Table 1: Expenditure per capita by case study

	Core expenditure per capita	Special expenditure per capita	Total expenditure per capita	Total expenditure per dwelling
Fife	16.57	Nil	16.57	39.77
Lewisham	20.49	Nil	20.49	46.57
Leeds	14.18	2.51	16.69	39.51

Sources: Local authority-supplied data.
Notes: Core expenditure is that funded from mainstream budgets. Special expenditure is that funded from time-limited funding such as the Neighbourhood Renewal Fund. See Chapter 3 for more details.

Figure 22: Overall expenditure per dwelling by deprivation (by case study)



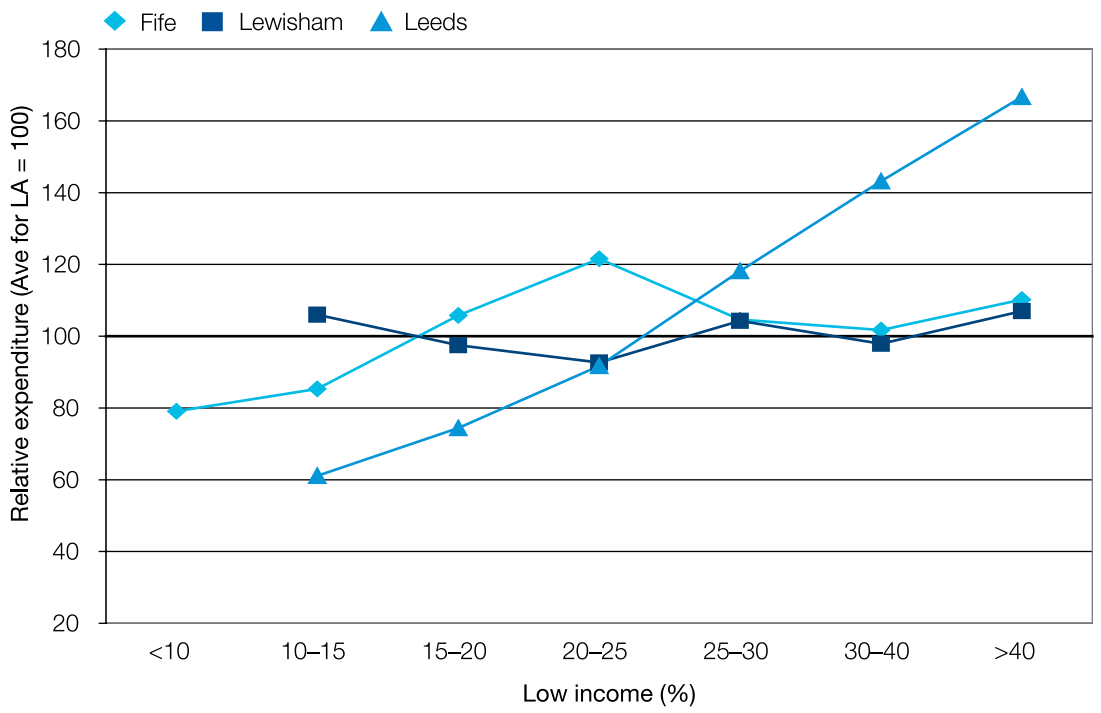
Sources: Local authority records.
Note: Expenditure figures are shown relative to the average for each authority.

We can also examine the distribution of expenditure in relation to both low-income and high-density housing scores (Figures 23 and 24 respectively). The most notable feature of these two charts is that the three authorities all have greater variation in expenditure by physical form than by social composition. In all three cases, there is a continuous increase in expenditure as density rises – particularly strong in Leeds. Only in Leeds, however, does expenditure also rise in line with the proportion of people on low income. In Lewisham, it is broadly flat and in Fife it peaks in the middle of the distribution. Yet the analysis in section B of this chapter shows consistently that it is low income rather than density that is most strongly related to poor outcomes.

Targeting high-density areas will be a reasonable strategy in authorities where there is a strong correlation between that and low income but this correlation varies enormously between our three case studies alone. There is very little correlation in Lewisham (0.19) where high- and low-income groups are commonly found in terraced housing and flats (reflecting the cost of housing in London and the generally more dense form there). There is a much stronger correlation in Fife (0.60) and a moderate correlation in Leeds (0.35).

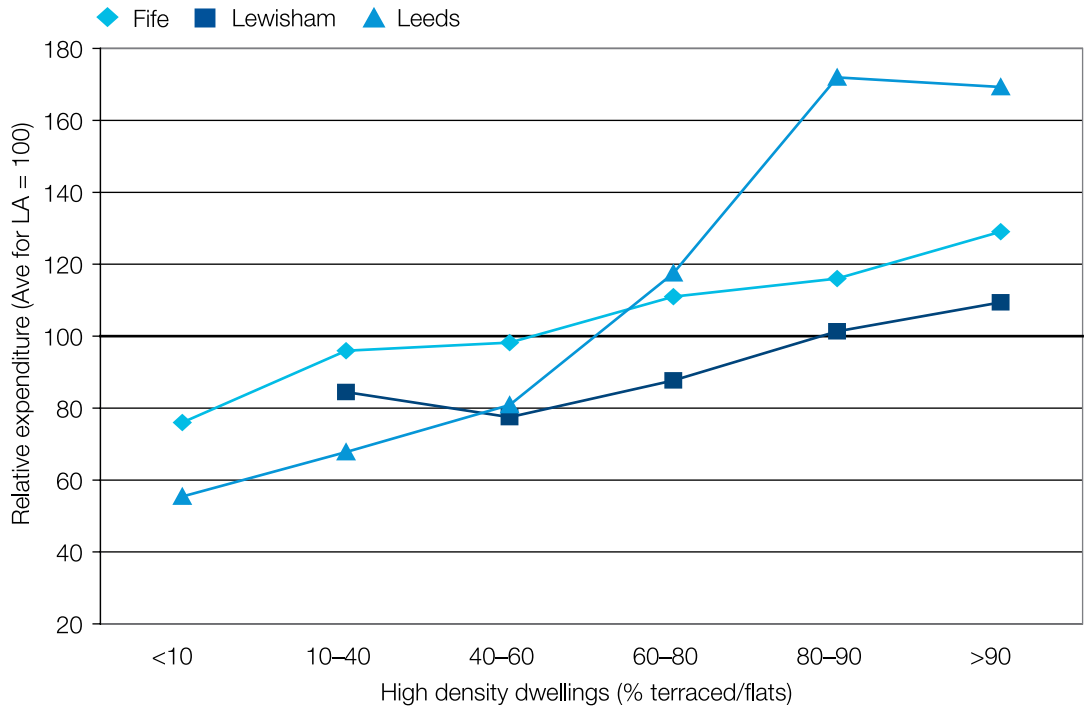
As with the national analysis, we carried out a range of investigations to try to identify whether greater expenditure had a positive impact on outcomes, once all the relevant neighbourhood characteristics had been taken into account. As previously, these models did not show clear positive relationships. This does not mean that more expenditure does not have a positive impact. There are a number of reasons why we have not been able to measure it: actual service levels may differ from the records in practice, particularly in the most difficult-to-clean areas; or there may be factors influencing outcomes that we are not capturing. Chapter 3 provides a more detailed exploration of this issue.

Figure 23: Overall expenditure per dwelling by low-income score (by case study)



Sources: Local authority records.
Note: Expenditure figures are shown relative to the average for each authority.

Figure 24: Overall expenditure per dwelling by high-density housing score (by case study)



Sources: Local authority records.
Note: Expenditure figures are shown relative to the average for each authority.

Key messages

- In both the national and the local analysis, there did appear to be a skewing of resources towards the more deprived neighbourhoods. The strength of skewing clearly varied between authorities.

- In spite of this skewing, outcomes were worse in more deprived streets, suggesting that the nature or level of services there was still not sufficient.

- In all three local authorities, resources were clearly skewed towards streets with higher densities but only in Leeds was there consistently higher expenditure in streets with lower-income groups. Yet the earlier analysis showed that it was that measure that was the single most significant indicator of poor standards. Local authorities may need more encouragement to use measures of social composition as the basis for targeting, rather than physical form.

- The analysis does not show that more expenditure is associated with better outcomes, although there is some evidence for this from some parts of the analysis which follow.

3 Three pathways to a clean sweep

Introduction

This chapter provides an in-depth analysis of both the quantative and qualitative evidence from each of the case studies. It has two overarching purposes:

1 **To understand more about how the distribution and nature of street cleansing services can affect relative cleanliness outcomes in the context of neighbourhood diversity.** As has already been noted, this is a far from straightforward task.

2 **To examine the detail of policy and practice within the case studies, and to explore the implications of this for policy and practice more generally.** In other words, the chapter provides discussion which will facilitate wider reflection and learning among public agencies considering targeting their services more deliberately in relation to need.

What follows is the 'story' of each of the case studies, in which key patterns and trends are identified and – as far as possible – explained. The rich evidence we have on each case study illuminates not only official policy and practice, but some hidden aspects of what happens on the ground. This 'unofficial' picture affords great insight into the reality of trying to achieve a clean sweep in the face of neighbourhood diversity.

In this chapter of the report, we are dealing with each of the case studies one at a time and focusing on the local story, rather than making direct comparisons between authorities. When presenting data on services or outcomes by neighbourhood deprivation, we therefore switch to using a *local* deprivation scale. For each authority, we divide streets into ten equal bands based on deprivation scores. In the previous chapter, the deprivation scores for streets in each authority were shown on a single, *national* scale.

Topping up standardised services: the Fife story

So how does the nature and allocation of service provision affect the cleanliness outcomes achieved in Fife in relation to its neighbourhood diversity? For the period for which we have cleanliness data, there were three main kinds of street cleansing service provided in Fife.

Street cleansing in Fife

- **Programmed manual street sweeping.** The vast majority of residential streets are programmed to receive a twice-weekly manual sweep by a dedicated operative with responsibility for a 'beat' (or collection of streets). Areas with shops and other facilities such as schools within residential areas will usually have a daily cleansing regime. The research also uncovered a small number of streets where the frequency of street cleansing in some residential streets was only once weekly.

- **Programmed mechanised street sweeping** for town centres, arterial routes etc.

- **Responsive mobile 'hit squads'.** These deal with the uplift of fly-tipping and respond to out-of-the-ordinary problems as they occur. They also spend part of their time returning to known problem areas (e.g. around large schools) or supporting the work of street sweepers thought to be less able.

Fife Council therefore appeared to operate a largely standardised street cleansing service to its residential areas, with the capacity to 'top up' the work of the manual street sweepers with mobile hit squads as the need arises.

As Figures 7 to 9 showed, while Fife Council achieves relatively high standards of service, there is a tendency for standards to be worse in more socially deprived streets. Yet, Figure 22 revealed that overall expenditure was positively skewed towards deprived streets, suggesting a worrying conclusion. Figure 25 below shows the same data as Figure 22 on expenditure. This time, however, the proportions of each column attributable to programmed and responsive expenditure are exposed.

The figure reveals two distinct trends within the overall pattern of expenditure:

- Programmed services are reasonably flat in their distribution and even skewed away from more deprived streets. While programmed expenditure in the most affluent decile is about £29.44 per dwelling, in the least it is only around £24.10.

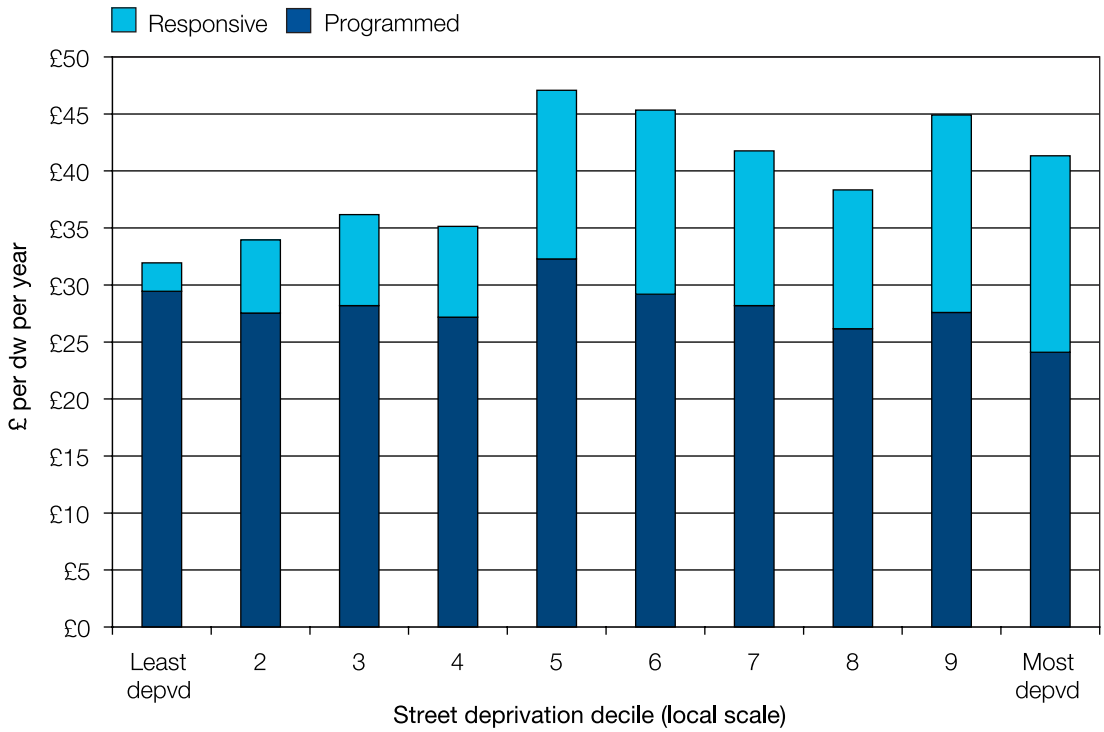
- Responsive services are strongly skewed *towards* deprived streets. Indeed, on average, four times as much was spent on dwellings in the two most deprived deciles compared with those in the two least deprived deciles.

Figure 25 shows that responsive services are being used to 'top up' programmed provision, particularly in more deprived streets. However, this is against a pattern of programmed expenditure which is regressive in relation to deprivation. Responsive services are effectively being deployed to make up a shortfall and may not be the most cost-effective model of service provision. Responsive services tend to involve staff travelling between beats to address individual problems, rather than dedicated staff tackling all problems in a beat in a programmed or systematic way. The investment in top-up provision appears to be significant in Fife: £1.05 million for the financial year 2005/6 compared with £2.5 million for programmed (data provided by the local authority).

Arguably, if responsive services are being deployed to make up a deficit in programmed provision, service provision in deprived streets appears more costly than it would if programmed services were provided more in line with need. The relative cost of achieving the cleanliness threshold in deprived streets, compared with other kinds of street, is therefore obscured.

Recalling that Fife operates what appears to be a largely standardised programmed service – most

Figure 25: Programmed and responsive expenditure by street deprivation – Fife



Sources: Local authority records.
Note: Street deprivation decile measured on a local scale.

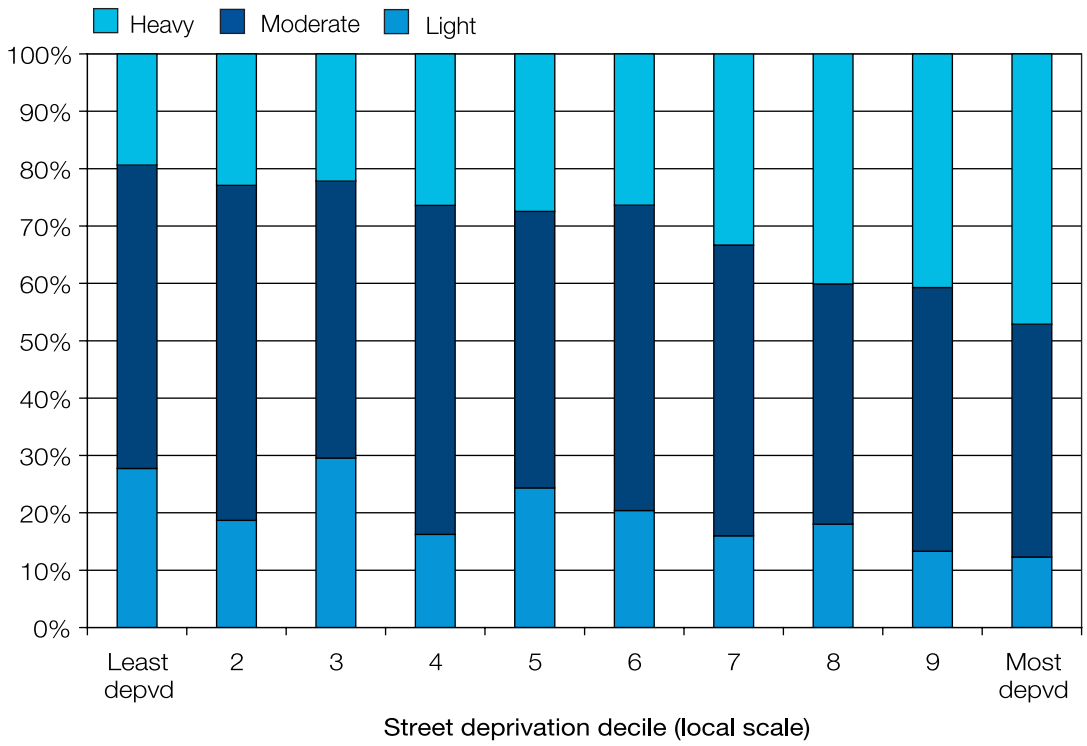
streets are swept twice weekly – the regressive relationship between programmed service and deprivation seems anomalous. However, a more complex picture of resource distribution was obtained by looking more closely at the distribution of 'work' in individual beats (in terms of numbers of dwellings serviced, street length covered and the frequency of sweep assigned to each street).

In fact, the actual workload of beats varied very significantly. The number of dwellings serviced by an individual operative ranged from a few hundred to two thousand and the total length of street covered ranged from 2 to 22 kilometres. (And beats with more dwellings tended also to have greater street length.) The gap in workloads became even greater when we allowed for the intended frequency of cleaning. Using the dwelling measure, we divided beats into those with high, moderate and light workloads, based on the number of dwellings they were expected to service each week. Figure 26 shows how streets with different deprivation scores relate to this division.

Deprived streets were much more likely to be covered by a beat with a heavy workload: 47 per cent of the most deprived streets are covered by a beat with a heavy workload, compared with just 19 per cent of the least deprived streets. Thus almost half of all deprived streets fall within the remit of operatives with the largest relative workloads. These streets – we can surmise – may face a double disadvantage in terms of the ease with which they make the cleanliness threshold. As evidenced in Chapter 2, they will be disadvantaged by their level of deprivation and other characteristics but *also* by the fact that they are serviced by an operative who has a higher relative workload than at least two-thirds of their colleagues. The topping up of programmed service with responsive service, together with the overall skew in expenditure towards deprived streets, needs to be understood, therefore, in the context of the unevenness of workload distribution.

A final aspect of the Fife story is also relevant for understanding how service provision is related to cleanliness outcomes in different kinds of areas. The research with operatives delivering street cleansing revealed how official programmed service levels in deprived areas are 'topped up' in another kind of way.

Figure 26: Programmed service inputs by street deprivation – Fife



Sources: Local authority records.
Note: Street deprivation decile measured on a local scale.

Evidence from the front line

A range of Fife's operational staff were either shadowed or interviewed to contribute more to our understanding of the reality of service provision on the ground. These staff included manual street sweepers operating to programmed beats, members of mobile 'hit squads' providing top-up services, environmental wardens and a range of supervisors and operational managers.

A key message was that a 'one size fits all' standardised service did not allow for the diversity of needs to be met. Variable amounts of service and effort were required in different neighbourhood contexts to maintain satisfactory levels of cleanliness. Indeed, there was strong evidence that a number of the operatives delivering programmed service provision adjusted their way of working and relative effort to take more account of relative needs within their beats.

The first way was by defining the thoroughness of a 'sweep' differentially according to the level of need within the area. Thus, depending on its cleanliness level, for a given street a twice-weekly 'sweep' could comprise a range of possibilities, for example:

- a comprehensive, full sweep of the entire length twice weekly;
- a comprehensive, full sweep once weekly, and a second visit to check and 'trouble-shoot' specific problems;
- twice-weekly visits to check and trouble-shoot, with an occasional full sweep.

This approach to workload management was in fact common across the three case studies. The interviews suggested that the introduction of national performance auditing systems had encouraged, and perhaps necessitated, the development of more flexible approaches to street cleansing.

The second adjustment was more particular to Fife, although, in a sense, it is a further extension of the first. Thus, operatives used their discretion to vary their inputs more significantly and obviously from those stipulated in their allocated beats. A range of staff described how they had the autonomy to organise their day and rounds as they felt appropriate, prioritising their work to maximise cleanliness. Thus operatives described how they varied the frequency of service stipulated on their beat cards. For example:

> *'I can get away with Place A having only one sweep, but would give Place B three … don't tell my supervisor, but he probably knows anyway.*
>
> (Street sweeper, programmed service)

Another described how he augmented the frequency with which he swept two residential streets from twice weekly to daily and how he cleaned an area where children congregated before and after school three times a day rather than once. Indeed, across the interviews there were numerous examples of how operatives used their discretion to both augment and reduce service levels according to need. Moreover, the evidence was that this discretion was used in a regular way – the same streets routinely required more or less service than stipulated.

The evidence from frontline operatives revealed a clear pattern: service levels in streets with higher needs were 'topped up' informally by operatives on the ground, in many cases with the tacit approval of supervisors and local managers.

However, it should be noted that this responsiveness did not operate solely in relation to need. There was also evidence that operatives working in more affluent areas could sometimes have the capacity to go beyond their remits and provide additional services (see Hastings et al., 2005 for more evidence on this point). There were examples of street cleansing staff being willing to help out individual households with cleaning driveways and watering plants. Indeed, in some of Fife's affluent villages, there was a suggestion that local community members perceived street cleansing operatives as a more generic resource to be deployed for the general upkeep of the village. The correlation of lighter workloads with affluent streets (Figure 26) clearly facilitated the capacity of operatives to work in this way. Indeed, in 2007 – while the qualitative research for this project was being carried out – a service reorganisation was in the process of being implemented in part to try to address this problem. In a number of locations, individual sweepers were replaced with

squads of three or four operatives who would cover a number of the beats serviced previously by individuals. Although partly an efficiency measure, a less 'cosy' relationship between operatives and the community they served was also anticipated. The reorganisation was highly controversial in the more affluent villages.

Overall, Fife Council is able to achieve the high cleanliness standards it does, particularly in its most disadvantaged streets, because of the extent to which routine, programmed provision is augmented. This is done via the extensive provision of responsive services and also by frontline staff making informal adjustments to service levels to cope with varied levels of need at the neighbourhood level.

As a consequence of both of these findings, the research was unable to identify the 'true' relationships between service inputs, neighbourhood contexts and cleanliness outcomes in the Fife case. It was not possible to assess the extent of informal redistribution of services by frontline staff and, partly because of this, to estimate the scale of extra programmed service necessary to replace both informal top-ups and responsive services. Indeed, Fife Council has – partly in response to these research findings – devised a new model of service distribution which seeks to target programmed services more effectively with need (see box).

Service changes in Fife

As part of a Best Value review process and in response to the findings of this research, Fife Council introduced a new model of service provision for the year 2008/9. This model uses 'local service teams' to work generically and holistically in an area. It also incorporates a provision for a 'local factor' to be applied in areas of particular need which leads to the adjustment of the level of servicing accordingly. In addition, non-mainstream resources (from the Fairer Scotland Fund) are being used to pilot the use and impact of further additional services in such areas. If these resources are found to have a positive impact on cleanliness, this should lead to further targeting of mainstream service provision when the Fairer Scotland Fund comes to an end in April 2010.

The following box distils the key messages from the Fife story.

Key messages from the Fife Story

- Standardised services at the level of a twice-weekly manual sweep may be insufficient to meet the street cleansing needs of more deprived streets.
- Local operatives are a key source of intelligence about the actual work involved in individual streets to meet cleanliness standards.
- To understand the true nature of programmed service provision, there is a need to look beyond service frequencies to take account of actual workloads. It is critical that authorities assess how relative workload sizes relate to neighbourhood needs and cleanliness outcomes.
- The imperatives of national performance auditing may encourage locally based staff to – at least in part – target their effort in relation to need.
- Using responsive modes of service to target need is an expensive option and can make deprived areas appear more costly than they would under a different system.

Aligning mainstream services with need: the Lewisham story

Lewisham's relatively equal outcomes were a consistent strand in the analysis presented in Chapter 2. Thus, while Figures 7 to 9 suggested some correlation of poorer outcomes with deprivation, this was not to the same extent as the other two case studies. Service provision in Lewisham appears very similar to that provided in Fife (see box). A key question is therefore: how does Lewisham achieve its relative equality in outcomes?

Street cleansing services in Lewisham

For the majority of its streets, Lewisham provides the following services:*

- Programmed manual street sweeping. All streets in residential areas are swept a minimum of twice weekly, and some three times a week. Areas around shops, schools etc. tend to receive daily and even twice-daily servicing. The sweepers work to beat cards on which the designated frequency of service for each segment of street is identified.

- **Responsive mobile teams** collect fly-tipping and do extra litter-picking and other cleaning in response to complaints and requests.

- Mechanised sweepers clean arterial routes.

*** Large estates built as public housing are dealt with differently and the discussion and analysis excludes these.**

Thus the nature of service provision in Lewisham appears very similar to that provided by Fife Council. Further the overall distribution of resources relative to deprivation is similar to Fife's (Figure 22) in that increasing deprivation is associated with increasing expenditure. There are perhaps two key parts to the explanation for its broad outcome equality.

First, there is a big difference between the two authorities in terms of the proportion of services provided in responsive rather than programmed modes of provision, particularly in more deprived deciles (Figure 27 compared to Figure 25).

- In Lewisham programmed resources are skewed towards deprived areas (in Fife they were, to a degree, skewed in the opposite direction).

- Programmed resources make up a much bigger proportion of expenditure in Lewisham than in Fife (91 per cent of the total, compared with 70 per cent).

- Responsive services are distributed pretty evenly in Lewisham (in Fife they were skewed towards deprived areas).

The outcomes achieved overall in Lewisham, as well as in the more deprived parts, are at least in part due to the emphasis placed on programmed rather than responsive service provision.

Second, the issue of workload size relative to deprivation is also important. Figure 28 shows how workloads (i.e. the combined average of dwellings and street length serviced in a beat) are distributed relative to deprivation. The fact that low workloads are associated with deprivation, and high workloads with affluence, is immediately apparent. Indeed, over half of the most deprived street segments are in a beat which has a low workload: the opposite pattern to that identified in Fife (Figure 26).

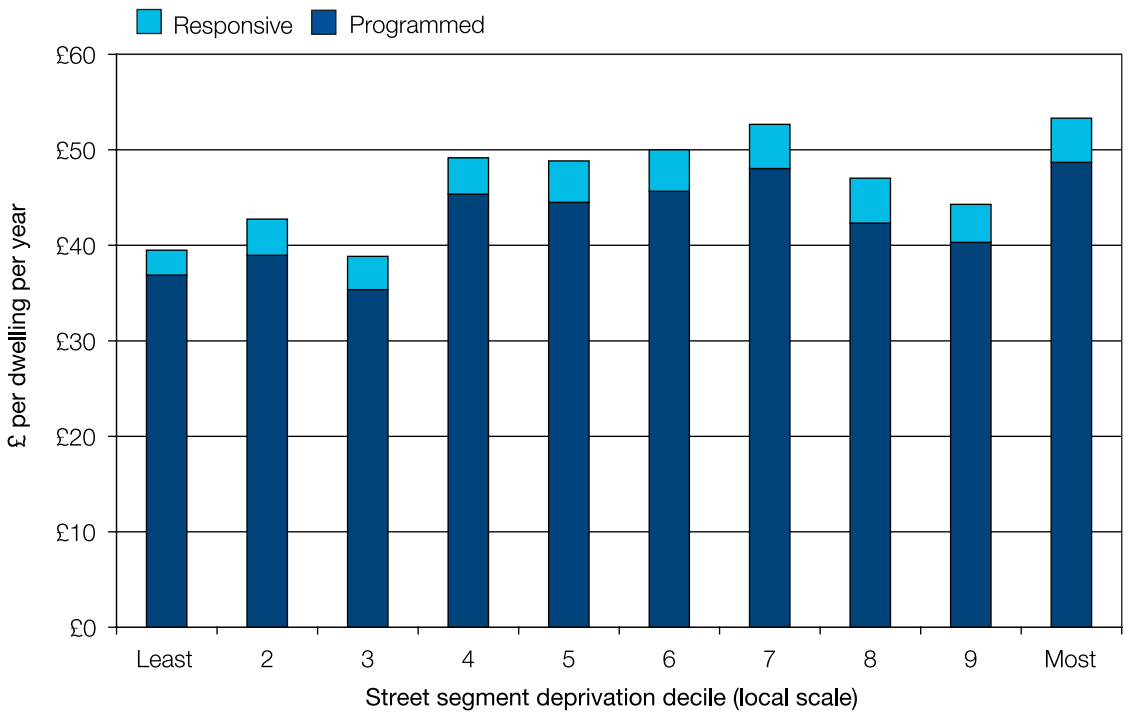
This distribution of workloads across beats covering different levels of need dates back to a service review conducted in 2001/2. This was a conscious attempt to deal with what was seen as a historical inequity that 'some beats were much less work than others' (Senior manager, Lewisham Borough Council). Indeed, we can draw a key distinction here between apparent and actual workloads:

- Apparent workloads refer to the number of dwellings or street length serviced. This is the workload distribution shown in Figure 28, which suggests a tendency for operatives working in deprived areas to have lower apparent workloads.

- Actual workloads would also take into account the differing level of challenge involved in maintaining cleanliness standards in different neighbourhood contexts (that is, the risk factors discussed in Chapter 2 and the different amounts of 'work' which these produce).

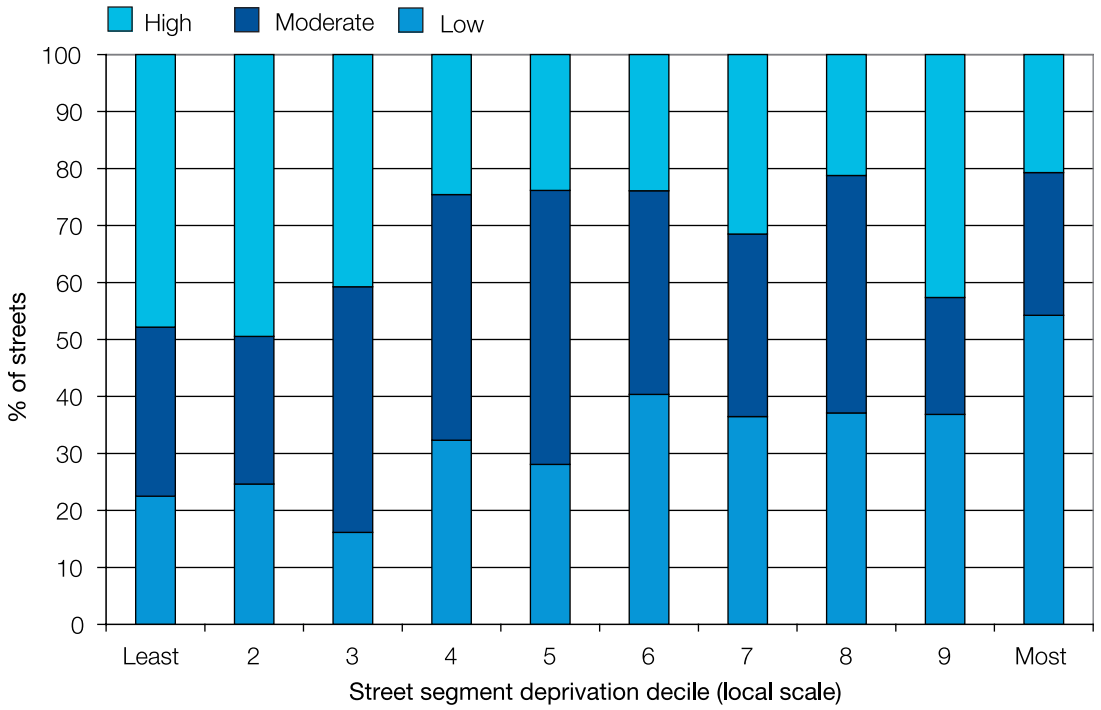
The aim of Lewisham's service review was to engineer the apparent relative size of beats so that they would have a roughly equal actual workload. Our analysis shows that this is achieved in two ways:

Figure 27: Programmed and responsive expenditure by deprivation – Lewisham



Sources: Local authority records.
Note: Street deprivation decile measured on a local scale.

Figure 28: Beat workloads by deprivation of street segment (n = 5,074 segments)



Sources: Local authority records.
Note: Street deprivation decile measured on a local scale.

1 **Redistribution between beats:** the beats covering more deprived street segments tend to have smaller workloads (fewer dwellings and/or shorter in length).

2 **Redistribution within beats:** more deprived streets tend to receive slightly higher average frequency of sweeps.

Notably, the workloads of beats were devised using the local knowledge of operatives and local managers and supervisors, rather than via a statistical exercise. Where this division has been shown to be inaccurate, there is the capacity to adjust beat sizes. This has been done on a fairly infrequent basis over the years. It is striking, however, that in both of the other two case studies, managers of the current service were unable to account for how beat sizes had come to be designed.

The Lewisham story is particularly interesting in terms of its transparency. The approach quite subtly obscures the fact that more deprived neighbourhoods receive a greater proportion of resources than more affluent neighbourhoods. Thus, service levels appear relatively equal to the uneducated eye (i.e. a twice- or thrice-weekly service frequency), but workloads are engineered to allow a 'sweep' to mean different things in different contexts. Arguably, this helps to manage the political difficulties involved in bending service provision towards need. Indeed, the views of operatives explored below suggest the importance of managing needs and demands in such a sophisticated way.

The view from the front line

A range of operational staff were interviewed and shadowed in the course of the research, including street sweepers, mobile teams and wardens. In contrast to the Fife case, operatives appeared **not** to routinely adjust designated service levels to cope with unrecognised variations in need. Thus, although there were examples of individual operatives using their discretion to work more effectively as they saw it, there was no evidence of widespread informal topping up of services in order to meet local challenges. Arguably this suggests that the configuration of beat sizes and service frequencies was broadly commensurate with neighbourhood diversity.

Taking this further, Table 2 presents data on how the six manual street sweepers shadowed in the course of the research perceive the challenges of their beats, triangulated with quantitative data on each of these beats obtained via the small area analysis. The table shows the degree to which relative deprivation at the beat level is reflected in relative workload size, as well as in relative programmed and responsive modes expenditure. The discussions with the street sweepers – which were carried out *before* the analysis of their relative workloads – capture their sense of how manageable this workload is, and the specific challenges encountered in particular beats.

In bringing together the two sets of information in this way, the table suggests that, for these sweepers, workloads are on the whole broadly commensurate with needs. Indeed it suggests that, despite considerable neighbourhood diversity and variations of need, beat sizes can be configured in ways which allow staff operating in a range of environments to have manageable workloads and to enjoy a degree of job satisfaction. The fact that all of the beats had largely satisfactory levels of cleanliness is further evidence on this point.[1]

The clear anomaly is Paul's beat. This beat is the most deprived of the six, yet has the fourth largest workload size, taking into account both street length and number of dwellings. Further, although this beat enjoys the third most generous level of programmed expenditure, in absolute terms this is less than half the expenditure afforded to the two other beats which have above average levels of deprivation (those of Karl and Robert). The impact of this workload on Paul is evident and indeed he intimates that he cannot actually achieve his designated workload on a daily basis. Responsive services provide a degree of compensation and, of the six beats, Paul's achieved (marginally) the lowest cleanliness score. It is notable that all three of the operatives working in beats with above average levels of deprivation found their jobs more challenging than those working in other settings. Paul, however, stood out as the most hard pressed and despondent of the three and the analysis of his beat provides important clues as to why. It also provides a more general insight into the impact of inappropriate workloads on individual staff members.

Table 2: Street sweepers' perceptions of their workload placed in quantitative context

Sweeper name	Beat deprivation level (rank most to least)	Beat size (rank smallest to largest within six)	Programmed expenditure per head within beat (rank most to least)	Workload manageable?	Happy with beat?	Responsive expenditure per dwelling (rank most to least)
Paul	Significantly above average (1)	Medium (4)	Below average (3)	No – shattered at the end of the day. Cleans some streets on alternate rather than daily basis	No	Well above average (2)
Karl	Significantly above average (2)	Low (1)	Significantly above average (1)	With a struggle	Not really	Significantly below average (5)
Robert	Above average (3)	Low (2)	Above average (2)	Yes – but '*I'm always busy, busy, sometimes I don't want to get up from lunch*'	Yes, probably	Well above average (1)
Ian	Average (4)	Medium (3)	Below average (4)	Yes – *'I can take my time and don't feel tired'*	Yes	Below average (3)
Graham	Below average (5)	High (6)	Significantly below average (6)	Yes – goes beyond remit. Cleans phone boxes and fly-posting	Yes – *'the beat is my second home'*	Below average (4)
Clive	Well below average (6)	High (5)	Well below average (5)	No – '*This job's impossible – my beat's too large'* – but crosses private boundaries to collect litter	Neither happy nor unhappy	Significantly below average (6)

Notes: All quantitative measures relate to the Lewisham average at the level of the static sweeper beat. Street sweepers' identities have been anonymised.

The two operatives servicing beats with lower average deprivation are shown to have larger beat sizes and therefore higher apparent workloads than those working in more disadvantaged contexts. However, it is clear that this does not mean their *actual* workloads were greater. Indeed, both Graham and Clive had the capacity to go beyond their remits. For example, Graham told of how he would also clean phone boxes and remove fly-posting from lamp posts, and Clive recounted how he would cross private boundaries to clear litter. Interestingly, while Graham claimed to go beyond his remit because 'there's pride in my job to do it well', Clive indicated that for him it was 'for selfish reasons'. He works in one of the leafier suburbs of the borough in an area which has detached and semi-detached homes and wide open streets. Indeed, his is the kind of beat which has had the resource apportioned to it *reduced* as a consequence of the drive to engineer workload equality. It appears that residents have noticed: he gets comments like 'don't you come down here anymore?', and to counter this he consciously leaves his barrow on show in prominent places to indicate that he is nearby. He explained how he found residents 'moany' (inclined to complain) and told how he tried to work 'in ways to keep people happy'. The resonance with the Fife case study, where the demands placed on operatives by affluent residential areas appeared substantial, suggests that areas of concentrated affluence as well as deprivation present – albeit distinct – challenges for frontline service providers.

Indeed, Ian's 'average' beat appears to be the ideal. His beat is very close to the Lewisham average in relation not just to deprivation, but to

a whole range of other factors from child density to tenure structure and built form (not shown). His beat size is also roughly average. The extent to which equilibrium has been achieved between need for service and the level of service provided is indicated by his views on his workload. Clearly, it would be impossible to configure a service which is delivered on a territorial basis so that differences in neighbourhood contexts could be averaged out. However, the beat-level evidence does suggest that there are key benefits – not least to staff – of seeking to balance levels of need and levels of service.

Before concluding on the Lewisham case study, a couple of additional points are important. As well as the relatively equal outcomes achieved in Lewisham, two other findings were consistent in the Lewisham story:

- that very few excellent A grades are achieved in Lewisham (Figure 9);

- that there is less of a spread of affluence and deprivation in Lewisham than in the other two authorities. Thus, Figure 1 in Chapter 1 showed that – in contrast with the other two case studies – Lewisham does not have areas of concentrated affluence. What this means of course is that it is the most deprived of the case studies, a situation which brings absolute if not relative challenges.

In Chapter 2, the analysis suggested a tendency for the excellent A grade to be associated with streets in the most affluent deciles. The *lack* of such streets in Lewisham is likely to be part of the explanation for why A grades are awarded to the borough so infrequently. However, it is also part of the reason why cleanliness outcomes in Lewisham appear more equal than those of other authorities. Thus, equality is achieved not simply via the manipulation of workload sizes relative to beats, but also because of the lack of very affluent streets and neighbourhoods. Recalling the discussion of how affluent neighbourhoods can be 'demanding' of service provision, this lack of affluence could mean that Lewisham has more latitude to emphasise outcome equality than authorities with greater proportions of affluent neighbourhoods. However, even in this context, managers report that they encounter more significant demands and complaints from residents of the more affluent areas. Indeed, one resident of a more affluent part of the borough hosts a popular London radio breakfast show, and often makes comments on the authority's services on air.

The quality of the data we have on street cleansing in Lewisham (that is, the fact that we were able to estimate resource inputs down to very small spatial scales) means that we are able to suggest the approximate additional cost of service provision in Lewisham's more challenging contexts. The following assumptions can be made:

- Given that the majority (87 per cent) of transects have scored a B grade in three years of cleanliness monitoring, as well as the relatively weak relationship between deprivation and outcomes, we assume that transects in all neighbourhood contexts are capable of scoring a B grade on the day surveyed.

- Given the discussions with operatives, we can assume that actual service provision appears to closely match that designated in the official beat cards.

This means that we can estimate the relative direct cost of obtaining a B grade at different levels of deprivation, given the context in which Lewisham operates. (We refer back to Figure 22 here as this is on the national scale.) To achieve the same standard, Lewisham spends approximately 35 per cent more on streets in the most deprived decile compared with those in the middle of the national average deprivation scale (deciles 5 or 6).

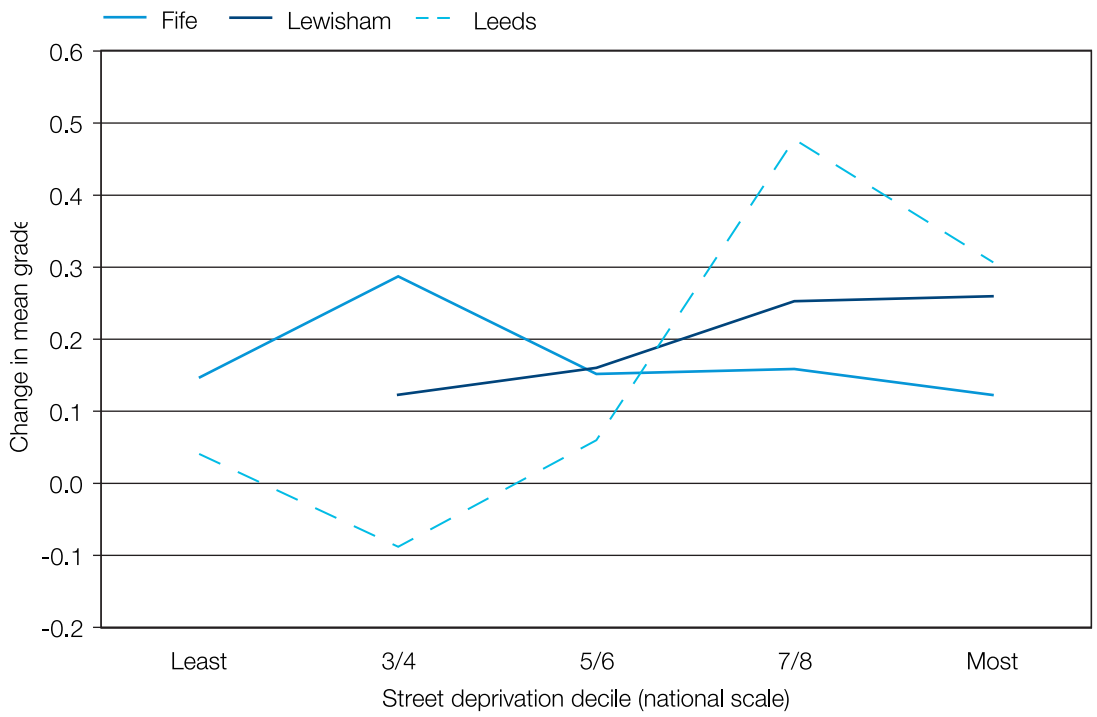
Finally in relation to the Lewisham case we can return to the discussion in Chapter 2 of the apparent tendency – when viewed from a national perspective – for a 'trade-off' to occur between achieving a high average score for Best Value purposes and equal outcomes. Thus, Figure 6 (repeated below for clarity as Figure 29) showed that authorities with higher average standards tended to achieve this at the expense of equality of outcomes between neighbourhoods (the top left quadrant). The top right quadrant, however, represents the few authorities which have managed to obtain both a high average grade and reasonably equal outcomes. The blue triangle in

the quadrant represents Lewisham. This indicates that the Lewisham approach does not involve targeting resources to the extent that it becomes difficult for neighbourhoods as a whole to reach the acceptable B threshold for cleanliness.

Key messages from the Lewisham story

- Mainstream service provision can be engineered to produce broadly equal cleanliness outcomes in the context of neighbourhood diversity.
- A focus on the distribution of 'work', which takes account of variations in neighbourhood needs, will have a positive effect on equality in comparison with a focus on service frequency.
- Again locally based staff are key sources of information when workloads are being devised such that they recognise the diverse needs of neighbourhoods.
- Whereas authorities with high levels of deprivation face substantial challenges in achieving good outcomes, *equality* is likely to be easier to achieve in authorities with less of a range of deprivation between their neighbourhoods. A lack of 'demanding' affluent neighbourhoods may allow authorities more latitude to pursue equality.
- In this context, an additional expenditure of around 35 per cent in the more challenging contexts appears to produce similar outcomes to those achieved in a context with an average deprivation profile.
- However, the Lewisham case shows that equality across neighbourhoods does not necessarily have to constrain effectiveness for the council as a whole, particularly where there is an aim to maximise 'acceptable' as opposed to 'excellent' outcomes.

Figure 29: Grade for 'average' neighbourhood versus equality of outcomes



Sources: LEQSE surveys in 40 LAs in England in 2007. Data supplied by ENCAMS – authors' analysis
Notes: Grade for 'average' neighbourhood is the grade expected for a neighbourhood with a deprivation score in the middle of the national scale. Zero means the authority has a grade equal to the average for the group of 40 LAs. Equality of outcomes is measured as the gradient of the line in Figure 5. Zero means the authority has a gradient equal to the average for the group of 40 LAs. A positive value indicates that the gradient is less steep (the average gradient is negative so a positive value means it is closer to horizontal).

Targeting need with mainstream and non-mainstream services: the Leeds story

The Leeds story allows for further discussion of some of the issues identified in relation to Fife and Lewisham, but also introduces some new dimensions to the analysis.

Of the three case studies, Leeds had the most variation in cleanliness outcomes and the strongest relationship between higher deprivation at the street level and lower cleanliness scores (Figures 7 to 9). It also had the sharpest relationship between higher deprivation and higher expenditure (Figure 22). The Leeds case study also differs from the others in two additional ways:

- in its mode of service delivery – its basic service relies on mechanised rather than manual sweeping;
- in its use of non-mainstream funding to top up service provision, particularly in more deprived areas and in neighbourhoods with higher housing density.

Street cleansing service provision in Leeds

Mainstream, core-funded street cleansing services in Leeds comprise the following:

- All residential streets within the authority are swept by mechanised sweepers – Street Kings – operating to fixed beats.
  All streets in the authority have a designated frequency of sweeping assigned to them: weekly, three-weekly and six-weekly. While in some parts of the city these frequencies are considered as a 'guide' only, in the part of the city where the research was focused – the South Wedge – staff are expected to adhere to these frequencies. As a general pattern, weekly cleansing is reserved for high-density, usually inner city areas as well as areas around schools and shops. Three-weekly and six-weekly cleansing regimes are operated across the less dense, suburban parts of the city.
- Some streets and neighbourhoods also have an additional manual sweeper (also known as a litter-picker) working on a fixed beat. These staff tend to work in residential areas near shops and also in those neighbourhoods where there are more substantial environmental problems.
- Finally, responsive top-up services are provided by a range of mobile fly-tipping and de-littering teams who target problems as they are notified or observed.

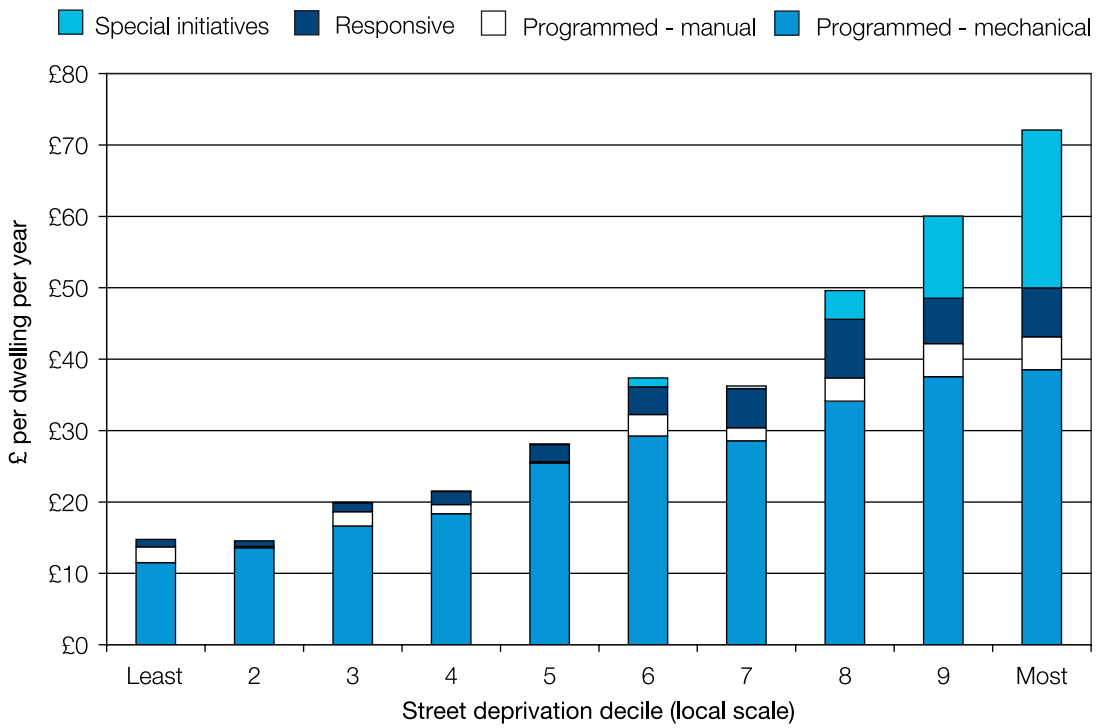
Non-mainstream services (funded through the Neighbourhood Renewal Fund and the Safer, Stronger Communities Fund) comprise twelve Environmental Pride teams operating in the inner wards of the city and most intensively in the areas identified as within the most deprived 10 per cent of SOAs. The remit of the teams is mainly to conduct thorough 'clean-ups' across all land types (including that owned privately or by the five Arms Length Management Organisations (ALMOs) within the city). The teams are also trained to undertake minor repairs to, for example, brickwork. They also top up mainstream services by collecting litter, fly-tipping and bulky refuse from residential streets.

Leeds City Council attempts to organise and resource its street cleansing services in ways which recognise different levels of need for service. According to strategic managers, the intention is to target density rather than deprivation.

Figure 30 breaks down the single line of mainstream expenditure relative to deprivation shown in Figure 22 into the various kinds of resources deployed for street cleansing in Leeds. (It also uses the local deprivation scale, so the shape of the line alters slightly as a result of that change.)

The figure shows the extent to which service expenditure tracks deprivation. Thus, the expenditure on the core mechanical service (which makes up the bulk of expenditure, costing around £7 million) is clearly correlated with deprivation: the most deprived streets received around three times the service level of the least deprived. The

Figure 30: Programmed and responsive expenditure by street deprivation –Leeds



Sources: Local authority records – various.
Note: Street deprivation decile measured on a local scale.

approximately £1 million spent on responsive services also shows this association: indeed expenditure under this heading is six times larger in the most deprived decile than it is in the least deprived decile. Arguably this suggests that programmed services are insufficient in some respect. Third, the additional manual programmed service in inner city areas (litter-picking: cost £0.7 million) is also closely correlated with deprivation. Fourth, and of particular significance for the overall distribution, special funding streams have enabled additional services to be provided in the most deprived neighbourhoods.

Given this pattern, why then are poorer outcomes associated with deprivation? There appear to be two explanations.

- Explanation 1: the nature of the core service – the manual versus mechanised sweeping debate

It is clear that mechanised sweeping works well in certain contexts. All three of the case studies use this mode of service for arterial routes. In such contexts, mechanised sweeping affords efficiencies as it allows significant street lengths to be serviced quickly and regularly by a small number of staff. However, there is more of a debate over the suitability of this mode of service for residential areas as well as for heavily trafficked areas around schools and shops where there is regular littering. Indeed manual street sweepers were also preferred in these latter kinds of areas across the case studies.

Several strands of evidence not only from the Leeds case study, but also from the other case studies, suggest that mechanised sweeping may not be as effective as manual approaches in some residential areas. Shadowing of operatives was particularly helpful in this regard, as were discussions with operational managers. The box captures their views of where mechanised sweeping is most effective.

Contexts in which mechanised sweeping is most effective

- Where streets are neither too wide nor too narrow. Wide streets require more passes of the machine, narrow streets require negotiation.

- When kerbs are low or 'dropped', allowing access from pavement to gully. Streets with high kerbs might not be cleaned mechanically, despite being part of a beat.

- Where there is an absence of bushes or other planting bordering pavements. Not only do these capture litter, it can be difficult and time-consuming to remove despite specialised brushes. The grass verges common in many garden-style developments cannot be accessed by machine. Litter on such verges requires the operative to disembark from their machine and remove it manually. As one operative explained, 'all this holds you back'.

- Where there are few parked cars and street furniture is minimal. Again specialist brushes help with this, but cleaning in such circumstances is painstaking work and not all litter may be collected.

- When the area is relatively quiet, with fewer pedestrians to inhibit progress.

- When there is relatively little litter. Where litter items are widespread, the operative has to choose between undertaking multiple passes, reversing to capture missed items or manually gathering items together. As one operative said: 'These machines are great for clean areas!'

The box suggests that mechanised sweeping works well in *less challenging* contexts. In such situations, large street lengths can be serviced quickly and thoroughly by a single operative and real economies of scale can be identified. In the case of Leeds, three sorts of area were identified which appeared to present particular challenges:

- inner city areas of back-to-back terraces characterised by high housing and population density, narrow obstructed streets and high levels of deprivation, footfall and litter;

- high-density areas of housing in multiple occupation populated by students, with a more vigorous night-time economy;

- garden city estates with a high concentration of families, relatively high deprivation and lots of grassed spaces, verges and gardens impinging on the street, and poor street surfacing quality.

While this discussion of mechanical sweeping identifies 'risk factors' for environmental challenges which are not an exact fit with those identified in Chapter 2, it does reinforce a central argument of this report: for service provision to be effective and for outcome equality to be achievable, service provision should be appropriate to need.

So far, the discussion has focused on the mode of service provision. However, the Leeds case study allows the issue of service level – which has been a more central theme of the report – to be addressed, this time from a different perspective.

- Explanation 2: How much service? Relative versus absolute service levels

The discussion of service levels thus far in the report has tended to focus on examining the distribution of service relative to contexts with differing characteristics and needs. As has been shown, service distribution in Leeds has a clear skew towards deprivation (Figure 30): indeed, it could be held up as an example of a real commitment to targeted provision. However, the absolute level of provision is also important. Despite receiving a larger share of this service, it appears that absolute service levels remain insufficient in deprived areas. Indeed, there is a significant difference in the absolute level of service provided to deprived areas in Leeds compared to similarly deprived areas in the other two case studies. In both Fife and Lewisham, deprived areas receive twice-weekly manual sweeps. In Leeds, even in the most deprived streets, the average frequency is between once a week and

once a fortnight (although these areas receive a top-up service from non-mainstream resources – see below). In deprived areas in deciles 7, 8 and 9 provision drops to a three-weekly mechanised sweep.

If we focus on more affluent areas it appears that both the mode and absolute level of provision are appropriate. Indeed, a significant number of excellent A grades are achieved in more affluent areas (Figure 9). This would appear to reinforce the earlier point that mechanised sweeping – even provided on a fairly infrequent basis – can be a very effective way of maintaining good cleanliness outcomes in areas which tend to be relatively clean anyway. Indeed, given that the Fife and Lewisham case studies suggested that the demands of residents of affluent areas can present real challenges for manual street sweepers, mechanised systems may be particularly beneficial in such circumstances. Thus, these areas can be cleaned thoroughly, without absorbing resources which might be more usefully deployed in areas with greater needs. However, for more deprived areas, it would seem that neither mode nor level of service is sufficient.

Finally, it is important to note that senior managers in Leeds are aware that poorer cleanliness outcomes are associated with higher deprivation levels. There are strategies in place designed specifically to try to tackle the gap which use non-mainstream resources to 'top up' core service provision. Indeed, Figure 10 showed that the gap had narrowed more substantially in Leeds than in the other two case studies. The final part of the Leeds story discusses this in more depth.

Topping up mainstream services

Additional services are provided in some of the most deprived parts of Leeds, via two central government funding streams, the Neighbourhood Renewal Fund (NRF) and the Safer, Stronger Communities Fund (SSCF). For the two years where the funds were fully deployed (2006/7 and 2007/8)[2] they provided additional resources to 'streets-related' services of £1.86 million, of which £1.06 million was expended in 2007/8 on employing additional cleansing operatives. Thus, in terms of direct service top-up, non-mainstream funds can be said to have enhanced service provision by some 12 per cent.

The additional service provision is targeted on the inner city wards and on seven intensive neighbourhood management areas (INMAs), designated for distinct concentrations of SOAs in the most deprived decile. The latter are a mixture of high-density, terraced mixed-tenure areas and garden city social housing estates.

Three main strands of additional services were provided:

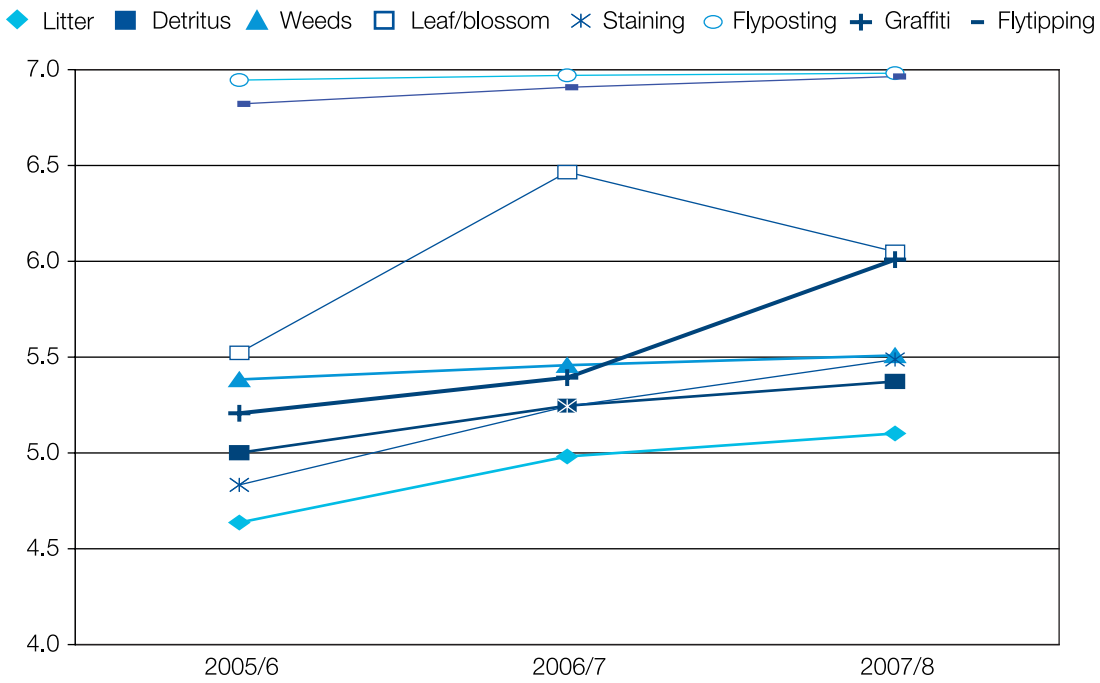
- An educational programme in primary schools designed to address littering and community capacity-building and engagement on improving environmental amenity, particularly in open spaces. This was delivered by Groundwork and was not funded to continue beyond 2007/8.

- A team of eleven Environmental Enforcement Officers, with a city-wide remit working with businesses as well as residents.

- Environmental Pride teams: there are twelve city-wide and it is these which represent the direct service top-up. The teams work alongside core environmental service staff in inner city wards and in a more intensive way in the INMA areas. In the INMA areas, operatives conduct thorough 'clean-ups', crossing boundaries into private and ALMO-owned land to ensure that an area is completely clean. Generic working is a key aspect of the approach: as well as traditional cleansing roles, staff were trained to undertake basic horticulture, joinery and brickwork (although interviews suggested that the vast majority of the actual work of the teams was directly cleansing-related).

Cleanliness levels in the neighbourhood management areas specifically have been monitored very intensively for the two years of the full intervention and, crucially, for the year prior to the intervention. Figure 31 shows a clear pattern of improvement within these areas across a range of environmental indicators. Crucially, the figure shows that, in relation to litter, transects in these areas no longer have a tendency to fail the acceptable threshold.

Figure 31: Mean cleanliness grades by year: intensive neighbourhood management areas



Sources: Local authority records.
Note: Outcomes in these areas were measured using the Local Environmental Quality Survey rather than the Best Value survey. A score of 5.0 is equivalent to the acceptable B threshold.

More generally, the extent to which the three case studies had managed to narrow the gap was identified in Figures 10–12. These figures showed that the gap in Leeds had begun to narrow from the sixth decile onwards, showing that improvements were not restricted to the very worst areas. This picture would appear to be consistent with that fact that extra resources have been distributed across inner Leeds, and also that additional educational and enforcement activities have also been developed. However, service top-ups provided via special government funding streams are inherently not sustainable. Unless additional services can be provided for the long term via core budgets, any improvements achieved must be under threat.

The Leeds approach is, arguably, a hybrid of key features of both the Lewisham and Fife approaches. Like Lewisham, programmed service is skewed towards need. Unlike Lewisham, however, the service provided in the most challenging areas is not commensurate with need. As a consequence, services are 'topped up' as in Fife: mainstream responsive services are used to offset the deficit in programmed service. And whereas in Fife manual street sweepers have found ways of working which provide further compensation, in Leeds non-mainstream-funded service teams are used for this purpose.

We cannot, therefore, readily use the Leeds case study to estimate the cost of achieving the improvements in cleanliness demonstrated for the more deprived areas of Leeds. Although a 12 per cent top-up of service provision has been identified, this should not be understood as the real cost of achieving the improved levels of cleanliness and narrowing of the gap identified. The evidence of the Leeds case study is that more deprived areas in Leeds are being under-served by basic programmed services: they are either inappropriate or too infrequent or both. A more cost-effective improvement strategy might involve altering the core service to take better account of different needs in parts of the city. This could mean retaining the mechanised approach in those contexts to which this seems suited while, over time, increasing the deployment of more frequent manual servicing in contexts for which mechanised systems seem inappropriate.

Key messages from the Leeds story

- It is the balance between the needs of an area and the service provided to it which matters for outcomes. A key question to ask in relation to any neighbourhood context may be: is the neighbourhood getting enough of the right kind of service?

- Non-mainstream resources can be used to deliver top-up services to address acute needs, with demonstrable improvements in outcomes. However, care should be taken to ensure that this form of provision does not mask deficiencies in core service provision.

- Mechanical sweeping systems can be highly effective in less challenging contexts, delivering good outcomes without intensive resourcing. However, this mode of provision can be inappropriate for denser, busier and more disadvantaged areas.

Conclusion: comparing the pathways?

This research did not set out to evaluate or even compare the approaches to service provision adopted in the three case studies. As has been highlighted, the purpose of the case study research was to illuminate the relationships between neighbourhood contexts, service inputs and cleanliness outcomes. The hope was that this would help clarify – for those interested in developing more targeted approaches to service provision – how to factor in the varying needs of diverse neighbourhoods when services were being developed and distributed. However, the research has not been able to uncover a clear, incontestable agenda which could guide service targeting. Interestingly, this is in large part because of the 'messiness' of policy and practice on the ground. In research terms, issues such as the informal practices of frontline staff, the inflexibilities created by substantial investment in mechanised cleansing systems, or the demands of affluent neighbourhoods have tended to obscure relationships between needs, service provision and cleanliness. However, it is important to recall that these issues represent the actual context in which service provision happens, and that they constrain the adjustments which can be made. For this reason, the stories of the three case studies should chime – in different ways and to different extents – with the various realities in which service providers operate. The case studies offer insight and allow reflection on whether adjustments to services might be desirable, as well as suggest pathways towards adjustments.

The chapter concludes by distilling some of the key issues which emerge from the case study stories in relation to achieving a clean sweep. Table 3 distinguishes a number of different aspects of service provision which may be important for achieving a clean sweep, and suggests how the three pathways illuminated via the case studies relate to these. It is important to note that this table is not an attempt to evaluate the actual case studies themselves. The three pathways identified below are examples of approaches rather than descriptions of the case studies. (Indeed, the Leeds case study is a hybrid of two pathways.) Rather, the table is intended as an accessible summary of the kinds of issues which service providers might want to consider in relation to alternative pathways to a clean sweep.

Table 3: Achieving a clean sweep: aspects and issues

Aspects of a clean sweep	Pathways to a clean sweep		
	Standardised services topped up to meet diverse needs	Augmenting mainstream services with non-mainstream provision	Programming core service provision relative to needs
Achieving equality of outcomes	*Yes* Can adjust service top-ups according to wide range of levels of needs. However, requires to be the underlying rationale for this way of working	*Yes* Can give intensive help to designated areas. But areas in need, but outside the designation, can miss out	*Yes, strongly* However, only when enough of the right kind of service is provided. It is important that 'bending the spend' is commensurate with need
Able to be sustained in the face of management, political or financial change	*Can be difficult* Easier to trim top-up services than reconfigure programmed, so susceptible to any of these changes	*Not really* Dependent on the availability of 'special' funds and on the political will and management capacity to both win and use these	*Yes* The aim to provide a clean sweep should be strongly embedded in service allocation and working practices
Cost-effective (i.e. not achieved at undue cost)	*No* May be a more expensive mode of provision as responsive services more expensive than programmed	*Possibly* Likely to be closely costed and may support mainstream services in working effectively. However, additional costs involved in bidding for and managing any additional resource	*Yes* Likely to be cost-effective, where programming reduces the need for responsive or special resources
Flexibility (capable of strategic adjustment and development)	*Yes* Top-up services can be readily adjusted to tackle needs	*Possibly* Flexibility tends to be limited to the designated areas, but additional funding sources may allow for new approaches to be devised and rolled out	*Possibly* Flexibility needs to be built into the system, in order that adjustments can be made as necessary
Responsiveness (to ad hoc needs and demands)	*Yes* A very responsive way of working which allows new or unforeseen needs and demands to be met almost as they arise	*Yes* Can be highly responsive to needs in designated areas. May be possible for short-run redeployment of these resources in other areas to cope with unforeseen needs	*Possibly* Needs to be supplemented with some responsive provision in order that unforeseen needs and demands can be met
Transparency (reveals the 'true' relationships between neighbourhood contexts, service inputs and outcomes)	*No* Reliance on expensive top-up services may make the outcomes in more challenging areas appear more costly than they actually are	*Possibly* Likely that the additional resources and services being provided will be obvious and impacts auditable. However, beware of mainstream services being withdrawn from initiative areas (i.e. substitution), making them appear more costly	*Yes* Should give an accurate assessment of the relative service costs of achieving a given outcome in diverse neighbourhoods. Can be packaged in ways which address political sensitivities over targeting need

4 Achieving a clean sweep: a toolkit

Building on the findings from our research, this chapter summarises the main conclusions and makes some key recommendations to help promote more equal outcomes and the narrowing of the gap between more deprived neighbourhoods and the average. We call this chapter a 'toolkit' because it tries to furnish authorities with the information needed to build support for and implement a more progressive approach, in a practical way.

Recommendations for local government

For local authorities, the key messages relate to three things:

- having a clear set of objectives for the service;
- using available data to build up a convincing picture of how services operate;
- reshaping service provision on the basis of that analysis.

What do you want to achieve?

This report has been concerned with equality and the 'narrowing the gap' agenda. Informed by the principles of social justice, we are concerned to identify how equal outcomes might be achieved. Clearly, authorities may have other agendas underpinning their work, such as utilising these services to support tourism and wider economic development agendas. These need not be in conflict with attempts to promote more equal outcomes but competing agendas do not always support the same policies.

It is not *inevitable* that poorer areas will have worse outcomes – this is perhaps the most important message from this research. Thus, while there is plenty of evidence that problems with litter and rubbish tend to be greater in poorer areas, there is also evidence that there can be good reasons for this and, crucially, that local authorities and national governments can make a difference to cleanliness outcomes.

Our detailed analysis of the three case studies has suggested that different strategies might be used to achieve more equal outcomes. In the long term, however, any strategy must rely on clear political support. Such support might be secured via a number of arguments:

- Evidencing the diversity of needs within an authority can be an important first step. The nature and extent of the risk factors relating to environmental problems are not widely understood by those not immersed in providing this service.
- Demonstrating that improved outcomes *can* be achieved by more effective service targeting will also help, even more so if these improvements can be shown to have wider benefits in relation to quality of life or neighbourhood satisfaction.
- Confirming that achieving more equal outcomes does not have to cost more than the existing mode of service provision. Indeed, for authorities that rely on top-up services to bring outcomes up to acceptable standards, more effective service programming could lead to cost savings.
- Establishing that achieving more equal outcomes does not have to mean a levelling down of standards. However, in some authorities, more cost-effective ways of achieving the high standards expected in affluent areas could be investigated, thus releasing resources to address needs more effectively.
- And, of course, achieving better outcomes can score important 'brownie points' for authorities

with local voters and with government. Clearly, national performance systems and targets are an important influence on local thinking. These are discussed further below.

Have you got a problem?

Assuming the authority adopts equality of outcomes as an important goal, the next step is to address the question: how even are standards between different kinds of area? To do this, authorities will need to be able to link the data they collect on outcomes to information on the characteristics of the streets or neighbourhoods where surveys were carried out. The box below provides some pointers on this but it is clear that this is easier and more effective if the authority has a systematic strategy for managing spatial data: a single list of addresses or property references and systematic management of geo-referenced data.

In analysing the data, it is useful to bear the following in mind:

- look at not only average grades achieved in different kinds of area but also the extremes (the As and the 'fails');
- look across the spectrum of neighbourhoods and see whether trends are continuous or moving sharply up or down at particular points;
- look at different categories of area or at divisions of the authority that reflect operational boundaries (does one division achieve more equal outcomes and if so why?);
- set your challenge in context by looking at your overall profile of need – are you a Leeds or a Lewisham?

Analysing outcomes

In our research, we tried out some very labour-intensive methods for looking at the equality of outcomes by analysing data at the level of streets or street blocks. In practice, we found that analysing data at the level of small neighbourhood units (Super Output Areas in England, Datazones in Scotland) gave very similar results for much less effort. We would recommend that authorities use the latter strategy.

The analysis is easiest if surveyors capture the precise co-ordinates for transects they are surveying using handheld GPS devices. (Ideally, surveyors would be instructed to capture the midpoint of the transect but, in practice, it will make little difference if it is the start or the end.) If this is done at the survey stage, it is a simple matter to use GIS systems to identify the SOA/DZ in which each transect is located. Having done this, the grade for each transect can be linked to information about the neighbourhood environment using data from the census or the relevant Indices of Multiple Deprivation.

If the location of each transect is recorded as an address, it is important that surveyors record the street name in a standardised format as well as the number of the nearest property. The task of matching data will be made much easier if the address is selected from a standard list for the authority. Accurate address information can be given a grid reference either directly (using AddressPoint) or indirectly (by identifying the full postcode).

Mapping your risk factors

This report identifies the various social and physical factors which tend to predict challenges for environmental service provision or a greater risk of poor outcomes. The two most important factors were (i) the concentration of low-income households and (ii) the presence of high-density housing. Young adults and children (young families) were also risk factors in some contexts. The box below discusses the kinds of indicators we use to measure these factors.

At the same time, the analysis also showed that the mix of risk factors varied between authorities. This might reflect differences in the nature of the housing supply or built form locally, or it might reflect differences in the ways that services are structured. There is clearly a lot of value in authorities conducting their own analyses of the kinds of factor that are most strongly associated with poor outcomes. This could be through analysis of results but authorities might also tap into the expertise of staff. Discuss with operational staff what factors they think might be

important. Ask them to consider, if they have not done so already, the various factors discussed in this report.

Once the factors have been established, at least in provisional form, authorities should then try mapping these (i.e. pinpointing patterns in where they occur). There is a recommendation from *Keep Britain Tidy* that authorities do this in relation density and 'levels of obstruction' for service operators (see box). Such maps would then enable authorities to monitor outcomes in relation to perceived risk factors: was there a gap in outcomes and was it narrowing over time?

Understanding risk factors

The main sources of data on risk factors would be the census, the IMD/SIMD and other spatial data held by the authority. The text in Chapter 2 discusses the kinds of variable we used to measure the presence of different factors in each neighbourhood.

Our analysis focused on the information available through the census for SOAs/DZs. This provided estimates of the presence of low-income households and of higher-density housing. We could then look at how average cleanliness outcomes varied with these characteristics.

Authorities hold a wide range of other data that might also be incorporated into these analyses. Examples would include information on levels of private renting in an area or the presence of HMOs. Databases on non-residential uses might identify the presence of amenities such as shops, takeaways, pubs and so on. The report suggested that physical characteristics of neighbourhoods, such as grass verges or planted areas, can make streets awkward to clean. It could be important to feed operational knowledge of where these occur into the analysis.

Authorities could decide to collect some or all of the information using the full LEQS/DLEQS survey instrument, rather than merely recording the information required for statutory performance indicators. The full survey is quite detailed and would require significant resources to analyse properly; the national agencies such as *Keep Britain Tidy* or *Keep Scotland Beautiful* could help here. Even collecting a small set of the indicators (e.g. on the presence of parked cars or other channel obstructions, or the levels of pedestrian and vehicle flows) could prove informative.

Keep Britain Tidy has recently amended the guidance to local authorities on sampling streets for the LEQSE surveys. To carry out surveys, it recommends residential areas be divided between High, Medium and Low Obstruction Housing. 'Obstruction' reflects variations in density but also levels of obstruction to cleansing operations: on-street car parking or obstructions of the pavement, for example. They believe these categories will also reflect variations in social characteristics to some extent. They suggest that authorities map the categories. If authorities did so, they could also analyse cleanliness outcomes against these categories and look at the distribution of services between different types of housing.

Where does the money go?

Probably the most difficult challenge for an authority is identifying where the money goes: which streets or neighbourhoods get a higher or a lower level of service? This is obviously a politically sensitive question as well.

The first question to ask is what politicians and staff *believe* the situation to be: does the authority think it is trying to achieve a neutral or progressive distribution, for example? How does it think it achieves this? On what basis does the authority think current programmed services are allocated? How much discretion or variation from 'the plan' does it think goes on? When was the allocation of resources last re-examined? Is the rationale for the distribution 'lost in the mists of time'?

In the current financial climate, authorities will be under increasing pressure to do more with fewer resources. This kind of review of expenditure could help to identify areas where extra resources are being spent without a clear reason for doing so.

Having reviewed what the authority believes the situation to be, two alternative strategies exist for identifying where money actually goes in practice: top-down and bottom-up.

The top-down answer: work from beat maps and other records

One approach is to work from records about how the service is delivered. In some authorities, these are still only available in the form of paper records. In others, they have been captured electronically either in the form of a simple database of streets or, in some cases, as a proper GIS database linked to the authority's mapping systems. The next box explains how we worked in our analysis.

The key question is whether the beats covering the more deprived/higher-density/lower-income neighbourhoods tend to have higher or lower workloads. Our analysis suggests strongly that beats covering these more demanding areas should have lower workloads to compensate, but that this is not always the case in practice. Check your situation.

Note that it will always be necessary to deviate from the beat system from time to time – to use more top-up services in particular locations in response to changing needs or emerging problems. But these deviations should be made from a system which captures what is usually done effectively.

Another useful source of information is the records on responsive services that authorities hold. One of the by-products of programmed services that are poorly targeted is likely to be greater demand for responsive services, as our analysis in Chapter 3 highlighted. That data might provide a benchmark against which to assess the degree of topping up that is going on. It would be particularly helpful to look at changes over time in the demand for responsive services if the authority were seeking to target programmed services more effectively.

The bottom-up answer: talk to operational staff

A second strategy for understanding the current organisation of services, as well as planning for their reorganisation, is to talk to operational staff. Frontline staff, supervisors and operational managers will all have opinions about how equal workloads are, whether particular beats or patches are more or less challenging and which areas continually need topping-up services. All of this is fairly readily available knowledge and it was an approach that seems to have served authorities such as Lewisham well.

Staff may well be a source of other information. Do they believe that services generally follow the patterns set down in beat cards or lists, or is there a lot of covert redistribution going on? Do they feel that they work to a clearly defined set of tasks or that they are having to use their initiative to a large degree? Do they feel that they are under pressure to do more in the more affluent areas?

Clearly, the two approaches are likely to be complementary. Indeed, additional insight might be achieved by comparing the results of the two. However, the importance of the intelligence which can be gleaned from talking to frontline staff should not be underestimated.

Where does the money go? The top-down answer

The first stage is to ensure that beat data for programmed services is available within a GIS. In two of the case study authorities, we had to work with paper records of beats only. We captured beat information electronically by recording which parts of each street were swept by which beat and with what frequency. Producing and checking this data was fairly painstaking work but, once done, should be easy to update. Against the potential efficiency savings, it could well be justified.

The next stage is to estimate the relative workload of each beat in the sense of the number of addresses or the length of street serviced. (This does not try to take account of the nature of the areas serviced by the beats.) For each street/part of street, we calculated the number of dwellings x frequency of sweeping plus the length of street (in metres divided by 5) x frequency of sweeping. (The division by 5 is used to ensure that street length and dwellings carry approximately equal weight but the figure will obviously depend on local circumstances.) The beat's workload is the sum of these elements.

Third, is to identify the relative level of deprivation for each beat. The simple way of looking at how resources are distributed is to use the GIS system to attach a deprivation score/decile to each beat, by laying beats over

SOA/DZ boundaries. This is a slightly crude process, especially for mechanised beats that cover relatively large areas, but a good starting point.

How can you target more effectively?

The case studies suggest a number of different ways in which service provision can be targeted towards need and therefore compensate for the 'risk factors' which make service provision more challenging. Before summarising these, it should, however, be emphasised that getting *absolute* levels of service right is a fundamental prerequisite for effective targeting strategies. Indeed, it can be counterproductive for poor neighbourhoods to appear to receive higher service levels than other kinds of areas when this is still not enough. Indeed, the argument for targeting can be undermined when such neighbourhoods continue to show poor outcomes.

- The most straightforward targeting strategy is to vary cleansing frequency with need. This approach is already adopted in all authorities to some degree: it is standard, for example, for city and town centres to be cleansed more often than other kinds of area. However, political and local sensitivities can be provoked when frequencies are varied between different kinds of residential neighbourhood. A final but important point is that the capacity of operational staff to provide a particular street with a specific actual frequency of service will be determined by the overall size of their workload.

- A complementary strategy to varying service frequency is, therefore, the engineering of the apparent workload of operatives. Thus, the distribution of dwellings and street length between operative workloads should reflect the distribution of 'risk factors' and the actual level of effort required to maintain acceptable cleanliness thresholds. This approach to targeting can be more attuned to political sensitivities as it need not draw attention to the fact that targeting is taking place.

- For some authorities, rebalancing expenditure between responsive and programmed service could result in an approach targeted more towards need. Indeed, providing more programmed service in deprived areas might be more cost-effective than deploying significant levels of catch-up responsive service.

- Operational staff need to have a certain degree of flexibility so that they can deploy their efforts where they are needed. This might mean ensuring that the right operative is in the right beat, as not all might be willing or able to use their discretion in order to improve outcomes. There is a need to balance top-down planning and organisation with a system which recognises the value of local and experiential knowledge.

- Use manual sweeping where it is necessary and mechanised sweeping where there are scale advantages. Indeed, as machines become obsolete, the strategic use of manual sweeping in areas of higher need may be more effective than mechanical systems.

Recommendations for national governments and agencies

The importance of national targets

National targets for street cleanliness appear to have been effective in driving local authorities to re-examine this service and its outcomes: this is a key message for government. Thus, in all three authorities, staff described how they felt there was now greater local political interest in standards achieved and increased scrutiny of their operations. This had come as something of a shock to a service area which had not been much used to scrutiny until relatively recently.

However, existing national targets could be more effective in supporting the 'narrowing the gap' agenda:

- by more clearly signalling that authorities should aim to narrow the cleanliness gap;

- by defining targets so that they encourage and reward authorities for making progress on this front. One way would be through a direct target for more deprived neighbourhoods but this might create measurement issues and be more politically unpopular. An alternative would be through an indirect target that encouraged a focus on improving the least clean areas first and, as a result, would tend to focus attention on more deprived neighbourhoods.

One point to note is the difference between current practice in Scotland and in England. In the former, the target is defined in terms of an average score equivalent to a B. In the latter, it is defined in terms of the proportion of transects below B. These targets may represent the same average standard but the latter version carries within it an implicit incentive to focus on the worse-performing areas since that is where the majority of failing transects will be found. With the Scottish version, it might be easier to achieve the required standard by raising Bs up to As rather than Cs to Bs.

The recent change in the English target takes the approach there a stage further. In the old system, any score below B was regarded as equally bad – a B/C penalised the authority just as much as a D. Now, a B/C carries half the weight of a lower score, rewarding authorities that progress towards a B but just fall short and, effectively, giving a further incentive to focus on the worst transects first.

If average grades are used (as in Scotland at present), another way of directing attention to neighbourhoods with lower standards is to adjust the values used to create the average score. At present, the gap between A and B is the same as that between B and C. In calculating an average, therefore, one A is enough to cancel out one C. Increasing the gap between B and C would reduce the benefit of scoring an A and would therefore encourage authorities to focus more effort on improving outcomes in the worst areas.

Measuring cleanliness with sufficient discrimination

The cleanliness survey methodologies have been developed by independent agencies (Keep Britain Tidy, formerly ENCAMS, in England; Keep Scotland Beautiful in Scotland). These have provided robust and detailed measures of street cleanliness that enable systematic comparisons of trends over time and of variations between places. Nevertheless, some minor comments are worth noting. One issue is the need to have measures that are sufficiently discriminating that they pick up variations in standards accurately. The seven-point scale used in the English BVPI and LEQS seems to be about right. By contrast, the four-point scale used in the LEAMS system in Scotland seems too limited. It may be easier to administer but the information it provides is less valuable as such a large proportion of results are graded B. A second issue is whether the definitions of the grades are appropriate. Given that so many grades cluster around the B standard, reliably distinguishing variations between these is important. Measures should identify: streets that just miss the standard; those that meet it but no more; and those that meet it comfortably even if they do not achieve the A grade.

Management of geographic data

A final, broader issue relates to the collection and management of geographic data within authorities. It was all too evident from our research that the implementation of effective systems for capturing and managing geographic information could pay great dividends in terms of operational management but were some way off in many cases. Efforts were clearly being made in some authorities to make greater use of common databases but operational staff could not see the immediate benefits to themselves of such approaches and, as a result, were often content to work with systems they knew. Both national government and the environmental agencies could consider how to encourage more effective data management.

Concluding comments: the wider mainstreaming agenda

It is hard to argue against the idea that mainstream public services should be used more effectively to counter need and disadvantage. A key rationale for public sector provision is its capacity to offset the inequities created by the market. Although the 'narrowing the gap' agenda has retreated

from the foreground of policy, the focus on the outcomes of public service provision makes it inevitable that differences between places and people will be highlighted more than ever. This research has shown that it is possible to deploy mainstream street cleansing services in ways which close the gap in outcomes between more and less disadvantaged areas. This is not to downplay the technical and political challenges involved in achieving this. Indeed, a problem which cuts across both is that relationships between expenditure and outcomes are confused and complex, so it is not always possible to see clear improvements from increasing expenditure. It is fundamental then to conduct detailed analysis of the risks and difficulties across different contexts and then to ensure that these are fully compensated for with enough of the right kind of service provision.

The lessons from this research apply not just to street cleansing, but to a range of services. Most obviously, they will be highly relevant to services orientated specifically towards places, such as road and highways maintenance, street lighting and open space maintenance. We would expect that the ideas in the toolkit could be applied to these directly. For other services which provide their functions on an area basis, such as schools and primary health care, key lessons still apply: the need to understand the context of service provision in detail and in relation to other contexts; the importance of programming the basic service according to need, rather than relying on expensive top-up provision; and, finally, the necessity of a finer-grained understanding of the actual work done by those who provide services. Better, more cost-effective and more equal public service provision would surely be achieved if the relative size of the official workloads of staff, from street cleaners to school teachers, social workers and GPs, properly reflected the level of need and challenge in their beat, classroom, caseload or patient list.

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Glossary

ALMO	Arms Length Management Organisation
APSC	Association for Public Service Excellence
BVPI	Best Value Performance Indicator
CIPFA	Chartered Institute of Public Finance and Accountancy
CLG	Department for Communities and Local Government
COA	Census Output Area
COSLA	Convention of Scottish Local Authorities
DLEQS	District Local Environmental Quality Survey
DZ	Datazone
GIS	Geographic Information System
GLUD	Generalised Land Use Database
HMO	Houses in multiple occupation
IMD	Indices of Multiple Deprivation
INMA	Intensive neighbourhood management area
KSB	Keep Scotland Beautiful
LEAMS	Local Environmental Audit and Management System
LEQSE	Local Environmental Quality Survey of England
LGA	Local Government Association
LSOA	Lower Super Output Area
NRF	Neighbourhood Renewal Fund
SHE	Survey of English Housing
SHS	Scottish Household Survey
SIMD	Scottish Indices of Multiple Deprivation
SOA	Super Output Area
SOA	Single Outcome Agreement
SOLACE	Society of Local Authority Chief Executives
SSCF	Safer, Stronger Communities Fund

Notes

Chapter 1

1 The English system incorporates intermediate grades such as B+ and C–.

2 In England, these were the Indices of Multiple Deprivation (IMD) and, in Scotland, the Scottish Indices of Multiple Deprivation (SIMD). Dates vary but details are given at the appropriate point in the text.

Chapter 2

1 The English and Scottish indices are constructed using similar methods and data. They measure the deprivation of each neighbourhood relative to others in the same country. It is reasonable to compare neighbourhoods from England and Scotland on the same scale since the two indices produce similar results. For example, neighbourhoods in the ninth decile in Scotland have quite similar levels of income and employment deprivation to those in the ninth decile in England.

2 These were: the Survey of English Housing (SEH); the Scottish Household Survey (SHS); the Best Value Performance Indicator (BVPI) household surveys, and the Local Environmental Quality Surveys of England (LEQSE). Data from all these surveys were linked to data on neighbourhoods covering socio-demographic factors and urban form. The neighbourhood data was derived from the census, the Generalised Land Use Database (GLUD), the Indices of Multiple Deprivation (IMD) and Scottish Indices of Multiple Deprivation (SIMD) and other data compiled in the JRF study Transforming Places: Housing Investment and Neighbourhood Market Change (Bramley *et al.*, 2007).

3 The 'CityForm' survey (see Bramley *et al.*, 2009).

4 All variables were derived from census data.

5 Based on CLG Local Government Finance Revenue Outturn data and CIPFA data from Financial and General Statistics (England) and Rating Review (Scotland).

Chapter 3

1 DLEQS surveys of transects over past three years, although only a small number of surveys had been carried out in Karl and Robert's beats.

2 These were being phased out at the time of the research.

Appendix A: National data sources and analyses

The proposal included provision for a 'national overview of the relationships between area need, expenditure and cleanliness', which would be produced using readily available data sets. This was to be conducted at the start of the project to provide a broader context within which to understand the individual case studies. In the event, some of this work was picked up again at the end of the project utilising newly available data sets. The analysis sought to describe and relate together the following types of measure:

- Need: Measures of need provided by national data sets such as the census and (Scottish) Neighbourhood Statistics, including both *socio-economic and demographic factors and physical urban form* factors such as density.

- Service inputs: These are measured using expenditure on specific service headings recorded by local authorities in returns to government or CIPFA.

- Cleanliness: This is assessed by using national household surveys in which interviewees report problems with litter and rubbish, or by sample inspection surveys which provide a rating on the quality of the environment.

In some of these analyses, cleanliness outcomes recorded by individuals are related to characteristics of the local neighbourhood or small area; in other cases only broader relationships at local authority level are possible.

We first reviewed a range of surveys for potentially relevant information, including the English and Scottish House Condition Surveys (EHCS, SHCS), the British and Scottish Social Attitudes Surveys (BSA, SSA), and MORI local residents surveys, but decided to focus primarily on the Survey of English Housing (SEH for 2003/4) and the Scottish Household Survey (SHS 1999–2005) data sets for which we could establish a linkage with neighbourhood-level needs data. Subsequently, we were able to access several further data sets with more partial geographical coverage but which offered other advantages: the CityForm survey data (which had better urban form measures for five cities), Best Value Performance Indicator (BVPI) survey data for 110 English urban local authorities in 2007, and the Local Environmental Quality Survey of England (LEQSE) sample inspection grading data provided for 40 urban local authorities by ENCAMS/KBT. Descriptive tables and charts relating reported litter and rubbish problems to neighbourhood deprivation and density levels were presented, as shown in Figures 2 and 13 above. These enable comparison between two sources/points in time for England as well as between England and Scotland. Inspection scores from LEQSE are also presented by deprivation levels as in Figure 3.

Information on expenditure per capita on street cleansing services and on a wider set of environmental services were obtained from CIPFA statistics and from CLG Local Government Finance Revenue Outturn data. Although these can be related to the cleanliness outcomes, as in Figures 18–21, the spending data is only available on a general basis at local authority level, so it is more difficult to draw clear conclusions on the effects of expenditure, and clearly many other factors are involved in influencing outcomes.

A considerable number of indicators of socio-economic, demographic and urban physical form characteristics of neighbourhoods can be compiled for neighbourhood-level areas and attached to the survey data sets. In addition to deprivation and density these include such factors as age groups, household types, housing tenure and housing type (e.g. percentage of flats). We can also consider the influence of individual or household characteristics (age, household type, work status, income, car ownership, tenure, house type and so forth) on the experience and reported dissatisfaction levels in the surveys. These were then used in statistical analyses using multiple regression analysis and logistic regression in order to try and predict levels of perceived problems of litter and rubbish. The purpose of these analyses was to establish how the direction and strength of relationships between particular variables, such as deprivation, density or local authority expenditure

levels, impacted on the litter/rubbish problems, while controlling for the influence of other variables. These models also yield insights into some of the other factors which may influence these outcomes. As such they provide a way of triangulating and supporting the evidence derived from the local case studies, and showing how those local patterns are representative of a wider picture across the UK.

We do not describe all of these analyses in detail in this report. Section B of Chapter 2 provides a summary of the findings, highlighting the pervasive influence of deprivation and urban form but also those other variables which contribute to explaining systematic variations in output. Figure 14 provides a representative output from this work, based on the 2007 BVPI survey for urban areas in England and referring to a regression model where the explanatory variables were grouped together using the technique of factor analysis.

Appendix B: Case study data sources

Quantative methods

We were able to conduct the analysis of service inputs, neighbourhood characteristics and cleanliness outcomes at the very small area level. For two of the case studies, the analysis was conducted at the level of the street. For the third an even smaller unit of analysis was possible: segments of streets comparable with the American 'block'. This means that the analysis was conducted at spatial scales with an average population of around 50 to 100 persons. This is much smaller than traditional small area analysis which tends to be done at best at the level of the Census Output Area (around 150 to 300 persons) and, at worst, at the level of wards (several thousand people). The spatial scale of the analysis makes this research both innovative and powerful in relation to the questions it addresses. The research also involved sourcing data on service inputs and street cleanliness which has never been used before in social research. This new data has been combined with other sources of data (such as the census) to produce a sophisticated database.

Cleanliness outcomes

Data on outcomes comes from a number of similar sources, all produced by independent, trained surveyors. In England, all authorities had data collected for the purposes of performance reporting (the Best Value measures). Some authorities had collected additional data using the LEQS methodology (developed by Keep Britain Tidy) that covered not only the Best Value indicators but provided a range of additional information. In Scotland, the one case study had collected information under the equivalent performance regime using the LEAMS statutory performance audit system. In one authority, Leeds, additional survey work had been carried in a subset of areas as part of an initiative to improve environmental outcomes.

In all cases, the basic unit of the survey was the transect – a 50-metre length of street. The basis of the methodology is for each authority to divide its urban land area between a range of land use categories, and then to select a random sample of streets for surveying from each land use category. Longer streets would have more transects to reflect their size. Trained surveyors record grades for litter and rubbish, and other information as required.

We were interested in outcomes in areas that had a residential component. We selected surveys that had been conducted in residential areas but also those in secondary retail areas (small shopping centres in housing contexts) and surveys on highways that were not main roads. We excluded surveys conducted in primary retail areas, transport areas, industrial or warehousing areas, rural roads, main roads and recreational areas.

For surveys conducted in residential and related areas, the key issue for us was identifying the precise location of the survey. Unfortunately, the quality of locational detail was highly variable. In some (earlier) cases, no locational information was recorded and we were not able to make any use of this data. In other cases, location was recorded in the surveyor's shorthand, often using non-standard (or misspelt) street names and without recording location within the street or recording it in non-standard ways ('2nd lamp post on the left', for example). This required extensive manual recoding to produce data which could be clearly linked to a specific street, but not to a section of street. It was rare for surveyors to record locations using the authority's standard gazetteer of street names or its unique property reference numbers. In these authorities, analysis was carried out at the level of streets since that was the smallest unit for which we could reliably establish the location of surveys.

In one authority, Lewisham, there had been widespread (though not universal) use of handheld GPS devices to capture the precise co-ordinates for the transect; the additional surveys conducted in Leeds had also been done by surveyors with GPS. In this case, it was a simple matter to link the data to our database. Indeed, we were able to analyse the information at the level of the street segment (equivalent to the American 'block'). This also gave a much higher success rate in matching data to our database, maximising the value we were able to extract from the information.

Service inputs

Data on service inputs came from a range of sources and was apportioned to streets or street segments on the following basis:

- Programmed services had records in a range of different formats, varying from proper databases (lists of streets and the frequency of sweeping) to paper lists with handwritten notes on sweep frequency or photocopies of sections of map with highlighting in different colours. Converting paper records into a form that we could use was a significant task in itself but formed an invaluable basis for the subsequent work. Existing databases could identify the number of dwellings serviced in each street and the length of street covered. By combining information on the number of streets and the sweep frequency with data on dwellings and street length, it was possible to identify total workloads for each beat (i.e. the number of dwellings and length of street covered each week by the sweeper, whether manual or mechanised). Assuming that each beat represents the same unit of resource input (i.e. costs the same), and knowing how frequently each street was swept, we can apportion programmed inputs to dwellings in each street.

- Responsive services work through job lines issued through central reporting systems. It was a relatively easy task for each authority to provide a list of jobs, with brief details on the nature of the job and the location. The latter was sometimes based upon a standard database of addresses but, often, required manual conversion to link to a spatial reference. Once jobs had been geo-coded, we could identify the number of jobs in each street and hence apportion responsive services to dwellings.

- Special services were only an issue in Leeds. Here a similar system operated as with responsive services, with the authority maintaining lists of jobs issued to the teams funded by these additional streams. This expenditure could therefore be apportioned on the same basis.

Neighbourhood characteristics

Data on neighbourhood characteristics was obtained from the census, the official Indices of Multiple Deprivation (the IMD or SIMD) and a number of other data sets held by the local authorities.

The basis of our analysis was determined by the cleanliness data. This was available for streets or street segments, with average populations in each authority of 44 to 88 (see Table B1 below). The smallest area for which census data is available is the Output Area (COA) – a unit with an average population of 300 in England and 150 in Scotland. To estimate the characteristics of streets, we therefore apportioned data from COAs to streets by identifying which COAs the dwellings from each street fell into.

The national deprivation indices are compiled for larger units: SOAs in England, Datazones in Scotland. In this case, we used a two-stage process, first producing estimates of deprivation scores for COAs using a modelling approach, and then apportioning COA scores to streets in the same way as previously.

One of the aims of our work was to explore the extent to which it was necessary to work at such a fine spatial scale in order to identify the most important patterns. We also tested a much simpler approach to identifying street characteristics by simply identifying the SOA or DZ in which the midpoint of the street was located. We could then attribute the characteristics of the SOA/DZ to the street. In our analyses, we found that this much simpler approach made almost no discernible difference to the results, and we recommend that authorities adopt this method.

In Table B1, we summarise the nature and sources of the data obtained for each case study.

Table B1: Data sources

	Spatial scale	Number of spatial units (average population)	Index of deprivation	Source of outcome data	Period for which have outcome data	Number of relevant outcome surveys* (per cent matched to street database)
Fife	Street	4,100 (88 persons)	SIMD 2006	LEAMS (4-point scale)	2004/5 2005/6 2006/7	2,202 (74)
Lewisham	Street segment	5,700 (44 persons)	IMD 2006	LEQS (7-point scale)	2005/6 2006/7 2007/8	1,556 (81)
Leeds	Street	10,040 (71 persons)	IMD 2006	*City-wide:* BVPI 199 (7-point scale) *Most deprived SOAs only:* LEQS (7-point scale)	2004/5 2005/6 2006/7 2007/8 2005/6 2006/7 2007/8	1,978 (49) 2,907 (89)

*** Excludes surveys in non-residential land use classes.**

Appendix C: Qualitative research methods

The qualitative dimension of the project had two core aspects. The first aimed to understand the strategic context of service provision; the second how services actually operated on the ground.

Strategic context and interviews

This involved interviews with managers and key personnel within each case study to understand the context of service provision including the aims and underlying principles of the service, the political context under which it operated, and its history. The discussions also covered how managers perceived the challenges faced at an operational level in the various contexts in which services were provided. These interviews were also used to gain access to data on cleanliness outcomes and the distribution of services and expenditure.

The number of interviews carried out in each case study varied according to the number of personnel involved in managing the service in each locality. In addition, some individuals were operational managers but who could also offer strategic insight. These individuals are included under this heading, although they clearly also provided significant information about operational managers.

In *Fife*, a number of managers (eight) with varying perspectives on environmental service provision took part in a group discussion at the outset of the research. One-to-one interviews were conducted with a further ten staff members. A presentation of the results of the Fife case study was made to three senior managers and written reports provided. This helped to validate the findings and enhance our understanding of their import. No significant amendments were made to the research findings as a result of this feedback process, although the research findings fed directly into a departmental review of service provision.

In *Leeds*, four managers were interviewed (one on two occasions) and the results of the Leeds case study were presented to two managers in a specifically convened meeting, together with written reports. No significant amendments were made to the findings as a result.

In *Lewisham*, eleven managers were interviewed on a one-to-one basis. The results of the Lewisham case study were fed back via a written report only with no significant amendments.

Operational context and interviews

Frontline operatives, supervisors and local managers were consulted on actual working practices and variations in need for service across different neighbourhood contexts, as well as being asked for their views on the challenges of providing street-sweeping services in diverse neighbourhoods. This work involved shadowing manual street sweepers, Environmental Pride teams and community wardens as they went about their work, as well as ride-alongs with mobile teams and mechanical sweepers and visits to and discussions about a range of sites within each authority with supervisory staff. The discussions were conducted on individual and group bases. A few lasted a few minutes, but the majority were of at least an hour or more's duration. Table C1 details the nature and spread of operational staff consulted for each case study.

Table C1: Category of staff consulted for each case study

Category of staff	Fife	Leeds	Lewisham
Supervisory	6	3	3
Street sweepers (manual)	4	1	6
Street sweepers (mechanical)	–	2	–
Mobile squads	9	12	11
Environmental wardens	8	2	2

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