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Targeting Community Safety Projects: The Use of Geodemographics and GIS in the Identification of Priority Areas for Action

by

Peter J.B. Brown, Alex F.G. Hirschfield, Steven Merrall, Kate J. Bowers and John Marsden

respectively,
Technical Director, Research Co-ordinator,
PhD Research Students and Senior Experimental Officer,
Urban Research and Policy Evaluation Regional Research Laboratory (URPERRL),
Department of Civic Design, University of Liverpool,
Abercromby Square, Liverpool L69 3BX

[email for correspondence : pjbbrown@liv.ac.uk]

Abstract

The targeting of resources into small areas is being used increasingly as an essential part of efforts to combat crime, reduce fire risk and address a variety of related community safety issues. The logic behind this approach is in many ways self-evident - in trying to tackle a pressing problem by seeking to maximise the return on the investment of personnel, equipment, etc by focusing attention upon the 'worst' areas. However, some types of problem are more geographically concentrated than others, and thus, arguably, more susceptible to this form of area-based priority setting. On the other hand, other types of problem may be more evenly distributed across geographical space and thus more difficult to 'hit' by means of a primarily area-based approach to resource allocation.

This paper draws upon projects undertaken by URPERRL on behalf of agencies in north west England which have featured either priority area identification or priority area performance evaluation. Reference is made to different approaches that can be adopted to the identification of priority areas and their efficiency or effectiveness in terms of the extent to which they capture the highest levels of incidence of 'problem' behaviour and/or the scale of the activity of interest. This includes consideration of methods ranging from those based simply upon geographical targeting to methods involving representation of underlying social and economic conditions, as captured by a small area geodemographic typology, such as Super Profiles.

For this purpose use will be made of data relating to the spatial distribution, and degree of spatial concentration, of fire incidents within the areas served by Merseyside Fire Brigade and the Greater Manchester County Fire Service (GMCFS) plus crime data employed in an earlier investigation of links between crime and social disadvantage on Merseyside.

The varying degrees of concentration of incidents is illustrated with the aid of information derived from a spreadsheet-based analysis which is complemented by the visualisation of these features using a Lorenz curve-based form of presentation which provides a convenient way of comparing the degree of concentration of different types of risk. Finally, the scope to highlight significant features of the spatial distribution of areas of relatively high and low risk is illustrated using basic mapping functions supported by a widely available GIS package.

1. Introduction

The targeting of resources into small areas is being used increasingly as an essential part of efforts to combat crime, reduce fire risk and address a variety of related community safety issues. The logic behind this approach is in many ways self-evident - in trying to tackle a pressing problem by seeking to maximise the return on the investment of personnel, equipment, etc by focusing attention upon the 'worst' areas. However, this area-based form of targeting represents only one of a series of different approaches to targeting that are the subject of a wide-ranging review by Hirschfield and Bowers (forthcoming). They note the key role that targeting has played in policy regimes that have sought to ensure that scarce resources reach those in greatest need. These can be exemplified by social policies aimed at reducing poverty and deprivation where the recipients or beneficiaries can be individuals, families, social and 'client groups' (such as pensioners or disabled people) or urban regeneration programmes intended to turn around the fortunes of deprived areas.

Similar issues are raised in the targeting of crime prevention and community safety programmes where equal importance can be attached to the choice of scale and the prioritisation of entities to receive resources. Here the targets of crime and disorder that require protection may be individuals (e.g. those vulnerable to assault or robbery), households or family units, social, ethnic or client groups, properties (vulnerable to arson or burglary), organisations and institutions, or public places (e.g. places affected by disorder, juvenile disturbance or arson attacks on vehicles). Two further factors that affect the logistics of targeting are the temporal dimension (i.e. when to target or intervene) and the spatial dynamics of targeting. The latter issue concerns whether effort should continue to focus on the same area, the same properties, the same individuals over time or to adopt a more flexible approach and switch to new targets.

Efforts to target resources inevitably face dilemmas that usually revolve around questions of fairness, equity and territorial justice. As a form of rationing, such efforts often expose the extent to which some people or places are excluded from action as clearly as they highlight the plight of those that will benefit from the effects of resource deployment. If priority areas are used as a form of rationing, there is likely to be debate about the ability of the specified boundaries to differentiate fairly between high and low levels of need and entitlement.

Some types of problem are more geographically concentrated than others - and thus, arguably, more susceptible to this form of area-based priority setting. For example, the Home Office evaluation of anti-burglary schemes implemented through the Safer Cities programme suggested that the targeting of resources on burglary 'hot spots' can and does impact significantly upon crime in such areas (Ekblom, et al, 1996). On the other hand, other types of problem may be more evenly distributed across geographical space and thus more difficult to 'hit' by means of a primarily area-based approach to resource allocation.

In this paper we shall illustrate a common approach that can assist in the process of identifying priority areas. The first, simpler form of area-based targeting is exemplified by drawing upon a project undertaken on behalf the Greater Manchester County Fire Service (GMCFS) that is described more fully elsewhere (see Brown, et

al, 1998). The second example used indicates how the same approach can be taken further to include consideration of how a measure of the level of deprivation, as captured by a small area geodemographic typology, can be employed to assess the extent to which exposure to risk of victimisation varies by type of area and thus found to be correlated with the degree of deprivation (as discussed by Hirschfield, et al, 1995 and Brown, et al, 1996).

2. Area Targeting and the Spatial Concentration of Fire Risk

The commissioning of the project by GMCFS (see brown, et al, forthcoming) reflects the fact all fire brigades face the common challenge of trying to maintain and improve the efficiency and effectiveness with which they deliver their services. Typically, they have come under increasing pressure to reduce response times, fatalities and casualties and to identify where fire safety and education initiatives should be focused, all within strict financial constraints. These pressures have led to an increasing emphasis upon the need to target resources and demands for fire brigades to make improvements in the accuracy and availability of operational information that can be drawn upon in seeking to implement the above types of policy. Fire incident statistics provide the starting point for the derivation of information of this type. Here we shall illustrate some steps taken by the largest fire brigade in the UK outside London to improve the quality and usefulness of the information it derives from the wide range of incident data that it collects on a regular basis.

The GMCFS serves the 500 square mile region covered by the former metropolitan county of Greater Manchester, which has a resident population of approximately 2.6 million. The local government of the area is administered by 10 metropolitan district authorities, each of which provides a full range of local services. However, the fire service continues to serve the entire area of the former metropolitan county authority (Greater Manchester County, created in 1974 at the same time as GMCFS) which was abolished in 1986. An impression of the scale of its operations is provided by the fact that GMCFS dealt with a total of nearly 67,000 incidents in 1997, of which 30,000 were fires and almost an equal number were false alarms. A further 7,000 incidents related to so-called ‘special service calls’ where attendance was required at such incidents as traffic accidents, lift/elevator rescues, floods, etc., which did not necessarily involve a fire.

For some time, the brigade has pursued a policy of promoting fire safety and, in particular, community fire safety, in an effort to educate the public in the best principles of fire prevention. The brigade’s fire prevention programmes have been based on monthly incident records from which performance of the brigade’s five operational divisions and 41 station areas can be reported and the effectiveness of fire safety campaigns monitored. However, more recently, the need has been recognised for a more detailed understanding of the distribution and patterns of fire incidence, between different geographical areas within the county, so that a broader strategic view can be reached relating to the targeting of resources. This strategic view is required to take into account a wide range of demographic, housing, social, economic and environmental factors which can be related to the fire and other incidents which are attended by the brigade.

Here we draw on the outcome of the first phase of a programme of work carried out by URPERRL, commissioned by GMCFS, which has involved assembly of the data required to produce the desired strategic overview and completion of some exploratory descriptive analyses. Prior to the above programme of work, GMCFS had been unable to break down its incident statistics to smaller areas than its five operational divisions and 41 station areas - plus the ten metropolitan districts to which reference has been made above. The principal advance of the project concerned the delivery of breakdowns of fire incident statistics, and associated maps, relating to the finer geographical units represented by the 214 electoral wards into which the 10 districts are subdivided (see Figure 1 for a plot of the ward and district boundaries, and Appendix 1 for a listing of the wards falling in each of the constituent districts - to which reference is made in later sections of the paper). The 214 wards in the Greater Manchester area have an average population of approximately 12,000.

As well as their electoral significance, the wards are important as they are also used for the publication of data derived from the 1991 Census, upon which a number of further analyses can be based. Indeed, subsequent work has included the analysis of census data at the much finer, enumeration district (ED) level, of which there are c. 5180 in the study area, with an average of 500 persons or 150 households per ED.

By identifying the ward (and ED) in which an individual incident occurs, it is possible to establish not only the **total number** of similar incidents of a specific type in the ward, but also to derive **rates of incidence** with respect to an appropriate 'population at risk'. The latter may be expressed in different ways, such as, for example, the resident population or number of households. Significantly different conclusions may be derived from analyses based on such incidence rates from those based solely on the consideration of total numbers of incidents.

The availability of information in this form has enabled a number of basic research questions to be addressed, and made it feasible, for the first time for the Greater Manchester area, to investigate a number of important issues relating to variation in fire risk at neighbourhood level. These have included the following:

- Where are the worst wards in Greater Manchester for different types of fire?
- How much of the problem is concentrated in the worst wards?
- Are some types of incident (e.g. malicious calls, arsons) more geographically concentrated than others?

Answering questions of this type is important as it helps to establish how much of a problem (e.g. relating to malicious calls or malicious false alarms, sometimes referred to as 'hoax' calls) can be captured by targeting specific areas for action. For certain types of incident, it may prove possible to isolate a significant proportion of events in a relatively small number of areas whilst others may be more widely distributed. This information is likely to have important implications, not only for fire cover, but also for the targeting of preventative programmes, such as fire education campaigns aimed at local schools, as well as radio broadcasts and other media promotions of fire safety issues. Ultimately, it can only assist in enabling better judgements to be made about where best to deploy equipment and personnel to enable the best return to be achieved from the commitment of these hard-pressed fire service resources.

3. Methodology

A relatively straightforward approach was adopted in seeking to address the basic research questions identified above. At an early stage, it was decided that, in addition to the overall total number of 72,000 fire incidents reported in 1996, exploratory analyses would focus upon the following five categories of fire incident type:

a) Residential Fires b) Vehicle Fires c) Malicious Calls
d) Residential Arsons e) Vehicle Arsons.

In each case, three forms of measure were derived to convey an initial impression of a different aspect of the distribution of this type of fire incident occurring in an individual ward, as follows:

i) an absolute count of the number of incidents in the ward;
ii) the ward count expressed as a rate;
iii) the ward count of this type of incident expressed as a percentage share of all incidents reported in the ward (or, sometimes, in the county).

In the case of ii), it was necessary to specify an appropriate denominator for use in the derivation of a corresponding rate for each ward with respect to a 'population at risk'. The denominators used in association with the above fire incident types are indicated in Table 2, together with a more detailed indication of the property and incident types used in their specification.

For residential fires, the choice was relatively straightforward and resulted in the use of the number of households in the ward as the denominator, using data derived from the 1991 Census. For malicious calls, the denominator used was the resident population (also from the 1991 Census). However, in the case of vehicle fires and arsons, the somewhat unusual specification of area of land (in hectares) was adopted, as opposed to residential population, which was a plausible alternative. This was prompted by fact that many fires affecting vehicles do not occur outside the residences of their owners. Most vehicle fires are arsons and many involve stolen vehicles that are generally dumped at the roadside, but also on derelict land, or open space, at some distance from their owners' place of work or place of residence. Land area was adopted to reflect this effect, in the absence of a compelling argument to use an alternative.

Thus, the starting point for all of the analyses described here was the estimation of absolute counts, rates and shares of all incidents, for each of the 214 wards in the Greater Manchester area, for each of the five individual types of fire incident indicated above. The tables containing this information could then be examined to provide the basis of a series of different presentations of information, both in tabular and in mapped form. In particular, much useful new information can be derived simply by ranking the 214 wards with respect to the counts, rates or shares noted above, in operations, that can readily be carried out with the aid of a spreadsheet.

Use of a spreadsheet for this purpose is illustrated below when further measures are introduced (and described more fully). These can be helpful in revealing additional important features of the distribution of fire (or crime, etc) incidents, including:

iv) an index value comparing the rate for an individual unit of observation with the

mean or average value for the study area as a whole, the latter set to 100;

v) the share of all incidents in the study area found to occur in an individual unit of observation and corresponding share of the denominator total;

vi) after ranking the observation units in the table with respect to the incidence rate, deriving the cumulative percentage of incidents and corresponding cumulative percentage of the denominator total, for each unit of observation.

4. Results of Descriptive Analyses

Here we shall first focus upon the outcome of the examination of the tabular information (counts, rates and ward shares of incidents) to reveal the overall extent of variation between wards in the different types of incidents, before considering the degree of geographical concentration of different types of incident.

4.1 Absolute Counts of Fires

The outcome of the ward-level analysis of the absolute count of incidents is presented in Table 3. The table lists the five wards with the highest and with the lowest absolute count of the number of incidents, by type of incident, in 1996.

Certain names appear with great consistency in the table, either with respect to high or low counts, between different types of fire incident. Central, Bradford and Cheetham wards in Manchester occur with high counts under virtually all categories, while East Bramhall, South Marple and Cheadle Hulme South (all in Stockport) and Crompton (in Oldham) appear under most categories in the lowest count ward lists.

The ward with by far the highest total number of incidents is Central, in the City of Manchester (Manchester), in which 3,346 incidents were recorded. This was over twice the number recorded in the ward with the second highest total, Bradford, which is also in Manchester. In sharp contrast, South Marple ward, in Stockport, recorded only 42 fire and related incidents in 1996. This reflects the wide range of variation in the number of incidents by ward within the GMCFS area.

Table 3 also shows how the picture changes for different types of fire incident. For example, the ward with the highest number of residential fires was Bradford, with 99, while Central ward fell to fifth place with 76 incidents. This shows that the areas with the highest overall total number of incidents do not necessarily have the highest number of incidents in every incident category. This is not unreasonable in view of the fact that Central (covering central Manchester) is a ward which contains mainly commercial activities and has a relatively low resident population.

Examination of the categories of vehicle fires and vehicle arsons reveals that the ward of Little Hulton, in Salford, had a particular problem with such fires, although it does not feature in the top five wards for any other incident category. Similarly, it is evident that Longsight, as well as Central, in Manchester, account for large numbers of malicious calls. For each incident category, there is a sharp contrast between the number of incidents in the wards with highest and lowest counts, with no incidents at all recorded in some wards in the arson categories.

4.2 Fire Risk

Examination of absolute numbers of incidents by ward can be useful in itself, but it does not take into account the size of the wards in terms of the number of persons, households and properties at risk of fire. To enable the issue of fire risk to be addressed, the number of incidents by type in each ward has been converted into a rate using the denominators listed in Table 2. Table 4 records, for example, the five wards with the greatest and least number of residential fires *per 1,000 residential households*.

The ward names in italics in Table 4 are those that do not appear in the table recording the absolute total number of incidents by ward (i.e. Table 3). It is apparent that, when rates are considered, as opposed to total counts, certain wards (e.g. Bradford and Central wards in Manchester City centre) still exhibit a high level of fire risk. However, there are also certain differences. For example, although Little Hulton shows a high risk of vehicle fires and arsons, the two Salford wards of Broughton and Langworthy, which did not feature in Table 3, both show high risks of vehicle fires and arsons per 100 hectares of land. Similarly, Hulme (Manchester) has a high rate of residential fires per 1,000 residential households and malicious calls per 1,000 of the residential population, although it did not have high counts of these incident types. South Marple and Cheadle Hulme South (Stockport) and Crompton (Oldham) are evidently wards with low incident rates as well as low counts of incidents. However, Saddleworth West (Oldham) also seems to have a low level of fire risk when the size of the population at risk is taken into account.

4.3 Malicious Calls

Malicious calls to the fire brigade are a persistent drain on resources of precious time, equipment and personnel. Thus it is useful to be able to identify the areas in which there is an over-representation of such calls. Discussion of Tables 3 and 4 has indicated that certain wards have high numbers of such calls and some wards have high rates of calls per 1000 of the resident population. These figures are reproduced in Table 5. In addition, Table 5 also shows the wards that have the highest numbers of malicious calls *as a percentage of the total number of incidents in that ward.*

This is a further useful measure since it represents the percentage of the brigade's work load in a particular area that is 'wasted' on malicious calls. It is clear that the wards that suffer high levels of malicious calls from this perspective are different once again. In Bucklow (Trafford), over a third of the calls to the fire brigade are malicious calls. This can be compared, at the other extreme, with 1.5% of calls in the Norden and Bamford in Rochdale. We may conclude that the probability that a call will result in a wasted journey is significantly higher in Bucklow than in Norden and Bamford.

Interestingly, we have noted that the wards that have the highest proportions of all fire incidents that are malicious calls are different from the wards with the highest counts of malicious calls and those with the highest rates of malicious calls per 1000 of the residential population. Each can provide a different perspective on the same problem. The total count of incidents provides an indication of the overall size of the problem; the rate gives an idea of the prevalence or risk of fire within the local community,

while the share of all fires represented by a specific type of incident tells us how varied the fire fighters' workload is likely to be in each local area.

5. Degree of Concentration

The tabular displays presented in Tables 3-5 provide an indication of variation in the absolute number of incidents, the rate of occurrence of incidents and the share of total incidents attributable to particular types of incident, within an individual ward. However, further useful information can be derived from a table of this form in which the units of analysis (in this case wards) are ranked according to a measure of interest (in this case fire incidence rate). In further columns, added to the table, a cumulative count can be recorded of both the number of incidents and the corresponding 'population at risk', and for each ward, each cumulative total expressed, in turn, as a percentage of the corresponding overall total - as the cumulative percentage of incidents and cumulative percentage of 'population at risk', respectively.

The derivation of these figures (for example, in a spreadsheet) enables a clear impression to be gained of the degree to which the incident type of interest is concentrated in particular units of analysis - expressed in terms of percentages of the respective totals. For example, in Table 6 we see the cumulative total and percentage figures added to an extended version of the ranked table from which the Residential Fires incidence rate figures were extracted that were presented in Table 4. This indicates that **40 percent** of the fires occurred in the 35 wards (of the 214 in Greater Manchester) which account for just **16 percent** of the total number of households.

Incidentally, we note that the spreadsheet table (Table 6) also features an additional column that can be useful in the comparison of the degree of variation in ward values between different incident types (although, for illustrative purposes, a table of this form is only presented here for Residential Fires). The further column contains an index value which provides a direct comparison between the observation unit (ward) fire rate and the overall mean for the study area as a whole - in this case the GMCFS area - with the latter mean value set to 100. Here, for example it can be seen, from the index value of 426, that the highest fire rate, recorded in Bradford ward in Manchester, is over four times the GMCFS area mean of 4.8 per 1000 households.

6. The Lorenz Curve and Measures of Performance

The degree of concentration in a relatively small proportion of wards, noted above, can be represented visually in the form of a Lorenz curve, as illustrated in Figure 2. In this figure, the cumulative percentage of residential fires is plotted against the corresponding cumulative percentage of resident households, for all 214 wards. This conveys a clear visual, or qualitative, impression of the extent to which residential fires tend to be concentrated in wards accounting for a relatively small percentage of Greater Manchester households. However, two further quantitative measures of this degree of concentration can be derived from the plot, based on the relationship between the plotted line and the diagonal line (plotted as a broken line in Figure 2). We can note that the appearance of a plot of cumulative percentages directly on this line would represent a completely even distribution of incidents between the units of observation.

The first measure is based upon the point of inflection (indicated in Figure 2 by the vertical and horizontal lines), the point at which the curve is no longer 'rising' away from the diagonal. Up to this point, a greater percentage of incidents per unit of observation is found than the corresponding percentage of the population at risk. Beyond it, the share of incidents per unit will be less than the corresponding share of 'population'. Another way of putting this is to state that the shares of the respective totals will be equal to the overall averages for the study area as a whole at this point in the cumulative percentage table. Before this point, an above average share of incidents will have been found per unit in comparison with the overall average for the study area.

In the case of residential fires, this occurs at the point at which 64 percent of fires are accounted for by wards containing 36 percent of the resident households. One way of interpreting this is to state that the 78 wards containing this 36 percent of the household total have a greater number of residential fire incidents per ward than the average for the Greater Manchester area as a whole.

The second measure is an overall measure of performance that can be derived from the Lorenz curve plot by determining the area 'under the curve' or, more explicitly, between the curve and the diagonal. It is labelled as a measure of effectiveness and expresses the area under the curve as a percentage of the total area above the diagonal. This serves as a further measure of the degree to which the units of observation (the wards in this case) are able to capture as great a share as possible of the incidents of interest in as small a share of the population at risk.

In the case of residential fires, the measure of effectiveness proves to be 38.8 percent, which appears to be a reasonably high figure. However, the corresponding figures derived from the Lorenz curve plots for the other fire types are presented in Table 7. This shows that, in the case of vehicle fires, the measure is significantly higher at 60.3 percent, indicating an extremely high degree of concentration of this type of incident upon wards which account for a relatively small percentage of the total study area - as is evident from the contrasting plot presented here as Figure 3. This is also reflected in the corresponding point of inflection percentages which indicate that, at this stage in the cumulative percentage (spreadsheet) table, 73 percent of incidents are found to occur in wards which account for only 27 percent of the area served by GMCFS - the greatest degree of concentration of all of the fire types examined here.

Finally, we note that the two arson categories examined (residential and vehicle) appear to be more concentrated than both malicious calls and residential fires, with over three quarters of all incidents in both cases accounted for by 31 percent of the corresponding denominators, and the effectiveness measure reaching c. 56 and 60 percent, respectively.

The fact that such a large proportion of these fire incidents are concentrated in such a relatively small number of wards clearly has important implications for the targeting of schemes and resources that are directed towards combating these occurrences.

What is also apparent from the analyses reported here is that the fire incidents examined are far from evenly distributed between the 214 electoral wards in the GMCFS area. Indeed, it has been shown that there is some variation between fire types in the degree of concentration of fires and that some types, notably arsons, display a particular tendency to be concentrated in a relatively small part of the area. [This immediately prompts questions about the economic, social and other conditions in the areas concerned - issues which will be addressed directly in future research].

In every case it is evident that the risk of fire is not evenly distributed between different parts of the area served by the fire service - an assumption which traditionally has provided a basis for the approach adopted to the provision of fire cover.

What the analyses have so far failed to do is to reveal the degree of geographical concentration of the incidents examined and the spatial distribution of the wards in which a relatively high rate of incidence is recorded. This can be achieved using methods that are illustrated in Figure 4. This features a choropleth or shaded map that depicts the quintiles of the distribution of rates of residential fires. This has been produced with the aid of the ArcView GIS product, using basic mapping conventions and principles explored more fully elsewhere by Brown, et al (1991 and 1995). The plot serves to complement the information presented in tabular form and conveys a readily interpretable impression of where the areas of relatively high and low levels of incidence are located.

7. Extensions to Coarse Area-Based Targeting

This paper has so far illustrated some of the ways in which information can be used to establish a basis for the targeting of resources based on a relatively coarse set of geographical units (wards). It has focused on routinely collected fire incident data for this purpose - but could be equally easily applied to other forms of incident data. A combination of basic analytical methods and geographic information systems (GIS) has been employed to highlight distinctive features of the degree of concentration and broad spatial patterns displayed by different categories of fire incident. The potential of these basic methods of analysis has been demonstrated in producing an impression of the extent of variation in the distribution of different types of fire incident between the 214 electoral ward subdivisions of the area served by GMCFS.

There is clearly a great deal of scope to extend and refine the forms of descriptive analysis that have been described. Indeed, the paper has drawn upon work which has formed part of the early stages of a long term programme of research and development activity which is directed towards increasing the efficiency and effectiveness with which the GMCFS is able to deploy its resources. Some of this further work is being pursued as part of a three-year PhD research programme, that is being undertaken by Steve Merrall under the supervision of URPERRL staff, entitled ‘Relationship between fire incidence and social and environmental risk factors: implications for resource allocation, operational effectiveness and fire safety programmes’, which has been partly sponsored by GMCFS and by the UK’s Economic and Social Research Council.

Among the further issues that are to be addressed as part of this programme is the examination of fire incident and fire risk data at the finer level of spatial resolution to which reference has been made above - the 5182 census enumeration district (ED) into which the 214 wards are subdivided. This is opening up a series of interesting possibilities, not least the opportunity to reveal, in still greater detail, the degree of local variation and concentration of particular types of fire incident.

A particularly exciting prospect is the opportunity that exists to link the fire incident and fire risk data, for these small areas, to other information which could provide a basis for examining the relationship between these events and variables which could provide a degree of explanation for the variation that is observed between different areas. From a practical perspective, in these statistical relationships, the fire service is looking for 'variables', which can be controlled, even if, in practice, that control may be achieved only as a result of a long-term process - through the redevelopment and restructuring of what emerge as 'bad' areas and the elimination of features which are thought to contribute to an increase in fire risk.

The census is an obvious source of information for use for this purpose, in the form of individual indicators, such as property type and dwelling tenure, and measures that reflect local social conditions, such as the level of unemployment, overcrowding and single parenthood. In this connection, the availability of a wider range of up-to-date data from the 2001 Census is eagerly awaited.

8. Geodemographics and Spatial Targeting

Individual indicators of this type, derived from the census and relating to small geographical areas, will undoubtedly prove useful for analytical purposes. However, an important major link to be employed in this work is with the field of geodemographics, or the development and application of small area classifications. Geodemographic typologies are designed to capture, in a concise way, the multi-dimensional nature of what distinguishes one type of small area (usually based on census EDs) from another (Brown, 1991).

One of the authors has been centrally involved in the development of one such typology, Super Profiles (Batey and Brown, 1995), which features three levels of small area description of the 140,000 or so EDs used in reporting the results of the 1991 Census - 160 clusters, 40 Target Markets and 10 so-called Lifestyles.

These groupings of EDs were identified based upon the use of c. 80 variables derived from census counts for each of the EDs, including measures relating to the demographic characteristics of residents, the dwelling tenure and socio-economic status of households, property type, ethnic origin, etc. The area types were identified using cluster analysis methods which ensure that the resulting groupings of EDs share certain essential features yet are distinctly different from one another. Their characteristics are summarised in the form of pen pictures that are based upon the comparison of the mean values of classificatory and other descriptive variables for each cluster with the corresponding national mean value. Expressed in index form, this comparison serves to highlight clusters that display extreme values, markedly different from the 'average'.

The resulting classification is to be used extensively in the proposed programme of analytical work. Geodemographic typologies, like Super Profiles, have already proved to be extremely effective, in a wide range of applications in both the private sector and the public sector (see Brown, et al, 1998, Batey, et al, forthcoming) as a means of distinguishing areas that show widely different patterns of, for example, consumer, health or criminal behaviour by their residents, or associated phenomena which vary from area to area.

The intention here is to establish how effective the typology is in distinguishing the types of area in which relatively high and/or low levels of incidence of fire incidents are recorded, as a step towards refining further the ability of the fire service to target its resources on geographical areas, types of community or social groups which are deemed to be in greatest need. Such a capability may be viewed as a prerequisite for identifying the most appropriate courses of action in each case and, ultimately, in achieving the best returns, from the commitment of equipment and personnel, in terms of a reduction in casualties, fatalities and property damage.

To illustrate the potential that lies in this direction we shall use an example drawn from the ESRC-funded Crime and Social Order Programme funded project that examined the relationship between crime and social disadvantage on Merseyside (Hirschfield, et al, 1995, Brown, et al, 1996) in which three main objectives were pursued:

- to investigate relationships between crime and the spatial segregation of deprived people;
- to examine the extent to which crime risks (i.e. in terms of being a victim or an offender) are greater where disadvantaged areas either directly border or are in close proximity to affluent areas; and
- to identify the extent to which crime in disadvantaged areas is attributable to a lack of social cohesion.

For this purpose a wide range of different datasets were assembled, including approximately two million records of calls to the police spanning a three year period from 1992 to 1994. The particular form of analysis that is relevant to the current discussion involved the linking of these records to the Super Profile typology. In some cases this would have been possible from a postal address via the postcode - but, in many cases, a property grid reference served as the only spatial reference. Such a grid reference could be used to determine the ED (thus the area type) in which the property lay with the aid of a ‘point in polygon’ GIS operation.

Once an incident had been assigned to an appropriate ED and thus to a cluster, it was possible to derive a rate of incidence for each cluster by expressing the count in relation to an appropriate denominator representing the population at risk. In practice, the latter could be specified in a variety of ways depending upon the type of offence and the time of day. Indeed, a key issue in the interpretation of patterns of crime can often prove to the selection of an appropriate denominator - perhaps expressed in terms of the daytime or night-time population of a particular area.

For example, the number of 'burglary dwelling' calls recorded among those resident in each of the 40 area types known as Target Markets can be related to the number of residential properties in the area type concerned to produce an annual rate per 1000 residential properties - as illustrated in Table 8. This takes the form of a spreadsheet which is similar in form to Table 6 - but in this case the rows relate to the individual Target Market area types and not the 214 wards of Greater Manchester.

The rate information can again be expressed in index form in comparison with the overall mean rate for the entire area of study. More importantly, when ranked in terms of the rate of incidence, the cumulative percentage of burglary dwelling command and control calls can be related to the cumulative percentage of residential properties to provide a measure of the degree of concentration of this type of crime in particular types of area. For example, it can be seen that the first 6 percent of properties account for c. 12 percent of calls and that 30 percent account for 40 percent of calls.

These figures suggest that 'burglary dwelling' is relatively evenly distributed between different types of area represented by the Target Market level of the Super Profiles typology. This impression is reinforced when the cumulative percentages are used to plot the corresponding Lorenz curve that is illustrated in Figure 5, the effectiveness of which, measured in terms of the area under the curve, is only 15.4 percent.

This may be contrasted with the example that appears in Table 9 and Figure 6 in which the command and control calls relating to sexual offences (in relation to the number of persons present) by Target Market are first tabulated and ranked and the correspond-ing cumulative percentages of calls and persons present plotted in the Lorenz curve. This highlights very vividly the contrast with burglary dwelling incidents in that over 20 percent of calls are concentrated in areas accounting just over 1.5 percent of the persons present - and 40 percent are accounted for by just over 12 percent of persons present - an exceptionally highly concentrated form of incident type.

These two examples serve to illustrate how the form of ward-based spatial targeting that has been demonstrated with respect to the fire incident data for Greater Manchester could be extended to distinguish the area types between which significant differences are likely to be found in future analyses.

9. Concluding Comments

This paper has sought to highlight some of the issues that are raised in the development of project targeting methods for use in connection with community safety initiatives. It has illustrated how a basic form of area-based method can be applied, using the relatively coarse level of spatial resolution represented by the electoral ward, in the case of fire incident data for Greater Manchester. This example served to highlight the different outcomes of analyses that identify areas which display high incident counts, rates of incidence and shares of incidents. It has also demonstrated some of the benefits that can flow from the use of a combination of a speadsheet and Lorenz curve plot to examine the degree of concentration of incidents in relation to the share of the population at risk that is found in the individual spatial

units of analysis - wards in the example used here. The paper has also gone on to illustrate how this same principle can be extended to the application of geodemographic methods of analysis. Such methods draw upon the multi-dimensional characterisation of similarities and differences between small areas and seek to highlight variation in indicence rates between area types.

The key here is to first establish the degree of variation that exists between different area types and to identify where such area types are located. Use can then be made of the known features of these area types as guide to identifying appropriate courses of action to be taken in developing measures to reduce the rate of incidence or bring about a change in the behaviour of the local population.

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Tables and Figures

Table 1 Greater Manchester County Fire Service Breakdown of Incidents by Type - 1996

	Incident Type	Number	Percentage
1.	FDR1 Fires 1A (property but excluding vehicles)	8,522	11.9
2.	FDR1 Fires 1B (vehicles only)	5,242	7.3
3.	FDR3 Fires (grass, rubbish, derelict properties, etc)	19,996	27.9
4.	Chimney Fires	137	0.2
5.	False Alarm Calls : Malicious	9,426	13.1
6.	False Alarm Calls : Due to Apparatus	15,256	21.3
7.	Special Service Calls : Emergency Incidents	5,954	8.3
8.	Special Service Calls : Non-Emergency Incidents	845	1.2
9.	Over the Border Incidents (in adjacent authorities)	549	0.8
10.	False Alarm with Good Intent	5,848	8.2
	TOTAL	**71,775**	**100.0**

Note: A small number of additional incidents were attended for which no details were recorded of the incident type and these have been excluded.

Table 2 Fire Incident Types and Denominators Used to Contruct Fire Incidence Rates

1. Residential Fires

Definition: the following Property Codes: 04, 05, 06, 07
i.e. dwelling - with shopping premises, bungalow, flat/apartment/maisonette, house

Denominator : 1000 Resident Households

2. Vehicle Fires

Definition: the following Property Codes:
50-57 (fire on road)
60-67 (fire on open ground)
70-77 (fire in car park)
80-87 (fire elsewhere)
This includes cars, vans, lorries, tankers, coaches, buses, motor cycles, scooters, other self-propelled vehicles and vehicles not powered by an engine (e.g. whilst on tow).

Denominator : Hectares of Land

3. Malicious Calls

Definition: Incident Type Code 4, i.e. False Alarm, Malicious Call.

Denominator : 1000 Resident Population

4. Residential Arsons

Definition: Ignicious Act Code 23, i.e. malicious ignicious act and Property Codes 04, 05, 06, 07.

Denominator : 1000 Resident Households

5. Vehicle Arsons

Definition: Ignicious Act Code 23, i.e. malicious ignicious act and Property Codes 50-57, 60-67, 70-77, 80-87.

Denominator : Hectares of Land

Table 3 Wards with the Highest and Lowest Absolute Total Number of Incidents by Category of Fire

Highest Count Wards	Num.	**Lowest** Count Wards	Num.
All Fires			
Central (Manchester)	3346	Norden and Bamford (Rochdale)	66
Bradford (Manchester)	1197	Manor (Stockport)	65
Ardwick (Manchester)	1184	Crompton (Oldham)	58
Cheetham (Manchester)	1153	East Bramhall (Stockport)	45
Blackfriars (Salford)	1153	South Marple (Stockport)	42
Residential Fires			
Bradford (Manchester)	99	Flixton (Trafford)	4
Cheetham (Manchester)	96	Bromley Cross (Bolton)	4
Moss Side (Manchester)	78	Crompton (Oldham)	4
Harpurhey (Manchester)	76	Middleton (Rochdale)	3
Central (Manchester)	76	South Marple (Stockport)	3
Vehicle Fires			
Little Hulton (Salford)	136	South Marple (Stockport)	4
Central (Manchester)	131	Priory (Trafford)	3
Cheetham (Manchester)	112	Stalybridge (Tameside)	3
Ordsall (Salford)	112	East Bramhall (Stockport)	3
Bradford (Manchester)	110	Cheadle Hulme South (Stockport)	2
Malicious Calls			
Central (Manchester)	475	Holyrood (Bury)	3
Longsight (Manchester)	209	South Marple (Stockport)	3
Moss Side (Manchester)	184	Crompton (Oldham)	2
Bradford (Manchester)	180	Cheadle Hulme South (Stockport)	2
Ardwick (Manchester)	175	Norden and Bamford (Rochdale)	1
Residential Arsons			
Bradford (Manchester)	64	East Bramhall (Stockport)	0
Cheetham (Manchester)	37	Cheadle Hulme South (Stockport)	0
Benchill (Manchester)	32	South Marple (Stockport)	0
Harpurhey (Manchester)	31	Saddleworth East (Oldham)	0
Lightbowne (Manchester)	30	South Marple (Stockport)	0

Table 4 Wards with the Highest and Lowest Incidence Rates by Category of Fire Incident

Note: rate per 1000 of the corresponding denominator, with different denominators used for each Category of Fire Incident

Highest Rate Wards	Rate	**Lowest** Rate Wards	Rate
Residential Fires			
Bradford (Manchester)	20.3	Crompton (Oldham)	1.0
Central (Manchester)	17.9	*Middleton East* (Rochdale)	0.9
Cheetham (Manchester)	17.8	*Horwich* (Bolton)	0.9
Hulme (Manchester)	17.8	Bromley Cross (Bolton)	0.8
Ardwick (Manchester)	16.2	South Marple (Stockport)	0.6
Vehicle Fires			
Broughton (Salford)	67.8	*Aspull-Standish* (Stockport)	0.5
Langworthy (Salford)	55.9	East Bramhall (Stockport)	0.5
Little Hulton (Salford)	41.1	Cheadle Hulme South (Stockport)	0.4
Ordsall (Salford)	36.4	South Marple (Stockport)	0.2
Bradford (Manchester)	30.3	*Saddleworth East* (Oldham)	0.2
Malicious Calls			
Central (Manchester)	53.7	South Marple (Stockport)	0.3
Ardwick (Manchester)	18.6	*East Bramhall* (Stockport)	0.2
Blackfriars (Salford)	16.6	Crompton (Oldham)	0.2
Bradford (Manchester)	15.5	Cheadle Hulme South (Stockport)	0.1
Hulme (Manchester)	14.4	South Marple (Stockport)	0.1
Residential Arsons			
Bradford (Manchester)	13.1	East Bramhall (Stockport)	0.0
Ordsall (Salford)	7.8	Cheadle Hulme South (Stockport)	0.0
Cheetham (Manchester)	6.9	South Marple (Stockport)	0.0
Benchill (Manchester)	6.7	Saddleworth East (Oldham)	0.0
Central (Manchester)	6.4	Crompton (Oldham)	0.0
Vehicle Arsons			
Broughton (Salford)	60.8	*Saddleworth West* (Oldham)	0.1
Langworthy (Salford)	52.9	South Marple (Stockport)	0.1
Little Hulton (Salford)	39.0	Langtree (Wigan)	0.0
Ordsall (Salford)	33.4	Cheadle Hulme South (Stockport)	0.0
Bradford (Manchester)	27.0	East Bramhall (Stockport)	0.0

Note: wards in *italics*, not present in corresponding group for absolute counts

Vehicle Arsons

Little Hulton (Salford)	129	Davyhulme (Trafford)	1
Central (Manchester)	103	South Marple (Stockport)	1
Ordsall (Salford)	103	Langtree (Wigan)	0
Cheetham (Manchester)	99	Cheadle Hulme South (Stockport)	0
Bradford (Manchester)	98	East Bramhall (Stockport)	0

Table 5 Wards with the Highest and Lowest Malicious Calls in terms of Absolute Count, Incidence Rate and Share of Incidents

Note: rate per 1000 resident population, in this case.

Highest Count Wards	Num.	**Lowest** Count Wards	Num.
Central (Manchester)	475	Holyrood (Bury)	3
Longsight (Manchester)	209	South Marple (Stockport)	3
Moss Side (Manchester)	184	Crompton (Oldham)	2
Bradford (Manchester)	180	Cheadle Hulme South (Stockport)	2
Ardwick (Manchester)	175	Norden and Bamford (Rochdale)	1

Highest Rate Wards	Rate	**Lowest** Rate Wards	Rate
Central (Manchester)	53.7	South Marple (Stockport)	0.3
Ardwick (Manchester)	18.6	East Bramhall (Stockport)	0.2
Blackfriars (Salford)	16.6	Crompton (Oldham)	0.2
Bradford (Manchester)	15.5	Cheadle Hulme South (Stockport)	0.1
Hulme (Manchester)	14.4	South Marple (Stockport)	0.1

Highest Share Wards	%	**Lowest** Share Wards	%
Bucklow (Trafford)	35.8	Crompton (Oldham)	3.5
Middleton East (Rochdale)	31.3	Worsley/Boothstown (Salford)	3.3
Failsworth West (Oldham)	30.3	Altrincham (Trafford)	3.1
Alexandra (Oldham)	29.5	Cheadle Hulme South (Stockport)	2.1
Breightmet (Bolton)	27.3	Norden and Bamford (Rochdale)	1.5

Table 6 Table Ranked by Incidence Rate for Residential Fires including Cumulative Totals of Incidents and Households

Greater Manchester County Fire Service

Ranked Ward Table for Residential Fires - 1996

Overall Mean Rate for 214 Wards = 4.8 Residential Fires per 1000 Households

Ward No.	Ward Name	District	Resid-ential Arsons	Resident House-holds	Arson Rate per 1000 Hhlds	Index (Mean= 100)	% Total Arsons	% Total Hhlds	Cum % Total Arsons	Cum % Total Hhlds
5	Bradford	BN	64	4870	**13.1**	1150	5.61	0.49	5.61	0.49
3	Ordsall	BR	25	3206	**7.8**	682	2.19	0.32	7.80	0.81
4	Cheetham	BN	37	5390	**6.9**	601	3.24	0.54	11.04	1.35
29	Benchill	BN	32	4815	**6.6**	582	2.80	0.48	13.85	1.83
2	Central	BN	27	4247	**6.4**	556	2.37	0.43	16.21	2.26
11	Harpurhey	BN	31	5040	**6.2**	538	2.72	0.50	18.93	2.76
7	Broughton	BR	26	4260	**6.1**	534	2.28	0.43	21.21	3.19
34	Hulme	BN	22	3767	**5.8**	511	1.93	0.38	23.14	3.57
13	Langworthy	BR	27	4666	**5.8**	506	2.37	0.47	25.50	4.03
22	Lightbowne	BN	30	5420	**5.5**	484	2.63	0.54	28.13	4.58
26	Ardwick	BN	22	4134	**5.3**	466	1.93	0.41	30.06	4.99
66	Werneth	BP	21	4084	**5.1**	450	1.84	0.41	31.90	5.40
12	Kersal	BR	20	4407	**4.5**	397	1.75	0.44	33.65	5.84
15	Longsight	BN	22	5598	**3.9**	344	1.93	0.56	35.58	6.40
18	Blackley	BN	20	5170	**3.9**	338	1.75	0.52	37.34	6.92
30	Moss Side	BN	21	5536	**3.8**	332	1.84	0.55	39.18	7.47
28	Rusholme	BN	15	4061	**3.7**	323	1.31	0.41	40.49	7.88
31	Woodhouse Park	BN	17	4703	**3.6**	316	1.49	0.47	41.98	8.35
82	Ashton St.Peters'	BT	16	4585	**3.5**	305	1.40	0.46	43.38	8.81
10	Beswick and Clayton	BN	17	4917	**3.5**	303	1.49	0.49	44.87	9.30
89	Denton South	BT	16	4715	**3.4**	297	1.40	0.47	46.28	9.78
9	Blackfriars	BR	12	3582	**3.4**	293	1.05	0.36	47.33	10.13
1	Little Hulton	BR	16	4790	**3.3**	292	1.40	0.48	1.40	0.48
166	Middleton West	BQ	9	2736	**3.3**	288	0.79	0.27	2.19	0.75
38	CrumpsWARDl	BN	16	5100	**3.1**	275	1.40	0.51	3.59	1.26
67	Sharston	BN	15	4918	**3.1**	267	1.31	0.49	4.91	1.76
33	Weaste and Seedley	BR	13	4270	**3.0**	266	1.14	0.43	6.05	2.18
8	Pendleton	BR	14	4709	**3.0**	260	1.23	0.47	7.27	2.66
19	Baguley	BN	15	5049	**3.0**	260	1.31	0.51	8.59	3.16
14	Gorton South	BN	16	5559	**2.9**	252	1.40	0.56	9.99	3.72
75	Halliwell	BL	14	5321	**2.6**	230	1.23	0.53	11.22	4.25
35	Hollinwood	BP	10	3921	**2.6**	223	0.88	0.39	12.09	4.64
113	Hyde Godley	BT	12	4765	**2.5**	220	1.05	0.48	13.15	5.12
27	Gorton North	BN	15	5966	**2.5**	220	1.31	0.60	14.46	5.72
127	Hyde Newton	BT	12	4791	**2.5**	219	1.05	0.48	15.51	6.20

39	Talbot	BU	8	3421	**2.3**	205	0.70	0.34	16.21	6.54
59	Coldhurst	BP	10	4359	**2.3**	201	0.88	0.44	17.09	6.98
56	Northenden	BN	12	5318	**2.3**	197	1.05	0.53	18.14	7.51
24	Central and Falinge	BQ	9	4373	**2.1**	180	0.79	0.44	18.93	7.95
16	Charlestown	BN	11	5363	**2.1**	179	0.96	0.54	19.89	8.49
90	Droylsden East	BT	10	4918	**2.0**	178	0.88	0.49	20.77	8.98
128	Worsley Mesnes	BW	10	4931	**2.0**	177	0.88	0.49	21.65	9.47
20	Levenshulme	BN	10	5226	**1.9**	167	0.88	0.52	22.52	10.00
17	St.Marys	BP	8	4516	**1.8**	155	0.70	0.45	23.23	10.45
122	Radcliffe South	BM	7	4060	**1.7**	151	0.61	0.41	23.84	10.86
129	St.James	BP	6	3496	**1.7**	150	0.53	0.35	24.36	11.21
21	Newton Heath	BN	9	5346	**1.7**	147	0.79	0.54	25.15	11.74
105	Alexandra	BP	7	4158	**1.7**	147	0.61	0.42	25.77	12.16
60	Abram	BW	8	4992	**1.6**	140	0.70	0.50	26.47	12.66
68	Norley	BW	6	3866	**1.6**	136	0.53	0.39	26.99	13.05
83	Smallbridge&Wardlew'	BQ	7	4644	**1.5**	132	0.61	0.47	27.61	13.51
36	Newbold	BQ	6	4116	**1.5**	128	0.53	0.41	28.13	13.92
44	St.Pauls	BP	6	4328	**1.4**	121	0.53	0.43	28.66	14.36
179	Heywood West	BQ	5	3898	**1.3**	112	0.44	0.39	29.10	14.75
76	Derby	BL	6	4758	**1.3**	110	0.53	0.48	29.62	15.22
61	Leigh Central	BW	6	4783	**1.3**	110	0.53	0.48	30.15	15.70
77	Whalley Range	BN	6	5165	**1.2**	102	0.53	0.52	30.67	16.22
136	Hyde Werneth	BT	5	4469	**1.1**	98	0.44	0.45	31.11	16.67
97	Central	BL	5	4615	**1.1**	95	0.44	0.46	31.55	17.13
25	Brinnington	BS	5	4637	**1.1**	94	0.44	0.46	31.99	17.59
6	Pendlebury	BR	6	5784	**1.0**	91	0.53	0.58	32.52	18.17
45	Farnworth	BL	5	5047	**1.0**	87	0.44	0.51	32.95	18.68
107	Clifford	BU	4	4077	**1.0**	86	0.35	0.41	33.30	19.09
208	Priory	BU	4	4151	**1.0**	84	0.35	0.42	33.65	19.50
153	Fallowfield	BN	4	4152	**1.0**	84	0.35	0.42	34.01	19.92
156	Park	BU	3	3117	**1.0**	84	0.26	0.31	34.27	20.23
84	Brimrod and Deeplish	BQ	3	3207	**0.9**	82	0.26	0.32	34.53	20.55
137	East	BM	4	4375	**0.9**	80	0.35	0.44	34.88	20.99
96	Astley Bridge	BL	5	5478	**0.9**	80	0.44	0.55	35.32	21.54
155	Wardle	BQ	3	3310	**0.9**	79	0.26	0.33	35.58	21.87
41	Bucklow	BU	3	3313	**0.9**	79	0.26	0.33	35.85	22.20
69	Heywood South	BQ	4	4425	**0.9**	79	0.35	0.44	36.20	22.65
138	Chadderton Central	BP	4	4457	**0.9**	79	0.35	0.45	36.55	23.09
73	Daubhill	BL	4	4570	**0.9**	77	0.35	0.46	36.90	23.55
130	Middleton Central	BQ	3	3531	**0.8**	74	0.26	0.35	37.16	23.90
78	St.Mary's	BM	4	4809	**0.8**	73	0.35	0.48	37.51	24.39
79	Ashton Hurst	BT	4	4824	**0.8**	73	0.35	0.48	37.86	24.87
32	Burnden	BL	4	5007	**0.8**	70	0.35	0.50	38.21	25.37
62	Irlam	BR	3	3768	**0.8**	70	0.26	0.38	38.48	25.75
114	Harper Green	BL	4	5131	**0.8**	68	0.35	0.51	38.83	26.26
106	Brooklands	BN	4	5344	**0.7**	65	0.35	0.54	39.18	26.80
100	Balderstone	BQ	3	4098	**0.7**	64	0.26	0.41	39.44	27.21
180	Hale	BU	3	4107	**0.7**	64	0.26	0.41	39.70	27.62
108	Village	BU	3	4113	**0.7**	64	0.26	0.41	39.96	28.03
40	Lees	BP	3	4167	**0.7**	63	0.26	0.42	40.23	28.45
116	Longdende	BT	3	4183	**0.7**	63	0.26	0.42	40.49	28.87
154	Radcliffe Central	BM	3	4243	**0.7**	62	0.26	0.42	40.75	29.29

115	Moorside	BM	3	4246	**0.7**	62	0.26	0.43	41.02	29.72
123	Smithills	BL	3	4464	**0.7**	59	0.26	0.45	41.28	30.16
191	Swinley	BW	3	4520	**0.7**	58	0.26	0.45	41.54	30.62
167	Middleton North	BQ	3	4562	**0.7**	58	0.26	0.46	41.81	31.07
140	Tonge	BL	3	4576	**0.7**	57	0.26	0.46	42.07	31.53
199	Whelley	BW	3	4666	**0.6**	56	0.26	0.47	42.33	32.00
142	Spotland	BQ	2	3139	**0.6**	56	0.18	0.31	42.51	32.31
85	St.Martin's	BU	3	4773	**0.6**	55	0.26	0.48	42.77	32.79
141	Dukinfield	BT	3	4930	**0.6**	53	0.26	0.49	43.03	33.29
101	Hindley	BW	3	4933	**0.6**	53	0.26	0.49	43.30	33.78
43	Swinton North	BR	3	4957	**0.6**	53	0.26	0.50	43.56	34.28
63	Winton	BR	3	4969	**0.6**	53	0.26	0.50	43.82	34.77
80	Eccles	BR	3	5061	**0.6**	52	0.26	0.51	44.08	35.28
143	Cadishead	BR	2	3501	**0.6**	50	0.18	0.35	44.26	35.63
157	Besses	BM	2	3601	**0.6**	49	0.18	0.36	44.43	35.99
70	Barlow Moor	BN	3	5652	**0.5**	46	0.26	0.57	44.70	36.56
52	Hindsford	BW	3	5653	**0.5**	46	0.26	0.57	44.96	37.12
49	Old Moat	BN	3	5667	**0.5**	46	0.26	0.57	45.22	37.69
81	Heywood North	BQ	2	3859	**0.5**	45	0.18	0.39	45.40	38.08
72	Longford	BU	2	3907	**0.5**	45	0.18	0.39	45.57	38.47
46	Sale Moor	BU	2	3912	**0.5**	45	0.18	0.39	45.75	38.86
158	Sedgley	BM	2	3954	**0.5**	44	0.18	0.40	45.92	39.26
200	Brooklands	BU	2	4005	**0.5**	44	0.18	0.40	46.10	39.66
91	Pilkington Park	BM	2	4041	**0.5**	43	0.18	0.40	46.28	40.06
181	Church	BM	2	4159	**0.5**	42	0.18	0.42	46.45	40.48
102	Failsworth West	BP	2	4198	**0.5**	42	0.18	0.42	46.63	40.90
182	Saddleworth West	BP	2	4241	**0.5**	41	0.18	0.42	46.80	41.33
139	Deane-Cum-Heaton	BL	3	6470	**0.5**	41	0.26	0.65	47.06	41.97
169	Redvales	BM	2	4317	**0.5**	41	0.18	0.43	47.24	42.41
170	Ashton St.Michael's	BT	2	4416	**0.5**	40	0.18	0.44	47.41	42.85
117	Barton	BR	2	4422	**0.5**	40	0.18	0.44	47.59	43.29
109	Milnrow	BQ	2	4441	**0.5**	39	0.18	0.44	47.77	43.74
23	Newtown	BW	2	4708	**0.4**	37	0.18	0.47	47.94	44.21
47	Walkden North	BR	2	4845	**0.4**	36	0.18	0.49	48.12	44.69
71	Moston	BN	2	4974	**0.4**	35	0.18	0.50	48.29	45.19
64	Swinton South	BR	2	4997	**0.4**	35	0.18	0.50	48.47	45.69
131	Davenport	BS	2	5036	**0.4**	35	0.18	0.50	48.64	46.20
53	Withington	BN	2	5152	**0.4**	34	0.18	0.52	48.82	46.71
99	Edgeley	BS	2	5312	**0.4**	33	0.18	0.53	48.99	47.24
212	Langtree	BW	2	5341	**0.4**	33	0.18	0.53	49.17	47.78
98	Burnage	BN	2	5494	**0.4**	32	0.18	0.55	49.34	48.33
54	Hindley Green	BW	2	5529	**0.4**	32	0.18	0.55	49.52	48.88
168	Breightmet	BL	2	5677	**0.4**	31	0.18	0.57	49.69	49.45
48	South Reddish	BS	2	5949	**0.3**	29	0.18	0.60	49.87	50.05
159	Cheadle Hulme North	BS	2	5989	**0.3**	29	0.18	0.60	50.04	50.65
65	Davyhulme East	BU	1	3563	**0.3**	25	0.09	0.36	50.13	51.01
209	Davyhulme West	BU	1	3791	**0.3**	23	0.09	0.38	50.22	51.38
184	Royton South	BP	1	3894	**0.3**	22	0.09	0.39	50.31	51.77
185	Castleton	BQ	1	3896	**0.3**	22	0.09	0.39	50.39	52.17
172	Ince	BW	1	4121	**0.2**	21	0.09	0.41	50.48	52.58
57	Bowdon	BU	1	4166	**0.2**	21	0.09	0.42	50.57	53.00
74	Chadderton South	BP	1	4240	**0.2**	21	0.09	0.42	50.66	53.42

203	Timperley	BU	1	4285	**0.2**	20	0.09	0.43	50.74	53.85
193	Altrincham	BU	1	4346	**0.2**	20	0.09	0.44	50.83	54.28
204	Beech Hill	BW	1	4370	**0.2**	20	0.09	0.44	50.92	54.72
86	Healey	BQ	1	4464	**0.2**	20	0.09	0.45	51.01	55.17
186	Littleborough	BQ	1	4541	**0.2**	19	0.09	0.45	51.10	55.62
183	Elton	BM	1	4620	**0.2**	19	0.09	0.46	51.18	56.09
42	Denton West	BT	1	4744	**0.2**	18	0.09	0.48	51.27	56.56
201	Heald Green	BS	1	4834	**0.2**	18	0.09	0.48	51.36	57.05
37	Atherton	BW	1	4894	**0.2**	18	0.09	0.49	51.45	57.54
202	Manor	BS	1	4955	**0.2**	18	0.09	0.50	51.53	58.03
187	Hope Carr	BW	1	5025	**0.2**	17	0.09	0.50	51.62	58.54
120	Heaton Moor	BS	1	5033	**0.2**	17	0.09	0.50	51.71	59.04
160	Radcliffe North	BM	1	5042	**0.2**	17	0.09	0.51	51.80	59.55
50	Denton North East	BT	1	5074	**0.2**	17	0.09	0.51	51.88	60.05
119	Waterhead	BP	1	5169	**0.2**	17	0.09	0.52	51.97	60.57
110	Leigh East	BW	1	5221	**0.2**	17	0.09	0.52	52.06	61.09
171	Claremont	BR	1	5284	**0.2**	17	0.09	0.53	52.15	61.62
103	Audenshaw	BT	1	5287	**0.2**	17	0.09	0.53	52.23	62.15
161	Lightshaw	BW	1	5358	**0.2**	16	0.09	0.54	52.32	62.69
144	Ramsbottom	BM	1	5374	**0.2**	16	0.09	0.54	52.41	63.23
192	Romiley	BS	1	5660	**0.2**	15	0.09	0.57	52.50	63.79
118	Didsbury	BN	1	5790	**0.2**	15	0.09	0.58	52.59	64.37
145	Bredbury	BS	1	5867	**0.2**	15	0.09	0.59	52.67	64.96
51	Tyldesley East	BW	0	5703	**0.0**	0	0.00	0.57	52.67	65.53
55	Cale Green	BS	0	4558	**0.0**	0	0.00	0.46	52.67	65.99
58	Kearsley	BL	0	5019	**0.0**	0	0.00	0.50	52.67	66.49
87	West Bramhall	BS	0	5490	**0.0**	0	0.00	0.55	52.67	67.04
88	Bryn	BW	0	4706	**0.0**	0	0.00	0.47	52.67	67.51
92	Middleton East	BQ	0	3447	**0.0**	0	0.00	0.35	52.67	67.86
93	Walkden South	BR	0	5222	**0.0**	0	0.00	0.52	52.67	68.38
94	North Reddish	BS	0	6278	**0.0**	0	0.00	0.63	52.67	69.01
95	Stalybridge South	BT	0	4150	**0.0**	0	0.00	0.42	52.67	69.43
104	Failsworth East	BP	0	4273	**0.0**	0	0.00	0.43	52.67	69.86
111	Blackrod	BL	0	4828	**0.0**	0	0.00	0.48	52.67	70.34
112	Bedford-Astley	BW	0	5024	**0.0**	0	0.00	0.50	52.67	70.84
121	Middleton South	BQ	0	3969	**0.0**	0	0.00	0.40	52.67	71.24
124	Chorlton	BN	0	6115	**0.0**	0	0.00	0.61	52.67	71.85
125	Shaw	BP	0	4137	**0.0**	0	0.00	0.41	52.67	72.27
126	Worsley & Boothstown	BR	0	4461	**0.0**	0	0.00	0.45	52.67	72.71
132	Horwich	BL	0	5815	**0.0**	0	0.00	0.58	52.67	73.30
133	Royton North	BP	0	4266	**0.0**	0	0.00	0.43	52.67	73.72
134	Broadheath	BU	0	4368	**0.0**	0	0.00	0.44	52.67	74.16
135	Winstanley	BW	0	5565	**0.0**	0	0.00	0.56	52.67	74.72
146	Unsworth	BM	0	3595	**0.0**	0	0.00	0.36	52.67	75.08
147	Hazel Grove	BS	0	6255	**0.0**	0	0.00	0.63	52.67	75.70
148	Heaton Mersey	BS	0	6291	**0.0**	0	0.00	0.63	52.67	76.33
149	Ashton Waterloo	BT	0	4151	**0.0**	0	0.00	0.42	52.67	76.75
150	Droylsden West	BT	0	4237	**0.0**	0	0.00	0.42	52.67	77.17
151	Aspull-Standish	BW	0	5163	**0.0**	0	0.00	0.52	52.67	77.69
152	Orrell	BW	0	4826	**0.0**	0	0.00	0.48	52.67	78.18
162	North Marple	BS	0	4529	**0.0**	0	0.00	0.45	52.67	78.63
163	Mossley	BT	0	4150	**0.0**	0	0.00	0.42	52.67	79.04

164	Flixton	BU	0	3892	**0.0**	0	0.00	0.39	52.67	79.43
165	Urmston	BU	0	3988	**0.0**	0	0.00	0.40	52.67	79.83
173	Little Lever	BL	0	4563	**0.0**	0	0.00	0.46	52.67	80.29
174	Saddleworth East	BP	0	4942	**0.0**	0	0.00	0.50	52.67	80.79
175	Cheadle	BS	0	4940	**0.0**	0	0.00	0.49	52.67	81.28
176	Great Moor	BS	0	5527	**0.0**	0	0.00	0.55	52.67	81.83
177	Mersey St.Mary's	BU	0	4579	**0.0**	0	0.00	0.46	52.67	82.29
178	Ashton-Golborne	BW	0	4663	**0.0**	0	0.00	0.47	52.67	82.76
188	Westhoughton	BL	0	4135	**0.0**	0	0.00	0.41	52.67	83.17
189	Bradshaw	BL	0	5273	**0.0**	0	0.00	0.53	52.67	83.70
190	Stretford	BU	0	4073	**0.0**	0	0.00	0.41	52.67	84.11
194	Bromley Cross	BL	0	5191	**0.0**	0	0.00	0.52	52.67	84.63
195	Hulton Park	BL	0	5808	**0.0**	0	0.00	0.58	52.67	85.21
196	Holyrood	BM	0	4256	**0.0**	0	0.00	0.43	52.67	85.64
197	Tottington	BM	0	4576	**0.0**	0	0.00	0.46	52.67	86.10
198	Norden and Bamford	BQ	0	4523	**0.0**	0	0.00	0.45	52.67	86.55
205	Chadderton North	BP	0	4153	**0.0**	0	0.00	0.42	52.67	86.97
206	Dukinfield Stalybrid	BT	0	4263	**0.0**	0	0.00	0.43	52.67	87.39
207	Stalbridge North	BT	0	4193	**0.0**	0	0.00	0.42	52.67	87.81
210	Crompton	BP	0	4230	**0.0**	0	0.00	0.42	52.67	88.24
211	South Marple	BS	0	4809	**0.0**	0	0.00	0.48	52.67	88.72
213	Cheadle Hulme South	BS	0	5351	**0.0**	0	0.00	0.54	52.67	89.25
214	East Bramhall	BS	0	6111	**0.0**	0	0.00	0.61	52.67	89.87
			1141	998365	**1.1**				100.00	100.00

Table 7 Performance Measures from Lorenz Curve Plots

	Cumulative Percentage Denominator	Cumulative Percentage Incidents	Effectiveness % (area between Lorenz curve and diagonal)
All Fires	38	66	37.3
Residential Fires	36	64	38.8
Vehicle Fires	27	73	60.3
Malicious Calls	34	71	49.1
Residential Arsons	31	75	55.6
Vehicle Arsons	31	77	59.6

Table 8 **Super Profile Target Market Ranking Report: Burglary Dwelling**
[Merseyside Command and Control Data: 1992-94]

ESRC Merseyside Crime and Disadvantage Project
Super Profile Target Market Ranking Report : Burglary Dwelling

Analysis based on three full years of Command & Control data: 1992/93/94

Note: Count of Calls to the Police — Note: Affl. Rank - Affluence Rank sequence

Target Market	Affl. Rank	Residential Properties	Burglary Dwelling	Annual Rate/1000	Index	% Resid. Property	% Burg. Dwelling	Cum% Res Prop	Cum% C&C Calls
E3	30	760	284	125	309	0.13	0.41	0.13	0.41
E21	36	1452	441	101	251	0.25	0.63	0.38	1.04
E30	22	3385	1000	98	244	0.59	1.44	0.97	2.48
X41	41	538	147	91	226	0.09	0.21	1.07	2.69
E29	35	4599	1251	91	225	0.80	1.80	1.87	4.49
G23	17	11406	2584	76	187	1.98	3.71	3.85	8.20
J31	33	3752	845	75	186	0.65	1.21	4.50	9.41
B5	29	6158	1224	66	164	1.07	1.76	5.57	11.17
E10	24	1524	264	58	143	0.26	0.38	5.84	11.55
E20	34	1558	266	57	141	0.27	0.38	6.11	11.93
J40	39	27661	4027	49	120	4.81	5.79	10.92	17.72
J38	38	107867	15894	48	120	18.75	22.55	29.67	40.26
D13	14	3345	461	46	114	0.58	0.66	30.25	40.92
A1	1	9017	1187	44	109	1.57	1.71	31.82	42.63
J39	40	15628	1988	42	105	2.72	2.86	34.53	45.49
I34	27	42449	5294	42	103	7.38	7.61	41.91	53.09
G26	21	3952	491	41	103	0.69	0.71	42.60	53.80
F19	10	227	28	41	102	0.04	0.04	42.64	53.84
C16	12	8034	988	41	102	1.40	1.42	44.04	55.26
D27	23	44711	5241	39	97	7.77	7.53	51.81	62.78
I37	37	13061	1463	37	93	2.27	2.10	54.08	64.89
B18	3	1654	184	37	92	0.29	0.26	54.37	65.15
B12	19	15348	1622	35	87	2.67	2.33	57.04	67.48
D28	20	4879	505	35	86	0.85	0.73	57.88	68.21
F25	9	253	28	34	85	0.04	0.04	57.93	68.24
G22	32	12933	1325	34	85	2.25	1.90	60.18	70.15
B17	5	2060	209	34	84	0.36	0.30	60.53	70.45
A6	6	5467	544	33	82	0.95	0.78	61.48	71.23
H36	28	23968	2377	33	82	4.17	3.41	65.65	74.64
C14	11	31130	3010	32	80	5.41	4.32	71.06	78.97
H24	18	23063	2192	32	79	4.01	3.15	75.07	82.12
G32	25	9318	881	32	78	1.62	1.27	76.69	83.38
H33	16	17037	1607	31	78	2.96	2.31	79.65	85.69
A4	2	27229	2497	31	76	4.73	3.59	84.39	89.28
C11	26	38448	3343	29	72	6.68	4.80	91.07	94.08
B7	4	21675	1795	28	68	3.77	2.58	94.84	96.66
D15	7	21428	1762	27	68	3.73	2.53	98.58	99.19
D9	15	439	35	27	66	0.08	0.05	98.64	99.24
D2	8	3903	288	25	61	0.68	0.41	99.32	99.65
D8	13	3065	212	23	57	0.53	0.30	99.85	99.96
I35	31	851	29	11	28	0.15	0.04	100.00	100.00
	Totals	575231	69611						
		Mean Rate / 1000 =		40.34					

Table 9 **Super Profile Target Market Ranking Report: Sexual Offences**
[Merseyside Command and Control Data: 1992-94]

ESRC Merseyside Crime and Disadvantage Project
Super Profile Target Market Ranking Report : Sexual Offences

Analysis based on three full years of Command & Control data: 1992/93/94

Note: Count of Calls to the Police — Note: Affl. Rank - Affluence Rank sequence

Target Market	Affl. Rank	Mean Total Psons Pres	Sex Off. Calls	Annual Rate/100k	Index	% Psons Present	%SexOff Calls	Cum% Pson/Pres	Cum% C&C Calls
E10	24	7798	561	2398	2215	0.56	12.36	0.56	12.36
E3	30	1864	122	2181	2015	0.13	2.69	0.69	15.05
E30	22	7240	141	649	600	0.52	3.11	1.21	18.16
E20	34	4553	84	615	568	0.33	1.85	1.54	20.01
E29	35	8923	143	534	493	0.64	3.15	2.17	23.17
G23	17	28650	268	312	288	2.05	5.91	4.23	29.07
J31	33	8028	42	174	161	0.57	0.93	4.80	30.00
C16	12	16973	69	136	125	1.22	1.52	6.02	31.52
J40	39	69807	269	128	119	5.00	5.93	11.01	37.45
F25	9	804	3	124	115	0.06	0.07	11.07	37.51
G22	32	24308	90	123	114	1.74	1.98	12.81	39.50
J38	38	263585	908	115	106	18.87	20.01	31.68	59.51
G32	25	15150	48	106	98	1.08	1.06	32.77	60.57
D13	14	7373	23	104	96	0.53	0.51	33.29	61.08
H36	28	49414	149	101	93	3.54	3.28	36.83	64.36
B5	29	15351	41	88	82	1.10	0.90	37.93	65.26
I37	37	32004	84	87	81	2.29	1.85	40.22	67.11
J39	40	44709	116	86	80	3.20	2.56	43.42	69.67
I34	27	102138	263	86	79	7.31	5.80	50.74	75.47
A1	1	22829	58	85	78	1.63	1.28	52.37	76.75
A6	6	12214	31	85	78	0.87	0.68	53.24	77.43
G26	21	7905	19	80	74	0.57	0.42	53.81	77.85
B18	3	3940	9	76	70	0.28	0.20	54.09	78.05
B17	5	4569	10	73	67	0.33	0.22	54.42	78.27
D9	15	947	2	70	65	0.07	0.04	54.49	78.31
D27	23	106073	215	66	62	7.59	4.74	62.08	83.05
H33	16	39990	79	66	61	2.86	1.74	64.94	84.79
H24	18	52130	100	64	59	3.73	2.20	68.68	87.00
C14	11	72306	126	58	54	5.18	2.78	73.85	89.77
D28	20	12770	22	57	53	0.91	0.48	74.77	90.26
B12	19	32579	54	55	51	2.33	1.19	77.10	91.45
D15	7	51499	78	50	47	3.69	1.72	80.79	93.17
E21	36	3598	5	46	43	0.26	0.11	81.04	93.28
C11	26	96758	126	43	40	6.93	2.78	87.97	96.05
A4	2	68399	87	42	39	4.90	1.92	92.87	97.97
D2	8	11276	12	35	33	0.81	0.26	93.68	98.24
B7	4	49733	51	34	32	3.56	1.12	97.24	99.36
X41	41	29631	27	30	28	2.12	0.60	99.36	99.96
D8	13	6396	2	10	10	0.46	0.04	99.82	100.00
F19	10	542	0	0	0	0.04	0.00	99.85	100.00
I35	31	2038	0	0	0	0.15	0.00	100.00	100.00
	Totals	1396780	4537						
		Mean Rate / 100k =		108.27					

Figure 1 **Greater Manchester Metropolitan Borough Council (District) and Electoral Ward Boundaries 1991**

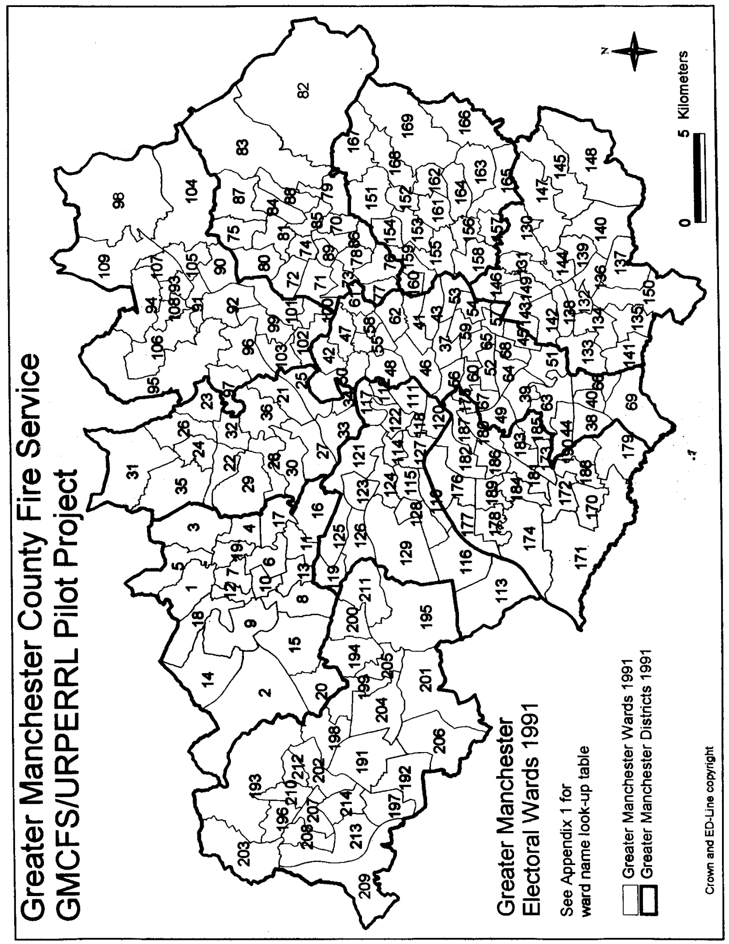
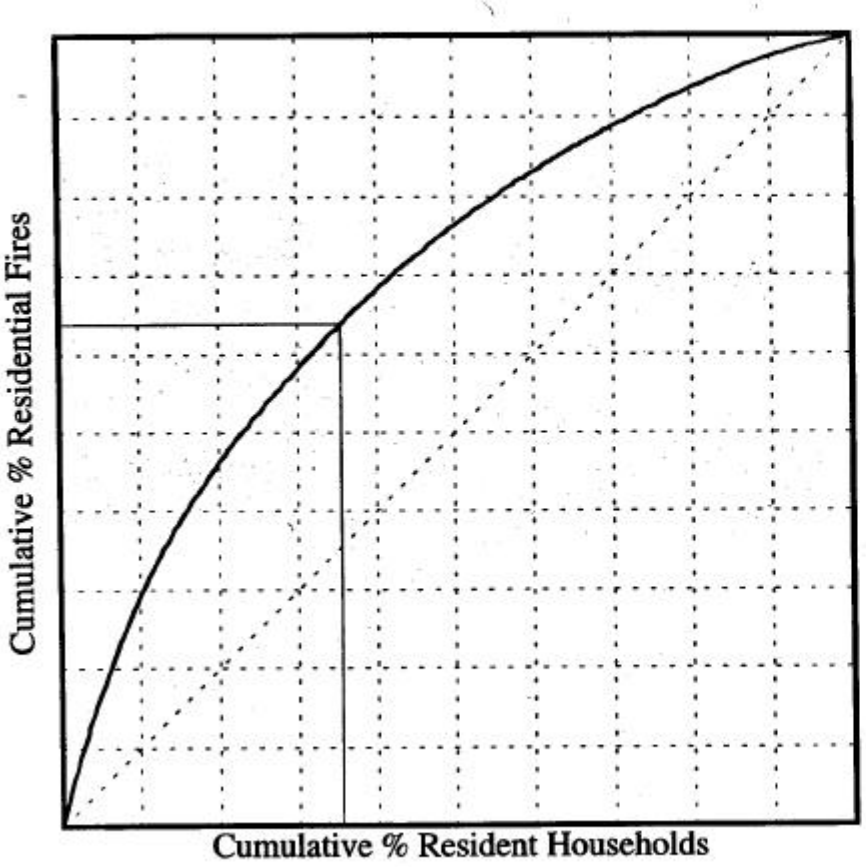
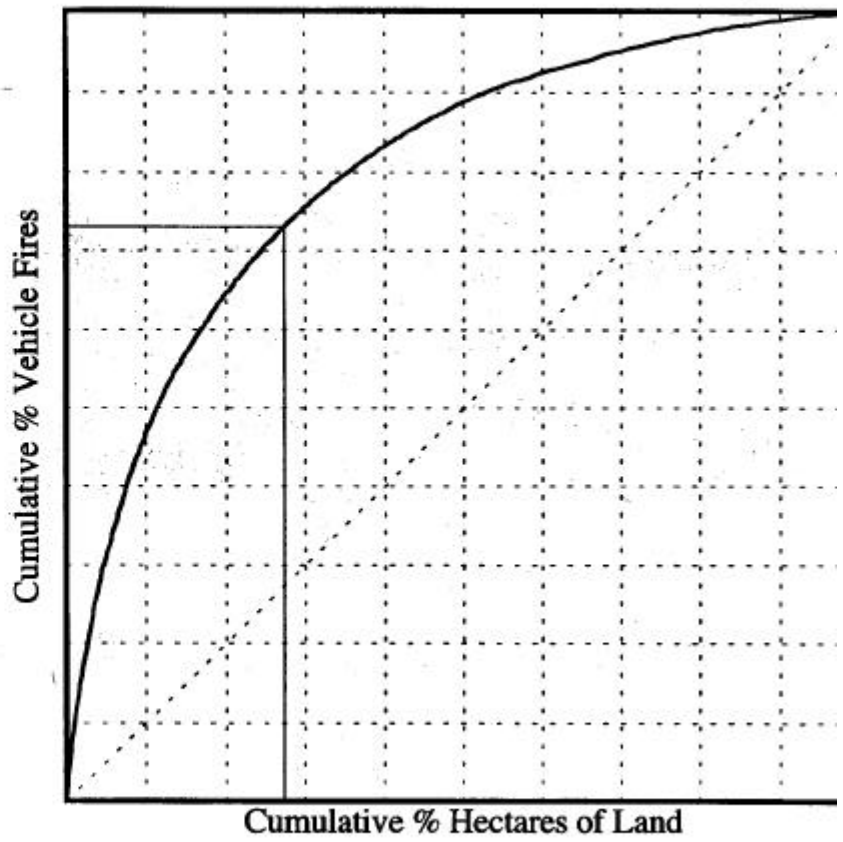


Figure 2 **Lorenz Curve for Residential Fires 1996**



Effectiveness = 38.8%

Figure 3 **Lorenz Curve for Vehicle Fires 1996**



Effectiveness = 60.3%

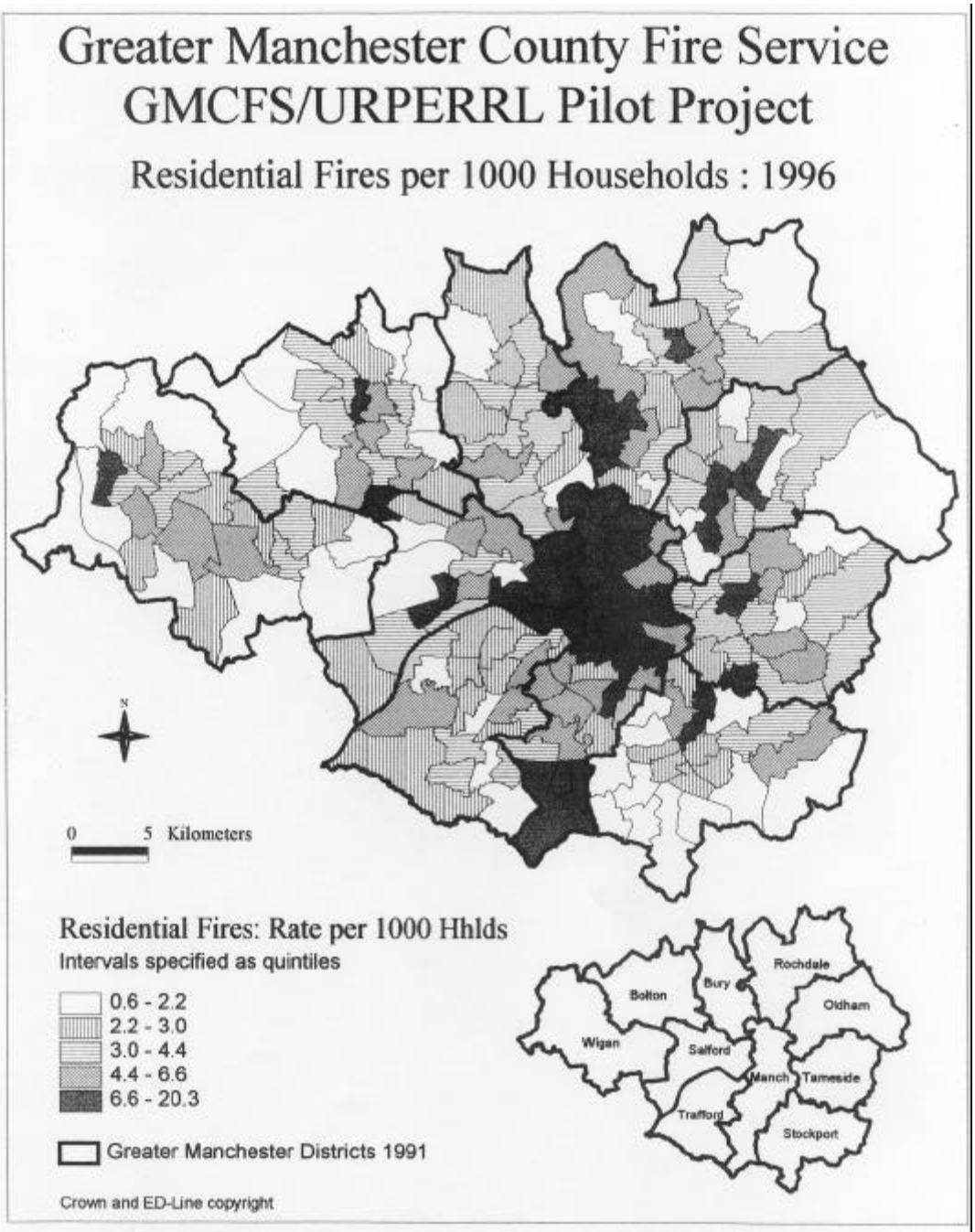


Figure 4 **Residential Fires per 1000 Households : Rates plotted for GMCFS Wards for 1996**

Figure 5 **Lorenz Curve: Burgalry Dwelling Calls vs Residential Properties**
[Merseyside Command and Control Data: 1992-94]

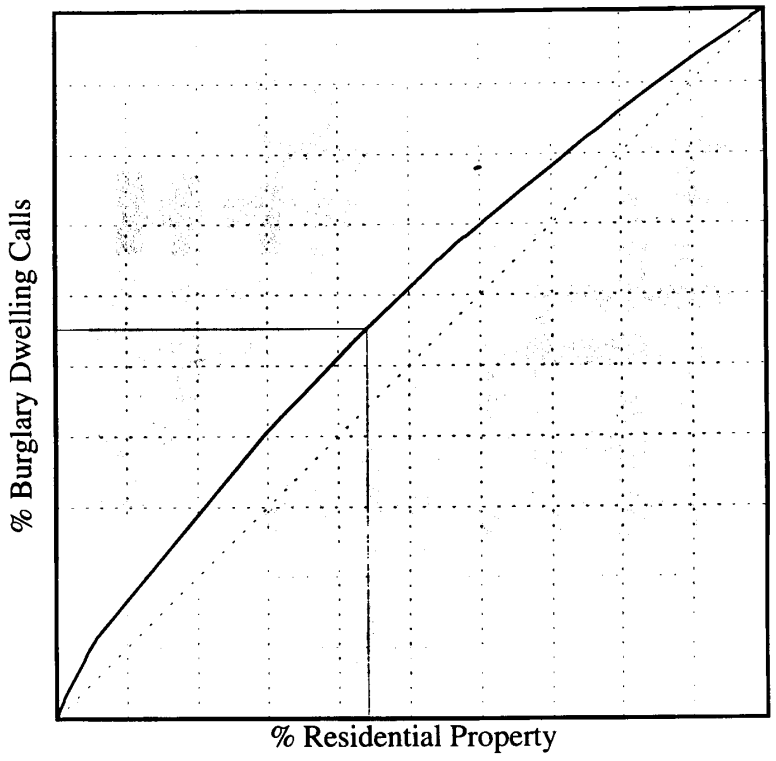
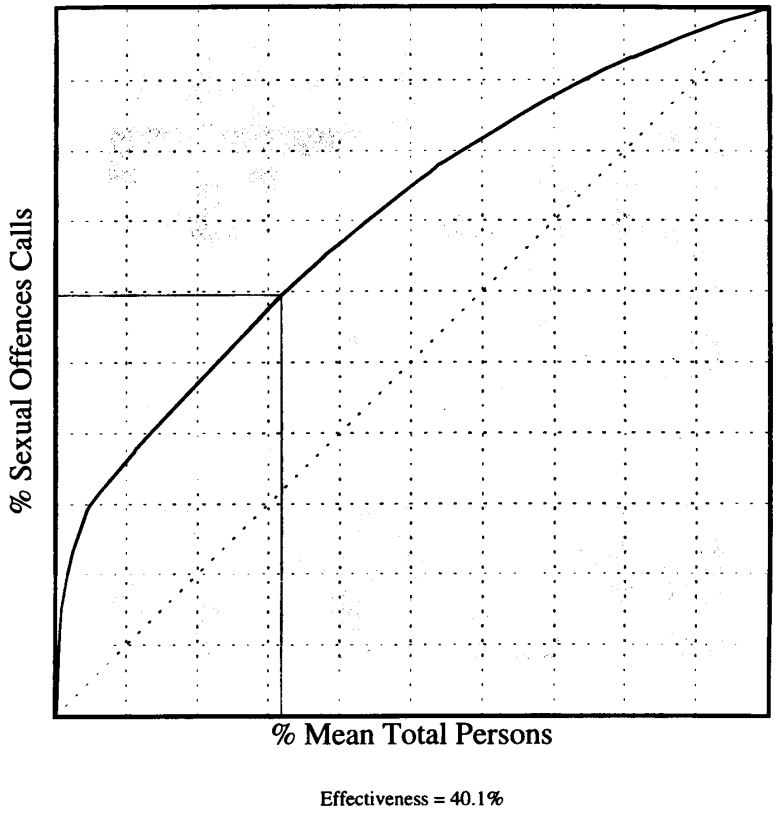


Figure 6 **Lorenz Curve: Sexual Offences Calls vs Mean Tot Persons Present**
[Merseyside Command and Control Data: 1992-94]



Appendix 1 Ward Names by District for the Area Served by GMCFS

Ward Names by District for the Area Served by GMCFS

Wards in Bolton

1 Astley Bridge
2 Blackrod
3 Bradshaw
4 Breightmet
5 Bromley Cross
6 Burnden
7 Central
8 Daubhill
9 Deane-Cum-Heaton
10 Derby
11 Farnworth
12 Halliwell
13 Harper Green
14 Horwich
15 Hulton Park
16 Kearsley
17 Little Lever
18 Smithills
19 Tonge
20 Westhoughton

Wards in Bury

21 Besses
22 Church
23 East
24 Elton
25 Holyrood
26 Moorside
27 Pilkington Park
28 Radcliffe Central
29 Radcliffe North
30 Radcliffe South
31 Ramsbottom
32 Redvales
33 St.Mary's
34 Sedgley
35 Tottington
36 Unsworth

Wards in Manchester

37 Ardwick
38 Baguley
39 Barlow Moor
40 Benchill
41 Beswick and Clayton
42 Blackley
43 Bradford
44 Brooklands
45 Burnage
46 Central
47 Charlestown
48 Cheetham
49 Chorlton
50 Crumpsall
51 Didsbury
52 Fallowfield
53 Gorton North
54 Gorton South
55 Harpurhey
56 Hulme
57 Levenshulme
58 Lightbowne
59 Longsight
60 Moss Side
61 Moston
62 Newton Heath
63 Northenden
64 Old Moat
65 Rusholme
66 Sharston
67 Whalley Range
68 Withington
69 Woodhouse Park

Wards in Oldham

70 Alexandra
71 Chadderton Central
72 Chadderton North
73 Chadderton South
74 Coldhurst
75 Crompton
76 Failsworth East
77 Failsworth West
78 Hollinwood
79 Lees
80 Royton North
81 Royton South
82 Saddleworth East
83 Saddleworth West
84 St.James
85 St.Marys
86 St.Pauls
87 Shaw
88 Waterhead
89 Werneth

Wards in Rochdale

90 Balderstone
91 Brimrod and Deeplish
92 Castleton
93 Central and Falinge
94 Healey
95 Heywood North
96 Heywood South
97 Heywood West
98 Littleborough
99 Middleton Central
100 Middleton East
101 Middleton North
102 Middleton South
103 Middleton West
104 Milnrow
105 Newbold
106 Norden and Bamford
107 Smallbridge&Wardlew
108 Spotland
109 Wardle

Wards in Salford

110 Barton
111 Blackfriars
112 Broughton
113 Cadishead
114 Claremont
115 Eccles
116 Irlam
117 Kersal
118 Langworthy
119 Little Hulton
120 Ordsall
121 Pendlebury
122 Pendleton
123 Swinton North
124 Swinton South
125 Walkden North
126 Walkden South
127 Weaste and Seedley
128 Winton
129 Worsley & Boothstown

Wards in Stockport

130 Bredbury
131 Brinnington
132 Cale Green
133 Cheadle
134 Cheadle Hulme North
135 Cheadle Hulme South
136 Davenport
137 East Bramhall
138 Edgeley
139 Great Moor
140 Hazel Grove
141 Heald Green
142 Heaton Mersey
143 Heaton Moor
144 Manor
145 North Marple
146 North Reddish
147 Romiley
148 South Marple
149 South Reddish
150 West Bramhall

Wards in Tameside

151 Ashton Hurst
152 Ashton St.Michael's
153 Ashton St.Peters'
154 Ashton Waterloo
155 Audenshaw
156 Denton North East
157 Denton South
158 Denton West
159 Droylsden East
160 Droylsden West
161 Dukinfield
162 Dukinfield Stalybridge
163 Hyde Godley
164 Hyde Newton
165 Hyde Werneth
166 Longdendale
167 Mossley
168 Stalybridge North
169 Stalybridge South

Wards in Trafford

170 Altrincham
171 Bowdon
172 Broadheath
173 Brooklands
174 Bucklow
175 Clifford
176 Davyhulme East
177 Davyhulme West
178 Flixton
179 Hale
180 Longford
181 Mersey St.Mary's
182 Park
183 Priory
184 St.Martin's
185 Sale Moor
186 Stretford
187 Talbot
188 Timperley
189 Urmston
190 Village

Wards in Wigan

191 Abram
192 Ashton-Golborne
193 Aspull-Standish
194 Atherton
195 Bedford-Astley
196 Beech Hill
197 Bryn
198 Hindley
199 Hindley Green
200 Hindsford
201 Hope Carr
202 Ince
203 Langtree
204 Leigh Central
205 Leigh East
206 Lightshaw
207 Newtown
208 Norley
209 Orrell
210 Swinley
211 Tyldesley East
212 Whelley
213 Winstanley
214 Worsley Mesnes

Appendix 2 Super Profile Lifestyles and Target Markets

A. AFFLUENT ACHIEVERS
A01 Very High Income Professionals in Exclusive Areas
A04 Mature Families with Large Detached Properties in 'Stockbroker Belts'
A06 Mature Families in Select Suburban Properties

B. THRIVING GREYS
B05 Highly Qualified Professionals in Mixed Housing
B07 Affluent Ageing Couples, Many in Purchased Property
B12 Older Professionals in Retirement Areas
B17 Comfortably Well-Off Older Owner Occupiers
B18 Affluent Ageing Couples in Rural Areas

C. SETTLED SUBURBANS
C11 White Collar Families in Owner Occupied Suburban Semis
C14 Mature White Collar Couples Established in Suburban Semis
C16 White Collar Couples in Mixed Suburban Housing

D. NEST BUILDERS
D02 Mortgaged Commuting Professionals, with Children, in Detached Properties
D08 Double Income Young Families in Select Properties
D09 Military Families
D13 Young White Collar Families in Small Semis and Terraces
D15 Young White Collar Families in Smaller Semis
D27 Young Blue and White Collar Families in Semis and Terraces
D28 Young Families in Terraces - Many Council

E. URBAN VENTURERS
E03 High Income Young Professionals, Many Renting (mainly Greater London)
E10 Young White Collar Families in Multi-Racial Areas (mainly Greater London)
E20 Young Professionals Buying Property
E21 Young Families Buying Basic Terraces in Multi-Racial Areas
E29 Young Families Renting Basic Accommodation in Multi-Racial Areas
E30 Young White Collar Singles Sharing City Centre Accommodation

F. COUNTRY LIFE
F19 Prosperous Farming Communities
F25 Smallholders and Rural Workers, Mainly in Scotland

G. SENIOR CITIZENS
G22 Retired White Collar Workers in Owner Occupied Flats
G23 Older Residents and Young Transient Singles, Many in Seaside Towns
G26 Old and Young Buying Terraces and Flats
G32 Retired Blue Collar Workers in Council Flats, Mainly in Scotland

H. PRODUCERS
H24 Older White Collar Owner Occupiers in Semis
H33 Older Workers Established in Semis and Terraces
H36 Older and Retired Blue Collar Workers in Small Council Properties

I. HARD-PRESSED FAMILIES
I34 Blue Collar Families in Council Properties
I35 Young Blue Collar Families in Council Terraces
I37 Manufacturing Workers in Terraced Housing

J. 'HAVE NOTS'
J31 Families in Council Flats in Multi-Racial Areas. High Unemployment
J38 Blue Collar Young Families in Council Properties. High Unemployment
J39 Young Families, Many Single Parent. High Unemployment
J40 Young Singles and Pensioners in Council Flats. High Unemployment