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Paper 56

Preventing Vandalism

What Works?

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The Home Office Police Research Group (PRG) was formed in 1992 to carry out and manage research relevant to the work of the police service. The terms of reference for the Group include the requirement to identify and disseminate good policing practice.

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Foreword

Vandalism is a perennial problem and combating it has, over the years, absorbed the time and energy of an enormous number of people. The extent of the problem is difficult to assess but the Home Office Working Group on the Costs of Crime in 1987 received evidence that vandalism against public buildings and services cost £500 million. For the same year, there were an estimated 2,931,000 incidents of vandalism against private property at a cost of £100 million to the victims.

This study set out to provide guidance on good practice. The researchers found that there was not the expected body of well evaluated schemes and initiatives on which to base recommendations, and therefore tackled their remit by exploring the subject matter in two different ways. The first of these was to analyse four different **types of approach** to tackling vandalism; the second was to examine four **case studies,** in which two or more of these approaches had been combined.

It is hoped the paper will be useful for practitioners in offering a base from which preventive programmes can be developed.

I M BURNS
Deputy Under Secretary of State
Home Office, Police Department
October 1994

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Executive Summary

Vandalism is a perennial problem. There is no single definition and no model solution. Its direct costs amount to many millions of pounds a year, and its wider effects range from inconvenience and discomfort, to fear, and actual danger to the public.

Considerable energy and resources have been directed at understanding vandalism and devising preventive schemes. However, these remain largely unevaluated. This paper reviews what evaluation does exist and attempts to draw out from the literature and case studies key issues for practitioners and examples of good practice.

Section 1. The first section looks at the difficulty of defining acts and/or damage as vandalism. It examines motivations and assesses the extent of vandalism and its importance as an issue for action and concern.

Section 2. Four different approaches to the prevention and control of vandalism are presented: education; social programmes; the actions of the criminal justice system; and opportunity reduction. Each is discussed separately; the thinking behind each approach is explored and examples are given to help practitioners in identifying which approach, or approaches, might be appropriate to their particular vandalism problem. Key findings are:

- ☞ publicity on its own is not effective in preventing vandalism;
- ☞ more subtle approaches aimed at building up social responsibility by showing children the consequences of their vandalism may be effective in reducing damage caused inadvertently;
- ☞ the criminal justice system's role in preventing vandalism is limited by the fact that so much damage goes unreported, and that it is often very difficult to identify the offenders in those incidents which are reported to the police;
- ☞ making targets less vulnerable particularly through increased surveillance appears to have measurable effects, especially if the offender believes that it leads to immediate reprisals, for example the use of CCTV on buses in Newcastle and on trains on Merseyside. However, this approach may displace vandalism to softer targets elsewhere.

Section 3. Four **case** studies of schemes that have used a **combination** of the four approaches are examined. Important lessons from each are spelt out:

* the visible presence of uniformed staff on public transport in the Netherlands was found to be important in reducing vandalism;

* packages of measures, as shown by the initiative to combat graffiti on the underground, appear to have more success than individual measures aiming to alter only one feature;

* accurate identification of the problem, allocation of responsibility for tackling it and efficient management were shown by British Telecom's campaign against payphone vandalism to be crucial to successful prevention;

* the vandalism prevention programme in Manchester schools highlighted some of the implementation problems common in multi-agency initiatives.

Section 4. The report concludes with a five step description of how a vandalism prevention programme might best be set up and run.

Finally, the bibliography provides guidance to further information, including a number of practical guides on design, construction and management of the built environment, security lighting, CCTV, graffiti removal and school glazing.

Contents

List of Figures

List of Tables

1. Introduction

This report was originally intended to review and evaluate the effectiveness of methods to prevent vandalism. However, the scarcity of properly evaluated schemes made it impossible to come to firm conclusions about good practice and model solutions. Instead, four approaches to the control of vandalism and graffiti are discussed: education; social programmes; the criminal justice system; and opportunity reduction. Each approach is considered in its theoretical context, using examples of anti-vandalism programmes as illustration, and reviewing such limited evidence as there is for effectiveness. This should assist practitioners and those concerned with the problem to develop sound anti-vandalism strategies based on theoretical principles. It should also help in understanding when projects fail, why they do so. Case studies of initiatives that have used a combination of approaches to tackle vandalism on public transport, public telephones and schools are examined. Important lessons from each are highlighted. Some **practical** guidelines for identifying and responding to vandalism problems are offered at the end of the paper.

What is vandalism?

Section 1 of the Criminal Damage Act of 1971 refers to, "..a person who without lawful excuse destroys or damages any property". In England and Wales, however, there is no statutory offence of "vandalism". Within the legal system it is classified into a number of categories from "criminal damage up to £20" to "criminal damage endangering life" and "arson".

There is equally no single definition of vandalism in common usage. Definitions will vary according to the social context of the act. Consider, for example, reactions to a child's name written on the wall of his local school, and to the discovery of Winston Churchill's signature carved into the walls of his public school. Although the acts are the same, they are likely to be judged very differently.

In dealing with these definitional problems, one approach has been to focus on motives. Many researchers and practitioners have used adaptations of Cohen's typology as a framework for understanding vandalism. This categorised vandalism in six ways, as acquisitive; *tactical; ideological; vindictive; play, or malicious* (Cohen, 1973). Although these classifications were first produced in 1973, the common view is that they have still not been improved upon.

It remains nevertheless problematic to incorporate this motivational attribution into the definition of vandalism itself. How, for example, is someone viewing a broken window to know whether it happened in the course of play or whether it was deliberately intended to damage the window? An alternative classification concentrating on targets of the act - buildings, cars and so forth - likewise fails to distinguish accidental damage from vandalism.

Table 1: Cohens typology of vandalism

Types of vandalism	
Acquisitive	to acquire money or property, for example, breaking open telephone boxes
Tactical	the damage is a conscious tactic, a means to achieve some other end, such as breaking a window to be arrested and get a bed in prison
Ideological	similar to tactical vandalism, but carried out to further an explicit ideological cause or to deliver a message, for example, chalking slogans on walls
Vindictive	damage in order to obtain revenge, for example, breaking school windows to settle a grudge against the head teacher
Play	damage in the context of a game; who can break the most windows of a house
Malicious	an expression of rage or frustration and is often directed at symbolic middle class property. It is this type that has the vicious and apparently senseless facade which people find so difficult to understand

Source: Adapted from Cohen, 1973

For the practitioner, a general definition of vandalism is anyway of limited use. To devise an effective preventive strategy, a precise definition of the particular problem is essential. This should take into account the circumstances in which the behaviour occurs, consider the range of possible motivations and recognise that the multi-faceted nature of vandalism may require different measures to address different aspects of the problem.

The extent and cost of vandalism

The 1992 British Crime Survey (BCS) estimated that there were 2,730,000 incidents of vandalism against private property in 1991 (commercial property is not covered by the BCS) - 18% of all the crime reported in the survey. 8.6% of all those surveyed had had personal property damaged. Comparison with previous British Crime Surveys shows no significant change in the number of incidents from 1981 levels and a decrease since 1987; although this does mask the difference between vehicle and household vandalism, the former showing a 7% increase since 1981 and the latter a 8% drop.

Table 2 shows a comparison of British Crime Survey data on vandalism and notifiable offences of criminal damage recorded by the police (the latter have been

adjusted to exclude offences committed against institutions and organisations). In contrast to BCS findings, police figures indicate a doubling of vandalism incidents since 1981 and an increase of a third since 1987.

Table 2: A comparison of BCS and police data on vandalism and criminal damage

	N in 000s 1991	**% Change 87-91**	**% Change** 81-91
BCS	2,730	-7	**+ 1**
Police	410	+35	+ 105

Source: Mayhew *et* al, 1993

While there has been an increase in reporting vandalism since 1981, the percentage of incidents reported to the police in 1991 for vehicle vandalism (31%) and household vandalism (25%) remains low compared to that for other offences. Given the low level of reporting of vandalism generally, any rise in reporting translates into a much larger increase in recorded crime. But increased reporting cannot fully explain the divergence in trends. It may be that the police now record some offences as vandalism which the BCS classifies as attempted burglary, for example, or attempted motor vehicle theft (Mayhew *et* al, 1993).

While it is difficult to put an exact figure to the incidence of vandalism, it is clear that vandalism affects a substantial proportion of people in Britain.

The difficult problems of determining the costs of vandalism to society were considered by the Home Office working group on the costs of crime (Home Office, 1988). The report quoted LAMS AC's estimate that the cost of all types of criminal damage to local authorities amounted to some £500 million a year. This included other associated costs such as high insurance premiums for badly vandalised areas, the costs of prosecuting individuals and the loss of rent from vandalised homes. The 1992 BCS estimated that the net cost[1] of criminal damage (over and under £20) to private property was nearly £295 million. It has to be remembered that those individuals whose property is most likely to be vandalised are also likely to be those living in the most impoverished areas, who are presumably the people who can least afford repairs.

Perspectives on the importance of vandalism

As well as being very expensive, recent polls suggest that vandalism is of growing

1 The "net cost" is the cost of the crime taking account of insurance payments, compensation and loss of earnings

concern to the public; a MORI poll for The Times found that the public regard vandalism and mugging as the most important problems facing their families. This view was expressed by a third of respondents, compared with just over a fifth in a similar poll ten years ago (The Times, July 1st 1993).

Vandalism has also been implicated in wider social problems and is believed by some to promote fear of crime. In Wilson and Kelling's 1982 article Broken Windows, for example, it was suggested that vandalism in a neighbourhood indicated disorder and neglect, encouraged further damage and neglect, and was seen by the residents as a sign that crime in the neighbourhood was rising. As they perceived there to be more crime, their level of fear increased.

While views differ as to the likelihood of a causal relationship between disorder, fear and crime (Maxfield, 1987; Skogan, 1990; Currie, 1988; Ramsay, 1989), if initiatives to reduce incivilities, such as litter, drunken behaviour and noisy youths, can be effective against fear, clearly preventing vandalism is important in improving people's quality of life.

It has also been claimed that vandalism shows a mindless lack of respect for property and as such offends values upon which society is based. The contrasting view sees vandalism as no more than youthful high spirits or as an unconscious attempt on the part of children to exercise control over their environment by leaving some sign of their presence. Cohen (1973) makes the point that it is actually fun to break things, particularly things like windows that break so easily and make such a satisfying, dramatic noise. In addition, Mayhew and Clarke (1982) present good evidence to suggest that a large proportion of damage is "unwilful" in the sense that it is caused by children in the course of unsupervised play, or that bad design makes an object vulnerable to damage through normal use.

"Youth is disintegrating. The youngsters of the land have a disrespect for their elders and a contempt for authority in every form. Vandalism is rife, and crime of all kinds is rampant among our young people. The nation is in peril" (quoted in Madison, 1970 p.10).

This quotation from an Egyptian priest 4000 years ago, shows that in some cases vandalism may be simply an age-old problem of controlling disorder and high spirits among the young, rather than an indication of declining moral standards. The fact that the vast majority of young people convicted of criminal damage or vandalism offences never have another conviction supports this view (Home Office, 1992).

Conclusion

The financial costs of repairing vandalism damage as well as the human costs of inconvenience and annoyance suffered as a consequence are enough in themselves

to justify putting effort into finding effective ways of reducing its incidence and prevalence. Although it may contribute to fear and anxiety and sometimes have links with the general decline of an area, the research suggests no reason to see vandalism as a sign of rising crime and declining morals.

2. Approaches to controlling vandalism

The literature abounds in initiatives and recommendations on how to combat vandalism. However, many of the schemes lack rigorous evaluation, leaving the practitioner with an extensive choice of measures but little guidance as to their effectiveness or the reasons for success and failure.

This section examines the rationale behind four approaches to the control of vandalism and graffiti: education; social programmes; the criminal justice system; and opportunity reduction. Examples of anti-vandalism programmes are used as illustration, reviewing such limited evidence as there is for effectiveness. This should assist practitioners in thinking through the potential use and impact of various approaches to their own particular vandalism problem. In considering how to deal with a specific problem of vandalism, it is important to recognise that what works in one situation may not work in another. In selecting measures, considerable thought needs to be given to the mechanism that it is hoped to trigger and how far the context is likely to help or hinder the operation of that mechanism.

Pawson and Tilley's work draws attention to the interplay of mechanisms and contexts in determining outcome patterns. A given measure, introduced for instance in a crime prevention project, is deemed to have its effect by triggering one or more underlying causal mechanisms. But particular mechanisms are only triggered in given contexts conducive to their operation (see for example, Tilley, 1993; Pawson & Tilley, 1994). So, for example, if a proposed measure to reduce vandalism to a youth club hut was to encourage nearby residents to keep "watch" over the hut, possible mechanisms could include: increasing the offenders' perceived risk of recognition by residents and apprehension by the police; and, focusing the residents' attention on the site, so that they then operate some measure of informal social control around the site. The characteristics of that particular context, for example, whether the hut was on or visible from a route used frequently by the residents; and, the relationships between and attitudes of the residents to the youth club, will determine which, if any, mechanisms are triggered and in turn impact on the success or failure of the initiative.

In considering the approaches to vandalism described here and elsewhere, this scientific realist model offers useful guidance:

"Practitioners and policy makers reading evaluation reports and considering adoption of interventions described therein need to reflect on the contextual conditions conducive to the successful firing of change mechanisms activated by measures adopted. If these conditions are not present or measures are not implemented in ways which fire the mechanism successfully then the same measure cannot be expected to yield the same outcome." (Tilley, 1993)

Education

Attempts have been made to prevent vandalistic behaviour by educating people, particularly young people, about its nature and consequences. Though education has a broad meaning, and can cover the whole of the child's social learning and training from birth, this section describes only those programmes representing **formal** attempts to educate against vandalism.

Such programmes tend to be based on the assumption that perpetrators rarely take the decision to vandalise property much in advance of the act itself, and, hence, that the consequences are not thought through. Vandals are also assumed to be unaware that they are doing anything fundamentally wrong. Education programmes aim therefore to teach children that vandalism is wrong and has consequences that may involve the police and the criminal justice system. These programmes have not been notably successful (Cohen, 1973; Casserly et al, 1980; Home Office, 1980).

Anti-vandalism publicity

A typical educative scheme of this kind was run by the Home Office in 1978. This took the form of an advertising campaign running two advertisements over three months in the Granada Television area. The first advertisement pointed out that vandalism was a criminal act and that vandals who were caught would be dealt with by the police. The second urged parents to make sure their children were not involved in vandalism, and asked them to take responsibility for controlling their child's behaviour.

An evaluation showed no change in the attitudes of either parents or children towards vandalism in the area, and reported no real change in levels of vandalism (Riley and Mayhew, 1980). It appears that though the children would have been exposed to the advertisements and could reasonably have been expected to have listened to them, they had not taken the message to heart and felt vandalism to be no more risky after the campaign than before.

One obvious problem was that the consequences illustrated in the advertisement were not seen by the youths to match reality. In their experience, vandalism did not lead to arrest and punishment. A publicity campaign of this kind does not, therefore, seem sufficient to prevent vandalism. Increased risk of detection, or some method of reducing opportunities for offending is also required.

It has been suggested that anti-vandalism publicity can even encourage some sorts of vandalism. Wilson (1988) reports a study of graffiti and vandalism in the train system in Sydney, where it was found that the media often played a role in reinforcing what he called "New York style" graffiti. Where the publicity made it clear that such vandalism would be treated severely, the graffiti artists gained

credibility as anti-authoritarian, and formed what might have been a number of relatively minor incidents into a "movement".

British Rail's anti-vandalism campaign

British Rail (BR), in an effort to reduce increasing amounts of vandalism to their tracks, trains and stations undertook to educate young people about the dangers of playing on and near BR property (reported in Cohen, 1973). Press advertisements and posters throughout the country emphasised the safety hazard in railway vandalism and the cost to the passenger of making good the damage.

BR employed a variety of educational techniques and directed their efforts at 10 to 14 year olds. Rather than threaten the children with legal consequences, BR used school visits, lectures and films to stress the risks they ran. This was supplemented by other initiatives including essay competitions in which winners were rewarded, the sponsorship of entertainers and pop groups, and a cartoon strip for children's newspapers, one episode of which showed a character getting electrocuted whilst playing with railway equipment.

Learning from other publicity campaigns, where exhortations aimed at the general public had been seen to fail, BR targeted their audience. They distinguished three sorts of vandal: younger children who they could encourage to take pride in the railway; a group of children who were led into vandalism by friends and could be appealed to on the grounds that vandalism has a harmful effect on those friends, family or their favourite pop stars; and a final group BR called "the hard core of vandals" with whom the only response was to threaten punishment or injury.

Some success was claimed for the programme, and there was apparently a reduction in vandalism to railway property in the years following the campaign. This supports the more subtle and targeted approach taken, and the effectiveness of showing children that their actions have direct and immediate consequences. It was not possible to demonstrate the success of the BR publicity and awareness campaign in isolation, however, because other measures such as improving the security and surveillance of railway equipment were also involved.

Summary

At its simplest, publicity by itself does not seem to be effective against vandalism. The more sophisticated approach of the British Rail campaign, which involved personal contact between potential vandals and BR staff, may have had more success.

Although in the absence of evaluation, no strong claims can be made for the success of the "education" approach in general, presenting potential vandals with the

consequences and implications of vandalism could prevent them committing unthinking acts of vandalism in the future.

Social programmes

Social programmes tend to involve the wider community rather than target a sub-group of potential vandals. They aim to encourage the public to tackle crime problems in a manner specifically tailored to that community so that existing informal controls and social norms are capitalised upon.

Projects to *encourage social responsibility*

"Project Pride" was established to encourage social responsibility in a selection of schools in Ontario, Canada (Report of the Task Force on Vandalism, 1981). Schools with a substantial vandalism problem instituted a system in which the school children were given incentives to control the vandalism themselves. The student body, as represented by the school council, were offered a proportion of any money saved from the costs of repairing vandalism to put towards student activities like dances.

The idea of offering an incentive was to encourage students to exercise peer-group influence on those who might be involved in vandalism, on the rationale that peers may be more successful in promoting socially acceptable behaviour than adults, especially adults in authority. The secondary aim of the incentive scheme was to instil pride in the school so that pupils would have a vested interest in protecting it.

Some success was claimed for "Project Pride" in that the money spent on repairing vandalism fell by one half in the first year of the project. The programme report acknowledges, however, that no independent assessment of its effect could be made, first because there was no comparison with other schools not taking part in the scheme, and secondly because there was little evidence of actual implementation of the incentives programme from some schools allegedly in the scheme (Report of the Task Force on Vandalism, 1981).

Britain has a growing number of Youth Action Groups[2] in schools and youth organisations (currently over 500 in England and Wales). In addition to educating young people about the effects of crime, they aim to tap into their creativity in addressing local problems. While adults are available for consultation and advice, the responsibility for decision and action taking belongs to the young people. Anecdotal evidence on the success of initiatives to tackle "hot spots" of vandalism and graffiti is encouraging. Further evaluation of such schemes would be very useful.

2 Youth Action Groups were previously known as Junior Crime Prevention Panels.

Diversionary projects

Positive claims are also made for diversionary projects. These are based on the assumption that vandalism (and other petty crime) is chiefly the result of children's boredom and that by giving them something else to do, they will be diverted and have less free time to be drawn towards delinquency. Programmes of this kind are relatively common, for example, the Staffordshire Police Activity and Community Enterprise Programme (SPACE), which attempts to entertain children in the school holidays with the aim of filling up their time with productive rather than destructive activity (Heal and Laycock, 1987).

SPACE is a large scale project that involves upwards of 25,000 children each summer holiday period in a variety of sports and visits. It is widely supported in the county by the local police, through sponsorship by local businesses and by the local press and radio, who provide a considerable amount of free advertising of activities. The local authority makes available school premises and equipment, and bus companies provide reduced price travel to members of the scheme. An evaluation showed an encouraging reduction in the numbers of crimes usually associated with juveniles for the month of August when the project is run, but it proved impossible to disassociate this reduction from normally depressed crime figures for this time of year (Heal and Laycock, 1987). The study suggested that the scheme might have had an effect on crime but was not conclusive.

A problem of diversionary projects is that they will rarely have the prevention of vandalism as their primary focus. As crime prevention research has shown, more specific and targeted initiatives have a greater chance of success (Heal and Laycock, 1986; Clarke and Mayhew, 1980). Diversionary projects might increase their chances of success if they were designed specifically to reduce vandalism or graffiti, for example, by providing "graffiti walls". Unacceptable behaviour would be "legalised" or made acceptable in prescribed areas, allowing people to express themselves without causing any lasting harm, and could provide a positive alternative to vandalism.

The RATP (Regie Autonome des Transports Parisiens), who run public transport in Paris, at one time tried negotiating with the leaders of one or two known graffiti gangs, offering allocated "graffiti areas" in exchange for an undertaking not to deface other surfaces on the metro. In this case, negotiations came to nothing as the RATP realised that the gang leaders could not speak for non-gang members, nor could they enforce discipline on their members.

Another example of this approach is reported by Roberts (1990), in which a group called "Beyond Graffiti" co-operated with the local authorities in Southampton to

redesign and decorate a vandalised car park. This, apparently, led to a reduction in crime and improved relations between the local youth and the community at large.

There is no consensus, however, on the worth and practicability of legalised graffiti points. On the positive side, opportunities for communication between authorities and graffiti "artists" are in themselves useful and are to be supported. Conversely, the British Transport Police, for example, take the view that they are undesirable on three counts, claiming they: generate graffiti in neighbouring areas; breed new offenders; and provide an excuse for carrying paint spray cans when challenged elsewhere (BTP, internal memorandum, 1990). Proper evaluations of schemes are needed, before any firm conclusions can be drawn.

Summary

Lacking rigorous evaluation, as they do, the long-term benefits claimed by social crime prevention programmes are hard to quantify, though intuitively community policing relationships should be beneficial.

There is no conclusive evidence that SPACE and other diversionary activities, such as youth clubs or the Boy Scouts, have any immediate effect on crime levels, though they may have long-term effects and may improve the relationship between the public, including young people, and the police by showing the police in a positive role. A study of the SPACE scheme has reported that there are good grounds for believing that it is contributing to better police/public relations (Tyson, 1990).

Criminal justice programmes

The criminal justice system serves a number of purposes, only one of which is the prevention of crime. The initiatives described below represent a variety of criminal justice system responses, discussed with reference to the prevention of vandalism.

Detection and arrest

It is estimated that 73% of vandalism is never reported to the police and that only 56% of that reported is officially recorded (Mayhew et al, 1993). There were 620,311 offences of more serious types of criminal damage[3] recorded in 1991, only 120,047 (19%) of which were cleared up by the police (Home Office, 1992).[4] Given the low level of reporting and that some of the convicted vandals may be responsible for more than one of the police recorded incidents, it becomes obvious that vandals

3 Excludes offences of value £20 and under

4 While more recent criminal statistics are available, for comparison purposes, figures covering the same time period as the 1992 BCS have been used

and the criminal justice system only rarely come into contact. Traditional criminal justice responses must therefore be limited in their impact on the incidence of vandalism.

Evidence shows, however, that increasing the perceived risk of capture and prosecution may be effective (Home Office, 1980; Report of the Ontario Task Force on Vandalism, 1981). An example of an attempt to do this was the initiative, taken by New York and Philadelphia transport authorities, against graffiti and vandalism on their underground train systems. Part of the programme was to make arrest and prosecution procedures more effective and more immediate, for which they claim some success (Scott, 1988; Vuchic and Bata, 1989). Graffiti reduced by 75% over the project period and 2,700 arrests for vandalism were made. Unfortunately for the purposes of evaluation, at the same time as the risks of arrest and detection were being increased, the transport authorities started a new cleaning and graffiti removal exercise making it impossible to sort out the relative contribution of these two approaches in reducing the problem.

Sentencing *vandals*

Home Office statistics show that 87% of people cautioned for all offences were not convicted of a "standard list" offence within two years (Home Office, 1992). This is the most common way of dealing with vandals once they come to police attention, with 3,800 individuals cautioned in 1991 for indictable offences of criminal damage (Home Office, 1992), and would therefore appear to represent the most successful of the standard disposals on offer for vandalism.

If cases go to court, vandals are most frequently fined (2,500 individuals in 1991). Fines are effective in as much as the substantial majority are paid and they are cheaper to administer than most other forms of disposal (Philpotts and Lancucki, 1979). For the more serious types of criminal damage such as arson, or those where lives have been put at risk, sentences given will range from probation or supervision orders to custody.

An *attempt* in *the Netherlands* to introduce diversion *from the criminal justice system*

In the Netherlands, the Ministry of Justice subsidises projects in 43 locations, where young people between the ages of 12 and 17 caught damaging or destroying property are required to clean up or repair the damaged objects in their free time. The scheme combines both the diversion of the offenders from the formal criminal justice system (the scheme operates before the individual is drawn into the criminal justice system) and mediation or reparation. All the work is carried out under the supervision of special co-ordinators, who are at liberty to refer the case back to the police and eventually to the public prosecutor if the offender fails to fulfil the

obligation. The project has now been running for over 10 years, and research has shown that individuals who have been through it are far less likely to reoffend than individuals with similar offending histories, who were dealt with in other more traditional ways.

Mediation and conciliation, where the offender and his victim meet to discuss the offence and possibilities for reparation, are part of the process. Though the practice of mediation is as old as the concept of community, this is a comparatively new idea in criminal justice. Despite the growing literature on this kind of informal process, so far there have been few attempts to evaluate its effectiveness. Studies that have been carried out have found mixed results. The effect of the mediation and conciliation process on an offender's reoffending are largely unknown. Marshall and Merry (1990) report a small reduction in recidivism in projects running in the West Midlands, but find little other evidence of reduced offending. On other measures of success, such as numbers of satisfactorily concluded mediation processes and general emotional benefits to the participants, there are more encouraging findings (Blagg, 1988; Marshall, 1991).

Though it has not been possible to find any mediation schemes in this country that dealt exclusively with vandals, experience has shown that vandals will become involved in most schemes from time to time. Indeed, in one study of police-based mediation projects, an analysis of the offence characteristics of the case-load showed that vandalism was disproportionately represented; there were far more damage offences than would be expected compared to the national distribution of juvenile crime (Marshall and Merry, 1990).

Summary

The use of the criminal justice system as an option to reduce the national incidence of vandalism is limited. It requires the offence to have been reported to the police and an offender subsequently to be cautioned, or convicted and sentenced. Vandalism is, however, poorly reported to the police and, when it is, it is often difficult to identify an offender. Where it is possible to identify an offender, local conflict resolution schemes, where appropriate, can provide useful information about why and how the damage is happening. In such cases the process can help the victim to devise effective methods of prevention.

Opportunity reduction

Opportunity reduction and the situational approach to reducing crime centre on changing the environment to make it more difficult to commit the offence, rather than trying to identify and manipulate the causes and reasons why the offender is

motivated to offend (see Clarke, 1992; Heal and Laycock, 1986). This leads to crime prevention measures which make targets of crime more resistant and robust - "target hardening" - and environmental alterations which enable existing social controls to reestablish themselves, usually in the form of surveillance.

Target hardening

Interfering with the vandals ability to vandalise is one of the more obvious approaches to the control of vandalism. Target hardening might involve use of graffiti-resistant paint, putting lights in corridors out of reach or behind grilles, using toughened glass in windows or perhaps measures that increase the perimeter security around a target particularly at risk.

There are a number of problems alleged to be associated with adopting a target hardening approach. The kinds of measures described above are regarded by some people as threatening signs of a "fortress" society where we are surrounded by fences, barbed wire and guard dogs; where buildings are designed to be defended and to keep some in and others out. However, some feel this is not a necessary consequence of target hardening. As Mayhew and Clarke (1982) say, "there is no reason why a robust housing estate should not be attractively designed" (p. 107). They go on to suggest polycarbonate for windows, resistant to smashing but otherwise indistinguishable from glass, and stippled paint surfaces to be less inviting to the graffiti artist than plain, smooth ones, but not necessarily less attractive.

Another perhaps more serious problem with this approach is that obviously target-hardened buildings may encourage vandalism by implying a history of being vandalised. Visibly increased security may be seen by vandals simply as a challenge.

Emphasis is given to the messages sent by the built environment in an article by Wise (1982) called A Gentle Deterrent to *Vandalism*, where he sets out his ideas about using "target softening" against vandalism. His main thesis is that vandalism is a response to badly designed features of our built environment, and that subtle changes in the use of materials and in the design of everything from parks to bus shelters can prevent them from being vandalised. He assumes that vandalism is opportunistic and that the key to prevention is to "de-opportunise" vulnerable environments. He reports a survey carried out in the USA where it was found that 80% of user-damaged or removed items were within the reach of 95% of the people passing, and points out that damage is not indiscriminate but tends to occur at places and to objects that relate to how the place is being used, ie. a wall will become a graffiti target when it becomes part of a "hangout" area. The first principle is to study place use and patterns in a vandalised area, and to tailor design alterations accordingly. He suggests deeply grooved surfaces or an exposed rock-cement mixture for vulnerable walls, as they do not provide the cues of smooth blankness that might

indicate its possibilities as a writing surface. He suggests that planting flowers in a raised bed around a sign post helps protect the sign because people are less likely to trample on them to get to it. The main aim of his suggestions is to alter designs unobtrusively to lessen their appeal to vandals and to maintain an attractive, unthreatening environment.

Environmental improvements and *increasing opportunities for surveillance*

Other options for opportunity reduction through environmental improvements might involve opening out hidden areas vulnerable to crime and vandalism, by cutting down fences or putting mirrors or closed circuit television (CCTV) on corners or in corridors. Hired surveillance of the CCTV or security guard type can be very expensive, but several studies have suggested that CCTV can be effective in reducing crime and vandalism in certain environments (eg. Poyner, 1988).

The key to the effectiveness of CCTV seems to be someone watching the monitors. People soon realise if there is nobody behind the cameras. Poyner's study of CCTV on buses in Cleveland showed that once a few highly publicised cases had been brought against local vandals, demonstrating that the cameras and video tape were being actively used in a determined effort to identify vandals, then the vandalism of the buses almost stopped.

A simple, but seemingly very effective idea, is to link CCTV to a public address system. This is used on Liverpool's Merseyrail, which is part over- and part underground. The CCTV system consists of a bank of thirty-two screens with coverage of over one hundred cameras on the underground and overground lines. The screens are watched by three staff in a central control room around the clock. The power of the system is that if the staff spot something untoward happening, and consider it sufficiently serious, they can contact the police on a direct line (the local British Transport Police also have four monitor screens linked to the CCTV system in their control room). Alternatively, they can switch on the PA in the area of the incident and deliver a command directly to the miscreant. This means that users of the railway know that the video cameras are functional and that misbehaving on Merseyrail has consequences. Every camera feeds a video recording system and output from this system has been used to support prosecutions. Merseyrail is also very actively managed. The managers know the majority of staff by name and make frequent, unexpected visits to stations on the line, instructing staff to take immediate action against any graffiti or vandalism they find. As a consequence, the staff seem to take personal responsibility for the cleanliness of their station and the railway, though seventeen years old, is in some areas immaculate.

Figure *1: The screens* in *Merseyrail* s *central control room cover over one* hundred cameras on *the* underground and overground Jines.

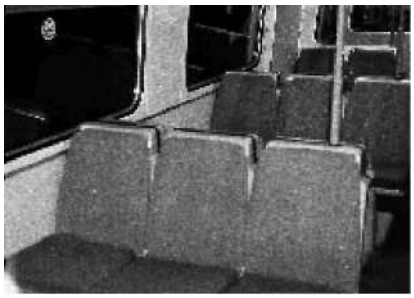


Figure *2: A train* interior *free from graffiti damage.*

In the past few years, there has been a considerable increase in the number of town centre CCTV schemes. Although the schemes are not specifically aimed at tackling vandalism, the police and local authorities responsible perceive them to be very effective in addressing various different types of crime and disorder. There has, however, been no thorough research evaluation of their effectiveness to date.

Promoting surveillance from residents and passers-by is another measure taken to prevent crime and vandalism. This is the premise on which the hugely popular "neighbourhood watch" scheme is based.

Defensible space

The idea that crime is related to architectural design was most powerfully put forward in Oscar Newman's 1972 publication Defensible Space. The "defensible space" hypothesis was subsequently taken up and tested in a number of research studies (see Mayhew, 1979 for a review). It was based on Newman's experience of housing projects in the USA, from which he concluded that offenders and intruders will be deterred from action if they perceive the target as lying within an environment controlled by its users and its residents. Spaces that can be controlled in this way are therefore "defensible".

There has been a long debate between researchers over the relative importance of design[5] and of social factors in determining levels of crime. One study of vandalism on a London housing estate found that the number of children housed in the area

5 For a useful discussion which identifies the main strands in thinking about the link between design and crime in relation to public housing, see "Crime Prevention on Council Estates", prepared by the Safe Neighbourhoods Unit for the Department of the Environment (1993).

was a far better predictor of areas of high vandalism than was the design of the housing (Wilson, 1978). A number of research studies have supported this view (eg. Baldwin, Bottoms and Walker, 1976; Hunter, 1978; Sutton, 1987) and have implicated Local Authority housing policy in determining levels of vandalism. Poyner and Webb's work, on the other hand, emphasises the primary importance of design. They concluded that it is possible to design an environment in low-rise housing which will help reinforce informal social relationships and which individuals and families can more easily police or guard. This in turn acts as a deterrent to potential criminals. Indeed, they found that different layout designs "seem to achieve greater improvements in crime reduction than any local policing activity, neighbourhood watch programme or any community based initiative that we have so far discovered" (Poyner and Webb, 1991).

The implication of the research for practitioners is that any anti-vandalism initiative should consider the particular combination of features of design and layout, the social make-up, interactions of inhabitants and the overall management of the area concerned. The Department of the Environment part-funded a project by CIRIA (Construction Industry Research and Information Association) on the prevention of vandalism and graffiti in publicly accessible buildings. The research concluded that effective damage prevention is a matter of management, design and materials working together, "it is naive to think that improvements in only one of these will be sufficient" (Cheetham, 1994).

Bus *stops* and *shelters*

Bus stops and shelters are notorious targets for damage. Prevention strategies here have been particularly influenced by a situational crime prevention approach. Research has emphasised that analysis of their location and a study of their patterns of use could isolate factors which either encourage or prevent vandalism and graffiti (Sykes, 1979; Levine and Wachs, 1985; Eastel and Wilson, 1991). For example, once it is known which stops have the higher incidence of vandalism, an option may be to increase patrols in those areas. Alternatively, the stop could be relocated away from any pub or school which might be associated with the damage. Levine and Wachs note, however, that such action may not help, since the offences might just move with it (1985). Eastel and Wilson also suggest community involvement schemes, citing two Australian examples: the "Adopt a Shelter" initiative in which schools, companies and government offices undertake to maintain a particular stop/shelter in pristine condition throughout the year; and an annual painting competition where schools in Canberra compete for a cash prize from a paint company and $300 worth of bus hire by painting murals in a bus shelter close to the school (1991).

London Transport have recently introduced centralised responsibility for all aspects

of damage prevention and repair at bus stations, shelters and stops throughout the London area, regardless of the bus company using the route. The Bus Passenger Infrastructure unit (BPI) are attempting to develop a co-ordinated response to vandalism and graffiti, which includes a programme of regular inspection and refurbishment taking into account passenger needs, safety, rapid response and the use of modern materials (eg. "graffiti-resistant" paint, compatible cleaning solvents).

A particular concern is the lack of a suitable alternative to glass. In 1993, London Transport Advertising replaced 9,600 panes of glass in bus timetable displays alone, at a cost of nearly £20,000. The BPI have considered replacing glass with perspex (polycarbonate), but this has its own set of problems: it becomes opaque after prolonged exposure to sunlight, which renders the timetables unreadable; it becomes brittle over time, and when broken, disintegrates into large jagged pieces, unlike the glass used which is similar to that used for car windscreens, and is designed to shatter to avoid injury; it scratches easily, and graffiti and self-adhesive labels cannot be removed without damaging the surface; and it is more expensive than glass (London Transport, 1994).

Current practice is to use perspex in "high risk" locations, identified by local controllers, but until an affordable and practicable alternative to glass is developed, the wider problem remains.

In general, in areas outside London, there appears to be little centralised responsibility for bus stops and shelters; individual bus companies own those on their routes. As the number of bus companies increases, there is greater risk of a piecemeal approach to tackling vandalism. A possible solution would be for county councils to assume management for bus stops in their area. Surrey County Council, for example, have taken responsibility for the maintenance of bus stops in two areas, Guildford and Woking.

Summary

The situational approach to crime prevention has been the subject of some criticism. Chief amongst this is that measures which block opportunities for offending do not tackle motivations. Crime and vandalism are not prevented, therefore, but may be displaced to another location or into another type of crime. Fortunately, such research as there is suggests that 100% displacement does not occur when opportunities for offending are blocked (Pease and Barr, 1990). This means that some crime is being prevented. As discussed earlier, we also know that the majority of vandalism is opportunistic. It therefore seems likely that sensitive design alterations and target hardening tailored to take account of patterns of place use can prevent a certain amount of vandalism. What it may not do is deal with "malicious vandalism", as defined by Cohen (1973), and vandalism that has other "strong motivations".

3. Programmes involving a combination of approaches - case studies

This section contains four case studies, which use a **combination** of approaches to tackle particular vandalism problems. The schemes vary in the extent to which their effectiveness has been evaluated, but they serve to illustrate the action that can and has been taken when vandalism becomes a sufficiently serious problem.

Vandalism prevention on public transport in the Netherlands

In 1983, as a result of government concern about the level of petty crime, a major crime prevention programme was introduced in Amsterdam, Rotterdam and The Hague (van Andel, 1988). One of the programme's aims was to reduce levels of vandalism and graffiti on public transport, public transport having been designated as "at risk". This scheme is included here partly as a demonstration of **surveillance** as a technique in preventing petty crimes like vandalism.

The scheme

A situational approach

A situational approach was adopted, assuming that much of the crime they were aiming to prevent was committed simply because opportunities presented themselves. Rather than interpreting situational prevention purely in terms of target hardening and increased security, the programme organisers recommended increasing personnel in supervisory jobs and staffing previously mechanised jobs. In practice, this meant employing 1,200 young, unemployed people as officials and ticket inspectors on trams and the metro, and redesigning bus boarding procedures so that customers had to pass the driver to have their tickets checked. Thirty-three million guilders (or about £11m) was designated for the employment of the extra personnel. Though these measures were intended to impact on fare-dodging, they were also designed to increase the amount of surveillance of customers so as to reduce damage and graffiti against the buildings and vehicles. The project costs allowed for a saving of 3 million guilders (or about £1m) on expenditure associated with vandalism on the tram, metro and buses.

The diversion scheme

At the same time as the anti-vandalism work on public transport, there was a national scheme running that aimed to divert young vandals away from vandalism. The Ministry of Welfare, Health and Culture set up youth programmes to involve young vandals in activities of benefit to their local communities (van Dijk, 1989). These are currently running in about 60 municipalities, where young people between the ages of 12 and 17 caught damaging public property are made to repair and clean it up. These activities are supervised by special co-ordinators, and if they are not fulfilled satisfactorily the police can refer the case to the public prosecutor to be dealt with in the mainstream criminal justice system. This idea is based on

unreferenced research that claims young vandals are "favourably affected" by having to clear up their own damage and graffiti.

Evaluation

The programme was evaluated by Ministry of Justice and public transport researchers once it had been running for two years. The evaluation was quasi-experimental in design, with surveys before and after the measures were implemented. A reduction in vandalism was measured by monitoring the costs of repairing damage and by sampling the opinions of customers and staff on changes in the levels of damage they had noticed when using the system.

Costs

Organisers found it difficult to determine whether there had been any reduction in costs associated with vandalism as a result of introducing new personnel on to the trams and metro system. Ultimately, the sum of 1.5 million guilders (or about £500,000) was credited to the project. This represents not an actual cost reduction, but, as the evaluators say, savings associated with "a levelling off of the trend for costs to rise each year" (van Andel, 1988). The details of cost and damage reduction as a result of the programme are rather patchy and impressionistic, despite the attempt to evaluate rigorously. There was a slight reduction in repair costs for vehicles and rolling stock in Amsterdam, but none for the metro stations themselves. The figures for Rotterdam and The Hague showed no measurable reduction.

Cleaning time

Cleaning time was another indicator used to measure damage reduction. Two tram lines were compared for time taken to clean and repair trams at the end of every day for three weeks, one line being travelled by the extra supervisory personnel and the other not. It was found that on the unsupervised line, trams took 15% more time to clean than on the supervised line. In the other two experimental areas, Rotterdam and The Hague, there was no such monitoring, but depot managers and staff reported the impression that less time had been spent on repairs and cleaning up vandalism since the onset of the programme.

Displacement

Since the extra personnel began their duties on the Rotterdam metro, there has been a 30% reduction in the amount of graffiti found inside stations, and a decline in the number of broken windows. However, the tram and bus shelters seem to have suffered instead. The number of windows having to be replaced here doubled in the same period.

Opinion surveys

Passengers whose opinions were surveyed reported higher levels of satisfaction with the appearance and cleanliness of the public transport system, and reported having seen fewer cases of people damaging or defacing property after the programme had begun. Half the staff felt that rates of vandalism had declined.

The cost results are inconclusive, although the reduction in cleaning time on supervised as against unsupervised trams is a positive indicator. A non-cash benefit is that the experiment in the Netherlands does appear to have improved the public's perceptions of the condition of the public transport system.

Certain features of this initiative are applicable to effective vandalism prevention more generally. It has been argued that the visible presence of uniformed staff has a deterrent effect on potential offenders by increasing the perceived risk of getting caught (see also Ekblom, 1988a). In this initiative, the permanent rather than intermittent (as would be the case in spot-checks) presence is likely to have contributed positively. It had the bonus of reassuring passengers and probably was a factor in their higher levels of satisfaction. This case study also demonstrates a problem commonly encountered in evaluations - the simultaneous introduction of other measures with the potential to reduce crime and vandalism. In this case, such complications were created by the replacement of the padded seats with harder polyester ones, less vulnerable to slashing, and the diversionary and reparation parts of the national vandalism prevention initiative. The significance of this particular project is that it specifies vandalism as one of its targets.

Combating graffiti on the London Underground

London Underground suffers graffiti damage costing over £2m per year. Targets include train interiors and exteriors, stations and trackside railway infrastructure. Damage results in high cleaning costs, reduced ridership, service disruption and safety risks for the perpetrators.

The scheme

In 1986, the detection and investigation of all graffiti-related matters became one of the responsibilities of the British Transport Police's (BTP) newly created Divisional Home Beat Support Unit (DHBSU). As its specialist knowledge grew, so too did the work load, resulting in a change in the unit's terms of reference in 1990, relieving it of all other duties, in order to provide a dedicated squad completely targeted at graffiti offences.

To provide the basis for a 1990 action plan, a study of the graffiti problem and its underlying causes was made. Patterns of crime and data held on past offenders were

analysed and informal research amongst co-operative offenders enabled the unit to build up a clearer picture of a well-defined, highly organised sub-culture, with its own distinctive vocabulary, hierarchy, magazines, exhibitions and photo-books. (For a more detailed description of the culture, including a glossary of the slang, see Geason, 1990; and Coffield, 1991.) The study found that much of the graffiti on train exteriors was applied in depots and sidings in the early hours of the morning when trains were not in service. Using these findings the unit developed a programme which concentrated on three main areas; prevention, deterrence and detection.

Prevention

This included improving depot security, with the installation of high specification security fencing at vulnerable locations, the use of CCTV and alarms. Trials were undertaken at selected stations involving rigorous graffiti cleaning regimes and then incorporating the lessons learned into routine station cleaning procedures. "Graffiti resistant" paint was used on new stock along with compatible cleaning solvents, which would remove the "ghosting" - traces of the graffiti - without damaging the surface.

Deterrence

A joint press policy was developed and agreed with London Underground and the British Railways Board to present a united message to the public regarding the dangers, costs and penalties associated with offences. An ex-offender helped the BTP to communicate their message with press statements and radio interviews - on the rationale that an "anti-authority" audience would be more receptive to the opinions of someone with whom they could readily identify. A schools' anti-graffiti package was produced in conjunction with TVS television and other agencies which included a video "Aspects of Vandalism". The British Transport Police also produced their own video with Sky Television for use by officers conducting school liaison work. Another target of the awareness campaign was the courts, who were urged to increase the penalties and compensation.

Detection

The method by which London Underground staff reported incidents was re-assessed in 1990 and a new form drawn up and sent out. Depot managers were issued with Polaroid cameras, and a poster campaign reinforced the message that it was crucial that all damage should be photographed and reported to the police immediately. Computerised crime intelligence systems were used to target areas of high crime for observation by plain clothes and uniformed patrol.

The unit's objective for 1990/91 was to reduce the reported cases of graffiti offences by 5% over a twelve month period, at three locations where security was improved through high specification fencing and increased uniformed and plain clothes patrols - Rickmansworth sidings, Uxbridge sidings and New Cross sidings.

Evaluation

The computerised crime intelligence system was used to monitor a number of key indicators:

Level of reporting

In the last months of 1990, there was a 30% increase in reported graffiti damage. However, the unit felt that a significant amount of graffiti damage still went unreported. Increased reporting was vital to the unit to enable them to target high crime areas. The photographing of damage was instrumental in establishing the graffiti "tags"[6] actually used (untrained eyes cannot read some of the tags) and to "back track" an offender's criminal action once their identity had been discovered. This meant that in 1991 individuals were charged with more incidents of criminal damage than had been possible previously.

Figures *3a & b: Targets of graffiti damage are photographed to help identify offenders through recognition of the "tags" that they use.*[7]

Cleaning costs

A comparison was made of the number of hours booked against graffiti cleaning for the twelve months October 1990 to September 1991, with those booked for October 1989 to September 1990. Graffiti cleaning for the lines where depot security had

6 A "tag" is the graffitist's identification sign. It may be a fictitious name, set of initials or numbers, a design or symbol.

7 Photographs supplied by the British Transport Police.

been improved (Metropolitan, Jubilee and East London Lines) showed a drop of 46%, and across all the other lines, there was a general decline of 15%.

Translating this into financial terms, using a work rate for graffiti cleaning at approximately £5 per hour, the financial savings for London Underground over this period were considerable; over £lm.

Arrests

During 1990, the unit dealt with 164 arrests. In 1991, they dealt with 170, an increase of 6, with 144 being graffiti related.

Detection/crime rate

In 1990, 560 graffiti crimes were recorded with 157 detected offences, ie. approximately a 28.3% "clear up" rate. For the same period in 1991, 658 graffiti crimes were recorded with 190 detected offences, ie. approximately a 28.9% "clear up" rate. This shows that although there was little increase in the "clear up" rate for graffiti offences, there was a much larger increase in the number of actual detections of over 20%.

Given that only an extra six arrests were made over this period, this suggests that one effect of the strategy was to link more incidents of graffiti to individual offenders.

The unit achieved and surpassed its 1990/91 objective; the number of major graffiti attacks recorded in the three locations fell from 16 in the period from 1st January 1990 to 30th September 1990 to zero in the equivalent 1991 period.

British Railways Board property

Table 3 shows the numbers of recorded graffiti incidents on British Rail property before the intervention measures were introduced on London Underground and for the period during which they took effect. The view of the British Transport Police is that reducing opportunities for offending on the underground resulted in increased attacks on British Rail.

Points *for consideration*

A package of measures

The success of the London Underground initiative relied on the use of a combination of measures in a strategic approach to the graffiti problem. Evidence from studies in other countries has shown that this is an essential feature of any successful graffiti reducing initiative (Geason, 1990; Wilson and Healy, 1986).

Table 3:	Number of graffiti incidents recorded on British Railways Board property	
	London South "H" Area	**London North "B" Area**
1989	5	1
1990	37	14
1991	71	13
1992	161	92

Source: British Transport Police, 1994

Management information systems

Tackling graffiti and vandalism requires a well-structured system for the collection, analysis and dissemination of information. The quality of the data for input in such systems is crucial; in this instance, a review of the forms used for recording graffiti incidents was undertaken to enable effective analyses of data to be made, on which vital planning decisions could be based.

Documentation of initiatives

Having met its objectives, the unit was disbanded in June 1992. However, the mechanisms for monitoring graffiti and vandalism remained in place and indicated a resurgence of the problem in 1993. The graffiti squad was reformed. The time lag was sufficiently short for the expertise built up by the initial squad not to have been lost. This was fortunate, as no comprehensive good practice guide based on the experience of the first squad had been prepared. Recording what works and what does not should be an integral part of any initiative; otherwise there is the perennial danger of "reinventing the wheel".

The New York experience

The "Clean Car Program" adopted in the mid-1980s by the New York City Transit Authority bears some similarity to the London Underground initiative. In their account of the scheme, Sloan-Howitt and Kelling (1990) identify three factors which were responsible for its success:

(i) a management philosophy of "meaning it" and an administration that delineated responsibility clearly, broke the problem into manageable portions, established attainable and challenging goals and provided the resources necessary;
(ii) a "problem oriented" approach that looked at the nature of the problem, and used tactics based on the understandings gained through such a diagnosis;
(iii) the creation of a management matrix that co-ordinated and monitored the activities of the responsible units.

However, May (1989) reported that graffiti did not completely disappear and there was some displacement from the subway to garbage trucks.

Co-ordination of response

The strategy implemented on the London Underground is a good demonstration of the partnership approach in tackling problems. However, it is important to resolve from the start any conflict of objectives. Thus if London Underground has an overall performance indicator relating to the number of trains in service, this would be affected by taking trains out of service to remove graffiti as part of an anti-vandalism strategy.

"Where there's a will, there's a spray"

Can graffiti and vandalism ever be obliterated? A survey of 123 British Rail, London Underground and Docklands Light Railway stations conducted by the London Research Centre found graffiti present in 82% of the London Underground and joint London Underground/British Rail stations (Focas et al, 1993). Clearly, the evidence of this case study is that efforts to tackle vandalism need to be continuous and determined.

The prevention of vandalism to BT payphones[8]

The level of vandalism against public telephones is infamous. BT themselves at one time described the problem as "widespread" and "severe" and in a 1982 survey claimed they were unable to discover an unvandalised kiosk (Markus, 1984). To BT it represents a serious flaw in their public image, extra costs and substantial loss of revenue. To users, a vandalised phone box is anything from an everyday inconvenience to potentially life threatening in an emergency.

Figure 4: A *badly* vandalised red *kiosk* [9]

BT have sought to prevent payphone vandalism since the 1960s. Most recently, a reinterpretation of the problem has led them to the view that changes in the design of kiosks and equipment have meant that "wilful" damage is now a rare occurrence; most damage is economically motivated and damage incidental. The problem is now one of cash compartment attacks. In the 1992-93 financial year, there were 55,000 such attacks costing BT £20m. The following provides a "potted history" of BT's attempts to tackle vandalism, with an evaluation of their latest strategy for preventing payphone vandalism, which has moved from target hardening only to a more sophisticated strategy.

8 On 21st March 1991, the name of the company changed from British Telecom to BT.

9 All photographs in this section are copyright of British Telecommunications plc.

The schemes

Early initiatives

The early initiatives against vandalism all involved design alterations to the original "red" phone kiosks and the telephone equipment inside them. Alterations were aimed at reducing the numbers of attacks against the cash boxes, and strengthening the handsets and dialling equipment. The cash boxes were strengthened with 10mm steel and robust locks. These changes still left, amongst other problems, frequently broken windows and the use of phone boxes as public toilets.

Part of the response to this was to introduce a completely new design of phone booth in some of the worst hit areas. This is the "Oakham" type phone booth, formed from an indestructible steel shell, open to the street and containing an armoured payphone. It is said to have had some success in reducing damage, but the problem of graffiti remained. An overall assessment concluded that, nationally, levels of phone vandalism had remained constant despite the design alterations (Markus, 1984).

Figure 5: *The "Oakham" type phone booth which was* introduced in areas *particularly badly hit by vandalism.*

1985 modernisation programme

In 1985, BT undertook a £160 million modernisation programme, which included introducing a number of new ideas to combat payphone vandalism. The old red phone boxes were replaced by more open designs to deter undesirable behaviour by making those in the box more observable. This also meant that litter and rubbish was less likely to collect in kiosks, giving payphones a cleaner, brighter image. To increase visibility still further, 24 hour lighting was installed in the kiosks. This initially resulted in the loss of 2,000 light bulbs a year. Making the lighting more secure resulted in boxes being four times as brightly lit. To combat the perennial problem of broken glass, as well as to help with visibility, the design of the kiosk was changed to one with fewer, larger panes of toughened glass. This has had the incidental effect of reducing the amount of glass smashed, perhaps because of a greater inhibiting effect of smashing a larger pane. As well as kiosk modifications, the phone itself has undergone changes in handset and keypad design, with the introduction of one-piece handsets and non-inflammable metal keypads replacing the plastic keypad which was sometimes ignited and the fumes inhaled by the vandals.

1987 review

Despite the modernisation programme, in 1987 following media criticism, BT had to acknowledge that payphone service levels were "unacceptably low" (British Telecom, 1988). On surveying the extent of the damage, they found that a quarter of their payphones were not working at any one time. This prompted a change in

direction in the campaign to reduce damage from vandalism and consequently to improve levels of serviceability. Their efforts had three elements.

- Faults reported were rectified much sooner than they had been, and instructions were given to all staff visiting payphones, from the cleaners to the engineers, to report any faults and damage they found.

- To support this effort, they also commissioned research to try to profile who exactly it was that was vandalising the phones, and why.

- A number of community initiatives were set up, with the express intention of promoting payphones as valuable community resources, to be looked after not damaged. These currently include a variety of "Watch the Box" schemes, where the local community or school keeps an eye on "their" phone box and reports faults to the service engineers, and two educative schemes involving videos, posters, leaflets, etc., one for adults and one for children, both of which promote the idea that phone boxes should be respected.

Reorganisation of BT and the Cost of Security Failure programme

In 1990, as part of an overall reorganisation of BT, payphones became the responsibility of one unit, the Payphones Division, with a national policy replacing the 26 regional agendas. Security teams were attached to the business units rather than operating out of an autonomous headquarters department. Independent of the reorganisation, over the same period, the Cost of Security Failure programme was set up and included an assessment of the financial losses incurred by payphones as a result of fraud, theft and criminal damage. This exercise made clear that BT's substantial losses were being caused by theft rather than criminal damage. A close inspection of recording procedures revealed that many faults were being incorrectly logged as vandalism related. Engineers' perceptions of the cause of damage frequently resulted in misclassification. Consequently, BT concentrated their energies on addressing the problem of cash compartment attacks and, on the basis that vandalism in its own right was comparatively minor, decided not to continue to record vandalism data separately.

1992 Security Enhancement Programme

In the 1992-1993 financial year, there were 55,000 cash compartment attacks costing BT £20m. Perpetrators are believed to operate in highly organised gangs, equipped for the specific task with high powered cordless drills, especially manufactured jacking devices and guns. In one instance, a team from Northampton targeting boxes in the South West collected so much coinage that they had to use the Red Star parcel service to get it all home.

In 1992, in response to these attacks, a £13m Security Enhancement Programme was launched. It involves a combination of target hardening, joint BT/police operations and an educational campaign including strategic use of the media.

- Target hardening - BT further improved the cash compartment design. All kiosks are fitted with an integral fault reporting system which automatically notifies the central computer exchange for that area of any malfunction. The alarms act both as a detection tool and as a deterrent. Pilot schemes took place in Gloucestershire using voice-alarmed boxes.

Figure 6: *1990s style phone boxes reflecting BT's new corporate image.*

- Joint operations - BT investigators have been working with local police forces in operations where selected kiosks are fed marked coins, alarmed and monitored by arrest teams in close proximity.

- Education and awareness - Strategic use of the media is considered a vital component of the programme. BT issues press releases designed to increase public awareness of the impact of cash compartment attacks on serviceability, and to invoke support for their campaign. Details of successful arrests and convictions reinforce the intended warning to perpetrators. Other features of their awareness campaign include two five minute videos targeted at the police and the judiciary, an educational comic for schools, and introduced in 1994, an exhibition trailer on payphone crime for use at police training colleges.

Figure *7: The front* and *back covers of BT's educational comic which is used to raise* young *people's awareness of the importance of payphone serviceability.*

Pilot schemes incorporating the undercover operations were first introduced in December 1992 in Manchester and Liverpool, both areas with particularly high levels of attacks. This has been followed by wider adoption throughout the country.

Graffiti

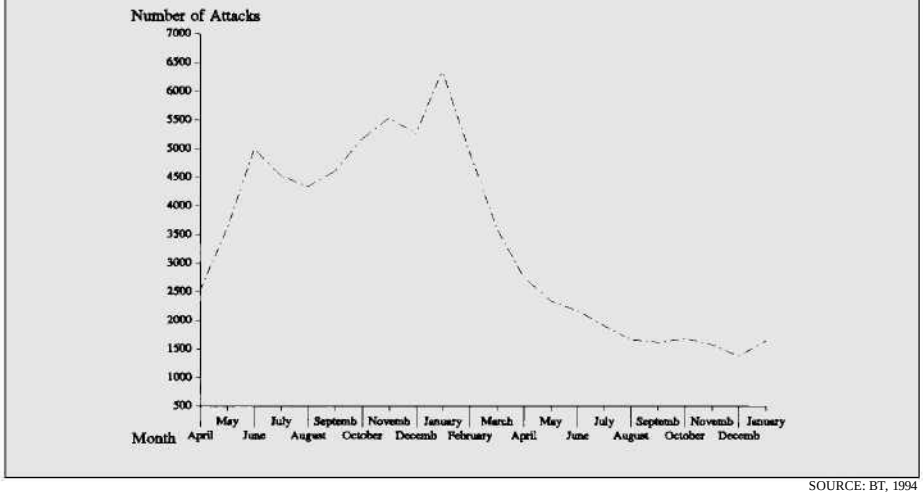
The changes in kiosk design introduced in the 1985 modernisation programme greatly reduced the incidence of writing on phone boxes. Unfortunately, stickers began to be used instead, resulting in high cleaning costs. A concerted campaign was successful in persuading offenders to use cards rather than stickers (cards are not classified as criminal damage and offenders are not therefore liable for prosecution) significantly reducing cleaning costs, but not helping BT's image. Certain sectors of offenders, eg taxi firms, can be sold advertising space on display boards in the kiosks, whereas other sectors, particularly prostitutes, present a more difficult problem.

Evaluation

Improvements in payphone management meant more efficient servicing and fault reporting. BT claim to have increased serviceability of their payphones from 75% in 1987 to 95% in 1994. They now acknowledge that part of the vandalism problem in the past may have been the response of frustrated phone users to encountering "out of order" phones. Improved serviceability would eliminate this sort of vandalism automatically. This would square with French research which found that mature adults in both urban and rural areas were more frequently aggressive to malfunctioning public phones than either the old or the young (Moser, 1984).

Data on the effects of the Security Enhancement Programme are encouraging. Between April and September 1992 there were 24,662 cash compartment attacks; over the same period in 1993, attacks were halved falling to 12,478. A comparison of the number of arrests made during these periods shows a significant increase of 70% from 401 arrests between April and September 1992 rising to 681 arrests between April and September 1993. The targeted operation in Manchester in December 1992 which launched the campaign resulted in 45 arrests in six weeks, and attacks in Manchester dropped from 400 a month to fewer than 10. Figure 8 gives the number of cash compartment attacks nationally between April 1992 and January 1994, and shows a very dramatic reduction from December 1992 onwards.

Figure 8: Number of cash compartment attacks on BT kiosks April 1992-January 1994



SOURCE: BT, 1994

There are a number of key aspects to BT's recent approach to the problem of payphone vandalism to note:

Management of the problem

Efficient management is pivotal to the success of an anti-vandalism programme. In this instance, the changes in the arrangements for repairing and maintaining the phone boxes were necessary for the preventative design alterations to take effect. Furthermore, the restructuring of BT in the late 1980s, enabled a co-ordinated response to be delivered. The importance of this aspect is underlined by experiences in Australia; the transfer of responsibility for vandalism from sixteen separate sections of Telecom Australia to a Payphones Division in mid-1988 led to a marked decrease in the costs of vandalism and damage (Challinger in Clarke, 1992).

The partnership approach

Effective liaison with outside agencies, in particular the police, was instrumental in the achievements of the Security Enhancement Programme. Such links must be sustained to ensure long-term success.

Customer service

The privatisation in 1985 has led to a gradual culture change, with increased customer awareness. BT are accountable to their customers and shareholders; they need to maintain high levels of serviceability, maximise profitability, provide comprehensive information and ensure that customer needs are satisfied. Public

image is very important; payphones represent the embodiment of BT to the public. Therefore, while the use of cards rather than stickers reduces cleaning costs, the organisation also has to consider the social cost of the bad image created by littered booths. Vandal-proof changes to design must also consider customer comfort - open boxes may be cleaner but can be noisy, cold and possibly make users themselves feel vulnerable to attack.

Vandalism prevention in Manchester schools

The final project in this section sounds something of a cautionary note. It is documented here, not because the initiatives taken against vandalism were particularly original or inventive, but because the problems encountered in implementation are typical of those that might be faced by any multi-agency project, and, as will be shown, can fundamentally affect a project's effectiveness.

A survey by the Department for Education found there were over 141,000 vandalism incidents in schools in England in 1990-91, at an estimated cost of £ 14m. Almost 60% of this expenditure was on repairing damage to the outside of school buildings. On average each primary and secondary school was vandalised four times and seventeen times respectively during the year. 85% of incidents occurred outside school hours.

Research by Burquest et *al* has shown that the extent of repeat attacks on schools is high and that the time course is steep (ie. most repeats happen quickly). Their sample of 33 schools in Merseyside reported a total of 296 crimes between them in 1990.[10] 263 or 88.9% were repeat incidents. Of the 263 repeats, 79% occurred within a month of the previous crime and 109 within a week, representing 37% of all school crime (Burquest et *al,* 1992).

The extent of the problem of vandalism in schools has generated extensive literature, some of which contains sound guidance on the development of counter-strategies (eg. Building Use Studies, 1990; Casserly et *al,* 1980; for a review, see Geason, 1990). Specific suggestions on types of hardware and products to use are available from a variety of sources (for a list of publications, see bibliography).

The scheme

The project was a Home Office initiative based in Manchester, designed to demonstrate a situational approach to crime prevention (Gladstone, 1980; Hope, 1985). Recognising how often crime prevention initiatives might involve the co-operation of a number of local agencies in addition to those immediately affected,

10 This study covered school property crime such as burglary and criminal damage reported to the police.

Manchester City Council and the Greater Manchester Police were invited to participate. The project was carried out in 11 primary and secondary schools, with a known vandalism problem. The nature of the problem in each of the schools was analysed, partly by talking to staff and partly by survey.

This information was then fed to a committee made up of representatives from various parts of the Education Department, the Direct Works Department, the Greater Manchester Police, the Social Services Department and the City Planning Department, who were also presented with a number of possible courses of action for prevention. For reasons which will be discussed later, options chosen were mostly defensive and involved target hardening of one type or another.

Analysis of the schools

Analysis of the vandalism problem revealed that at five of the eleven schools, most of the damage could be attributed to accidents and insufficiently robust fittings and structures rather than to wilful destruction. The recommendation made for these schools was to replace vulnerable windows with toughened glass.

The next four schools suffered primarily from a problem of deliberate damage to windows, sanitary fittings, fencing and roofs. Here it was decided to employ a variety of target hardening measures, some use of glass substitutes, some grille-covered windows and a closing off of access to vulnerable parts of the schools.

The last two schools were the worst hit. The cause of the problem at one of these schools was attributed to its policy of being officially open to children and young people out of school hours. Access to the school compensated for a lack of open space in the neighbourhood. The school had previously employed a warden to patrol out of school hours, but since his death, the vandalism problem had worsened considerably. It was recommended that a new warden be appointed and failing that, glass substitutes should be used in the windows.

The other school suffered the most severely from vandalism and break-ins, running up repair bills of £1,000 a month. Again the problem seemed to be associated with the fact that the school grounds were open to the public. Recommendations focused on fencing off part of the school grounds as a play area, closing off the rest of the grounds to the public and employing a security guard.

Social prevention programme

The committee's recommendations led to Manchester's Education Department deciding also to introduce some social prevention initiatives, particularly in the light of the finding that the two most vandalised schools were in the areas most poorly provided with leisure facilities. It was decided to set up an evening and holiday play

scheme in one of the schools. Prospects in the other school were left more open ended with a broader social prevention programme for the area being contemplated by the Inner City Programme. In addition, two of the schools committed themselves to organising a "good neighbour" scheme to encourage local residents to watch over the schools and grounds.

A plan for implementing these measures was more or less agreed with all the appropriate agencies in the case of each school, and a Home Office evaluation or follow-up was planned.

Evaluation

The committee were "stuck" on a definition of vandalism as a "building security problem", which initially led to only target hardening measures being selected, the links to preventing vandalism being more obvious than those of social measures, like diversion and education schemes (Gladstone, 1980; Hope, 1985).

The unfavourable comparison between the financial implications of funding long term youth work programmes and funding a once and for all investment in security hardware would have been an additional factor in this decision.

As well as being stuck with a rather unimaginative range of preventive measures to take, the project also experienced difficulties in implementing the devised schemes. Two years after the recommendations had been agreed, only 15 out of a total of 30 recommendations had been implemented, and 10 of those had been in operation for less than twelve months. Two of the schools had implemented all their package of measures, three schools had implemented none and the remaining six had implemented some but not all. Partial implementation at some of the schools undermined the effect of measures that were put into force, so that there was no net improvement on the level of vandalism. It is easy to see how, for example, putting grilles over windows in vulnerable areas but not simultaneously limiting access to those areas could result in an equal amount of damage to the window grilles as there was to the original windows.

At the time of evaluation, it was noted that there had in some schools been a decline in cost of repairs due to vandalism, but in only one of the schools did this decline coincide with the implementation of the anti-vandalism measures. The only note of hope was that in two schools where recommendations had only recently been put into force, the beginnings of a decline in the level of repairs began to be noticed.

The principal implementation problems seem to have been a lack of co-ordination amongst schools and the complex split of responsibilities within the local authority. For some of the measures recommended, for example the "good neighbour" school

watch scheme, there was just no one willing to take the lead. For others, it was more a question of lack of communication between one local authority department and another and even, in some cases, lack of communication between different parts of the one department.

This was manifest in the efforts to change the playground at one of the project schools. The plan was to dig up a hard-surfaced play area for flower beds and to surface another area further away from schools buildings, thereby reducing the traffic of school children near vulnerable windows (Hope, 1985). The education department had overall responsibility for the improvements but had to bring in another council department to deal with laying flower beds. This second department had taken 18 months to provide an estimate for the work but had not yet started, whilst the surfacing of the new area had been subcontracted out. Owing to a communication failure, the subcontractors had only surfaced half the intended area, producing as a result, play in the original area and an undiminished level of vandalism adjacent to it, and an additional narrow, unused tarmacked strip. The evaluator puts this down to inadequate supervision of work at the local level.

This project illustrates some important points about devising schemes to reduce vandalism.

Maximise the range of preventive options considered

The lesson seems to be that a multi-agency group where decisions like this are being taken needs to be informed about the efficacy of a range of crime prevention options, as well as being presented with a list of alternatives. In his recent review of work on vandalism and graffiti, Coffield makes the same point, "Security systems of the most advanced kind have a part to play, but.... exclusive use constitutes a "technological trap" for harassed administrators" (Coffield, 1991). Crime prevention training in the police force has increased considerably since the date of the Manchester schools project, and it is unlikely that today the police representative would emphasise quite so strongly the value of security measures in isolation.

How you do it is as important as what you do

Implementation problems are not uncommon in multi-agency crime prevention initiatives (for example, Sampson, 1991). As the illustration above showed, there was no overall responsibility for implementation. It makes clear the importance of encouraging all those involved to appreciate the value of each measure as part of the whole package, and to understand that the project's success in reducing vandalism depends on the implementation of all the measures. The appointment of a co-ordinator with responsibility for the whole project may have facilitated this communication.

4. Putting theory into practice - some practical guidelines

There is no available estimate of the full scale of vandalism in this country. However, it is clear that it is costly, damages the environment, inconveniences people, and in some cases actually endangers them. All these are reasons for action. The preceding sections have reviewed the range of options for the prevention of vandalism and presented case studies of four anti-vandalism projects. The latter demonstrate a range of motivations for and explanations of vandalism, and a number of ways in which specific problems could be successfully overcome. This last section of the report suggests five practical steps for understanding and preventing vandalism.

Defining the vandalism problem

For effective action a precise definition of the problem is essential, pinpointing the particular circumstances in which the behaviour occurs, in order to determine the target population for the initiative, decide how the problem is to be approached, and how any preventive strategy is to be evaluated.

Definition of the problem can be reached via a number of routes. Information about vandalism, its incidence and prevalence can be gathered from police records and records kept by organisations or institutions, such as local authorities or schools (Sturman, 1978). Multiple data sources are preferable as the more precisely the problem is understood the more appropriately targeted can be the response.

The quality of available data should be checked. In the case studies, both British Telecom and the British Transport Police found that existing data was inadequate. In such cases, it may be necessary to adjust or introduce new recording procedures.

Since crime problems are likely to change over time, Ekblom makes the useful point that the capacity for routine monitoring of crime patterns is itself of value:

> "The regular collection, easy retrieval and straightforward analysis of crime data as matters of routine, and as part of a wider management information system, allows those responsible for prevention to monitor new developments with minimum effort and manage them, rather than lag behind until rising crime precipitates a reappraisal." (Ekblom, 1988b)

Discerning patterns in the vandalism data is a key part of the analysis process. Analysis of data gathered should, where possible, concentrate on such issues as who the vandals are and when, where and how they vandalise.

If a particular site is being vandalised, it should be possible through regular recording of incidents to identify when it happens. This might also provide some clues as to who the vandals are. For example, if the damage is happening at the time schools finish every day, then this, plus the knowledge that vandals are often children, might

suggest that the perpetrators are children from the local school. This conclusion would be reinforced if the site was found to be on a regularly used route home from school.

Understanding the motivations for this behaviour can also point to possible solutions. For example, vandalism appears often to be the result of play and excitement seeking amongst children, and as such, is not malicious. If it is found to be young children who are breaking branches and scribbling on park furniture, then prosecution and reparation are less likely to be effective than is an educational approach which attempts to demonstrate to the children the harmful consequences of their actions, or a programme which provides alternative acceptable outlets.

Devising strategies for prevention

A number of issues need to be considered when devising prevention strategies.

- Objectives need to be set for the initiative. What does it hope to achieve? Objectives should be clear, understandable, measurable and realistic (Berry and Carter, 1992). If possible, a time frame for the period of the initiative should be defined.

- Identification of the problem should suggest what measures would be appropriate. These could include, design modifications to reduce opportunity and promote surveillance, target hardening, using vandal-proof materials, community initiatives and education programmes, and improving management policies and practices. The most effective preventive strategies use a combination of measures, each designed to reinforce one another. In selecting measures, it is not sufficient to base decisions solely on evidence of past success; what works in one situation may not work in another. Thought needs to be given to the mechanism that the measures hope to trigger and how far the particular context is likely to help or hinder the operation of that mechanism (Tilley, 1993; Pawson & Tilley, 1994).

- If several agencies are involved, efficient liaison arrangements need to be set up. It is crucial at this stage to decide who will do what, and to establish how information on progress will be disseminated. It might be helpful to nominate one person to take the lead in co-ordination. The availability of resources, including funding and manpower need to be identified.

The importance of effective implementation

Effective management of implementation is central to the success of the initiative. This involves commitment from key participants, clear allocation of responsibilities, co-ordination of effort and active monitoring of project progress. Monitoring the

initiative will enable any necessary adjustments to be made and could help avoid costly mistakes.

Evaluating the initiative

"The history of preventive measures has been innovation without evaluation" (Coffield, 1991).

There is a large and authoritative literature on evaluation, part of which deals with the evaluation of crime prevention initiatives (see for example Ekblom, 1987 and 1988b). In essence, there are four parts to an evaluation:

(i) monitor changes in the rate of vandalism in the project site. Most important here is to distinguish real change from random or seasonal fluctuations;

(ii) determine what proportion of this change can be attributed to the anti-vandalism measures, as distinct from coincidental and independent events such as increased police patrolling in the area;

(iii) consider the cost-effectiveness of the initiative, based on an assessment of the extent of any reduction, compared to the financial and other costs of the initiative;

(iv) study any possible side effects of the initiative, in particular, whether or not it resulted in displacement.

As Ekblom points out, these four issues seem deceptively simple when presented in this way. Even in the most obvious cases, it is difficult to demonstrate more than an association between the measures taken and any reduction in the target crime. In many "real life" situations, however, an association may be all that is required in order to judge whether or not money and time were well spent.

Sharing the lessons learnt

People should not have to keep reinventing the wheel. Details of each project should be documented in a good practice guide, incorporating both the advantages and limitations of the approach, so future decision makers have a knowledge base to start from. At the local level, exploring ways of disseminating this information to organisations with similar problems could prove mutually advantageous.

This information could also be useful to a wider audience. For example, manufacturers could benefit from feedback on the effectiveness of current designs and materials and knowledge of requirements and specifications for the development of alternatives.

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