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prevention series

Susan Geason  
Paul R. Wilson

# PREVENTING GRAFFITI & VANDALISM



## **Crime prevention series**

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# Preventing graffiti and vandalism

*Susan Geason*  
*Paul R. Wilson*



Australian Institute of Criminology

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## Introduction

Not all graffiti are written by alienated teenagers, and not all vandalism constitutes wilful damage. Graffiti and vandalism are complex, multi-faceted problems requiring a range of responses for their solution.

If beauty is indeed in the eye of the beholder, nowhere is this more evident than in the response to graffiti. To many train travellers they are ugly, anti-social daubs, while for the perpetrators they represent an expression of individuality in an impersonal world.

Some artists, sociologists and writers even regard graffiti as a sophisticated art form, calling it "spraycan art". As one "writer" commented, graffiti has been with us since our early ancestors painted on cave walls.

And not all graffiti are motivated by a simple desire for self-advertisement, a demand for attention; some are an advertisement for a cause—a propaganda tool. Many anti-smokers, critics of the consumer society—and even judges—are supportive of the efforts of BUGA UP (Billboard-Utilising Graffitists Against Unhealthy Promotions) in defacing billboard advertising for what they consider to be harmful products.

Graffiti can also be more attractive than what it allegedly defaces. Most of us have had a laugh out of graffiti at some point, and many dreary hoardings have been enlivened by illegal murals.

Neither is all vandalism anti-social in nature. A great deal—estimates run as high as three-quarters—is opportunistic in character; that is, it results from poor design which cannot handle the demands of wear and tear placed on it; it is caused by people adapting their environment to make it work better; or it can simply be caused by kids being kids. With opportunistic vandalism, the offender might have had no intention of causing damage, but the result is viewed by others as vandalism.

Examples of opportunistic vandalism are damage to flimsy doors without door stops in heavily used entrances, short cuts across lawns, holes in fences to create short cuts, damage to the backs of park benches caused by people straddling them, doors broken open by curious children, and bikes leaned against shop

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windows because there is nowhere else to put them. In most of these cases, the problem could have been obviated by better design and planning.

One solution to opportunistic damage is to reduce opportunities for graffitists and vandals to offend, that is, taking a situational approach. This involves changing the environment in which the offender operates, rather than trying to change the offender's character or motivation.

The situational approach is based on rational choice theory, that is, it assumes that offenders freely and actively choose to commit crimes; that the decision to commit the crime is made in response to the immediate circumstances and the immediate situation in which an offence is contemplated; and the motivation to offend is not constant or beyond control. In other words, it is dependent on a calculation of costs and rewards rather than being the result of inheriting or acquiring a disposition to offend (Bennett 1986).

In practical terms this means that, instead of concentrating exclusively on dealing with the factors in a criminal's background or environment which might be causing him or her to commit a crime—e.g. poverty, poor education, inadequate socialisation—we design measures directly related to preventing criminal acts (Jeffery 1971).

The attraction of the situational crime prevention approach is that it can work in the short term while researchers and policy makers work on other longer-term solutions to the problem of crime. Situational crime prevention is explained in greater detail in *Crime prevention: theory and practice* (Geason & Wilson 1988).

Examples of opportunity reduction are: using materials that are resistant to scratching and marking; improved lighting and better design to remove vandals' cover; security patrols; restrictions on the sale of spray paints; community, and even electronic, surveillance.

According to the statistics we have quoted, only a quarter of vandalism is premeditated. Examples of premeditated vandalism include malicious damage of trains, soccer hooliganism and damage caused by street gangs. This type of vandalism is more complex than opportunistic vandalism and requires more sophisticated, longer-term solutions. Consequently, we have not restricted our study to situational crime prevention strategies,

but have investigated social programs aimed at alleviating some of the boredom and alienation which lead young people to destroy or decorate their environment.

These longer-term solutions include diverting potential offenders through programs of activities which keep them occupied and raise their self-esteem; community and school educational and consciousness-raising programs to promote a sense of responsibility for, and ownership of, community resources and facilities; and even providing legal outlets for graffitists to practise their art.

Finally, we do not regard the eradication of graffiti and vandalism as a realistic goal; vandalism, like graffiti, has a long history. Rather we aim to lessen the problem—and as a result lower the fear of crime among the general community—through a mix of situational strategies and long-term prevention programs.

In this volume on preventing vandalism and graffiti, we will look at criminological theories on vandalism, as well as describing planning, management, architectural and design strategies for minimising vandalism and graffiti on public transport and in public places, in and around public telephones, in schools, and in public housing.

# The theory

## Defensible space

In his breakthrough work on crime and vandalism in public housing, Oscar Newman (1972) propounded the theory of "defensible space". Briefly, Newman found that crime rates in high-rise buildings where hallways, lifts, lobbies, fire escapes, roofs etc. were isolated from public scrutiny were higher than in low-rise buildings. His solution was to re-design apartment buildings so public areas would be under surveillance by some residents at all times.

Territoriality, natural surveillance and image and milieu are the three major components of defensible space theory.

Territoriality and natural surveillance refer to a sense of ownership and control which leads people to mark out and defend their own turf. Defensible space architecture, by making clear which spaces are private, which are shared by residents and which are public, discourages intruders and encourages residents to monitor public and semi-public spaces and challenge those who do not belong.

Newman also believed defensible space design could counteract the negative effects of the poor image people in public housing often suffer. Were residents prouder of their dwellings, they might treat them better, he reasoned. This is complemented by his notion of "milieu" which insists that a housing estate should be designed to harmonise with its immediate neighbourhood.

Newman's approach to crime, violence and vandalism in public housing was situational: he stressed the role architecture and design could play. Other criminologists saw design measures as only one component of a crime reduction program which would also include the creation of groups dedicated to preventing crime among residents, better policing, and improved relationships between the police and the community (Murray 1983).

In summing up a number of studies on the subject of vandalism, Canter (1984) concluded that vandalism was a social and physical process—a view that contradicted Oscar Newman's

perspective—in which physical solutions were presented as the most effective ways of dealing with the problem. In fact, the criminologists who contributed to this study (Levy-Leboyer 1984) decided that purely physical solutions were liable to back-fire and produce unacceptable physical environments.

Instead of “target hardening”—for example using strong or shatterproof glass for windows—Canter suggested “target softening”, that is, making potential targets for vandalism very easy to replace and replacing them cheaply and quickly. His theory was that, when frequently vandalised objects were replaced, the vandals’ initial response was to attack again, but as the objects were repeatedly replaced, the vandals’ motivation for attacking them declined—a war of attrition.

Canter suggested recruiting the public into the war against vandalism, an example being British Telecom’s program in which people adopted a telephone, effectively making vandalism the whole community’s rather than just Telecom’s problem.

## **Manageable space**

The role of management has been stressed by others such as Donald Perlmut (1981,1982). In his theory of “manageable space”, Perlmut emphasised the need for management which assumes most residents can learn and even seek out responsibility and exercise considerable creativity in participating in their communities. Architecture, he argued, should respond to people, and the design welcome and reflect the presence of human beings.

## **Physical design and kinetic management**

Marcus Felson (1987) concentrated on physical design and kinetic management to reduce crime. He spoke of manipulating the environment to divert flows of likely offenders away from likely targets, or to restrict them to where they can be monitored.

Clarke and Felson (1988) have categorised a number of situational crime prevention strategies thrown up by successful case studies. Some are relevant to graffiti and vandalism.

- Reduce convergence of targets and offenders.
- Constrain offenders. This could mean: strengthening social controls for example through smaller classes in schools to cut

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down vandalism; restricting access to facilities or means of committing crimes, for example by placing a ban on the sale of aerosol paint sprays to juveniles; restricting access to disinhibitors such as alcohol which might lead people to commit crimes, for example by banning the sale of alcohol at football games.

- Protect targets. This can be done by: target hardening, for example using vandal-resistant materials in public places; restricting access to places where crimes could be committed, for example by padlocks or security guards on train depots.
- Enhance guardianship. This could mean: increasing surveillance, real or apparent, for example through Neighbourhood Watch, citizens' patrols, transport police; assigning responsibility, for example by training employees to challenge potential offenders; and increasing the capacity to intervene, for example by giving radios to bus or train drivers.

# The problem

## The offences

Vandalism and graffiti are costing too much, not only in dollars, but through danger to human lives, increasing fear of crime among the old and the underprivileged, loss of services, and a general lowering of the quality of life in our communities.

According to NSW Police, there are at least 140 graffiti gangs or "crews" with a membership of about 800 graffitists or "writers" on police computers, but approximately 300 groups involving up to 3,500 youths from 12 to 18 years of age could be involved in the graffiti subculture in New South Wales alone. In 1986 it was costing the NSW State Rail Authority \$5 million a year to clean graffiti off trains, and New South Wales Transport Investigation Police tell of a gang of nine who caused \$182,000 worth of damage in two nights.

In Victoria, graffiti is costing the Met—Melbourne's urban rail system—about \$5 million annually. The cost of cleaning trains, structures and stations belonging to the London Underground was £285,000 in 1985, rising to over £400,000 the following year.

Up till 1988 Australian Telecom was spending \$18 million annually to repair vandalism to its public telephones, and in Liverpool in the United Kingdom, before an anti-vandalism campaign began to take effect, half that city's public phones were out of commission at any given time (Merseyside Police 1988).

The school arson and vandalism bill for the New South Wales Government has reached \$14 million a year (*Sun Herald* 18 September 1988) and it is estimated that arson in English schools has been costing between £25 and £30 million annually.

But there is a cost in human terms, too. By 1988 six youths had been killed on New South Wales railways while painting graffiti on carriages, and many are injured every year (Wilson 1988). As many graffitists steal to buy spray paint, the public also suffer. In a six-month period in 1988, the New South Wales Police Graffiti Task Force laid 288 charges against graffitists—115 of malicious damage, 47 of stealing, 22 of assault, 13 of assault and robbery,

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and 17 of carrying offensive implements. And according to Transport Police, graffitiists who leave a crew are likely to be bashed for defecting.

When schools are burned or vandalised, children suffer, and when public phones are out of order, those who do not own phones—usually the underprivileged members of the community—are further disadvantaged, particularly in emergencies.

Vandalism is unacceptable on every level. It looks bad, costs money, reduces the quality of life for those it affects, and often frightens people vulnerable to crime.

Graffiti is not so clear-cut. Although it can be ugly, costly to remove and dangerous for its practitioners, it has some benefits for some people: it can look better than what it covers up; some slogans are funny; it is seen by some as a form of community art; and politically-motivated graffitiists like members of BUGA UP (Billboard-Utilising Graffitiists Against Unhealthy Promotions) see themselves fulfilling an important social function, a belief which is often upheld in court.

### The offenders

With the exception of Britain's soccer hooligans, those who indulge in vandalism and graffiti are largely young people who under-achieve at school. Boredom, alienation, family and community breakdown, lack of leisure opportunities and youth unemployment have all been cited as causes.

The view of the New South Wales Transport Police is that kids become graffitiists for fame, recognition and identification. The New South Wales Police and Telecom's Special Vandalism Investigation Squad regards vandals and graffitiists as petty criminals (Monaghan 1986) or unsupervised larrikins, but this is disputed by many talented graffitiists, the authors of books on "spraycan art" and collectors of graffiti.

Graffiti got a very bad press in Sydney press in September 1988, when a young woman was allegedly abducted from a railway station and murdered by a group of young men and women who had associations with graffiti gangs. Graffitiists and their sympathisers fought back, and stories portraying graffitiists as, if not quite the kid next door, at least frustrated artists, began to appear in the media.



Former bombers turned "piece" painters (painting whole pictures legally rather than illegal tags) at Sydney's Bondi Centre clearly view themselves as artists, not criminals or vandals (*Sun Herald* 18 September 1988). As one 23-year-old explained: "The graffiti crew are all about friendship and our shared interest in art".

And at least one convicted graffitist formerly of "The Future Art Beat Four" graffiti gang now designs covers for record companies (*Sydney Morning Herald* 15 September 1988). He also gets permission from builders to paint on their hoardings. Not only is it legal and more artistically fulfilling than writing tags on trains, it also commands a much wider audience.

"Graffiti has been around since man lived in caves," he said. "The graffiti we see now are the purest form of the art because they are something spontaneous, and outside the structured art gallery system."

He went on to explain the motivating force behind graffiti, especially tags—"They spring from a fundamental urge to be recognised."

## The culture

Graffitists have a pecking order, and to qualify as a serious practitioner (a "writer") rather than an amateur (a "toy"), a youth has to spray his initials ("tag") at least 1,000 times on trains. If the train "runs" with the tag still on it, this gives the writer more recognition among his peers, and one of a writer's great triumphs is to be photographed beside his handiwork before the railway maintenance workers clean it off.

The Transport Police say graffiti crew communications networks are so effective that a train painted at 3 a.m. in a depot will have an audience of admirers with cameras lining the tracks when it "runs" on its first trip of the day. Writers also gain status by being arrested and can become heroes if they get off the charges.

Punishment seems to depend on whether the magistrate perceives the writer as a kid acting on impulse or a hardened gang member with a long record. Some writers have been sentenced to 12 months in an institution; others receive only 100 hours of community service.

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The graffiti subculture seems to be highly developed, with secret signals, symbols and handshakes and cult books. There are reports of information exchanges, crew summit meetings, extensive interstate and even international connections, and a monthly periodical called *Hip Hop*.

The graffiti movement has even adopted its own logo from the Volkswagon car logo—an intertwined "VW". To crew members this stands for "Vandals Wanted", and like other important graffiti paraphernalia, must be stolen. Some graffitiists with a taste for publicity have even had Vandals Wanted business cards printed, complete with the VW logo.

Graffitiists have developed a fairly lofty "philosophy", first made public in *Subway Art*, a glossy illustrated "bible" for writers compiled from research on three continents by Martha Cooper and Henry Chalfant (1984). The follow up *Spraycan Art* by Chalfant and James Prigoff in 1987 is a full-colour how-to book with 244 illustrations of graffiti and photos of famous writers, along with romantic statements of the "live fast and die young" variety.

The philosophical stance, designs and operational tips in these books have been adopted by local graffitiists, as has the graffitiists' special slang. Some examples follow:

<i>Bite</i>	Copy other graffitiist's style
<i>Bomb</i>	Spray graffiti on the outside of a moving train
<i>Buff</i>	Erase graffiti
<i>Cap</i>	Spray paint nozzle
<i>Crew</i>	Graffiti gang
<i>Def</i>	Good (derives from death)
<i>Fade</i>	Blend colours
<i>Kill</i>	Bomb excessively
<i>King</i>	Best with the most
<i>Tag</i>	Graffitiist's three-letter identification sign
<i>Toy</i>	Inexperienced or new writer
<i>Writer</i>	Graffitiist

Tags are the initials of graffiti crew names, for example,

ATK	All Time Kills
CC	Crime city
FSK	Fucking Psycho Kids
JFA	Just Fucking Around
LSD	Let Sydney Die, or Live Sex Darling

OSB One Step Beyond  
RSL Resist Sydney's Laws

Some of these tags are simply self-aggrandising, but others point to a dangerous degree of alienation from their city, their elders, and their entire environment on the part of teenage graffitiists.

Transport Police say the graffiti subculture is highly democratic, without discrimination against particular groups, and apparently crosses class lines. Only one discriminatory group was known of, a black crew which allows whites in only to steal for black members.

### **Their motives**

To counter the common notion that vandalism is senseless behaviour with no motivation, criminologists have suggested a list of possible motivations (Canter 1984):

- revenge
- anger
- boredom
- acquisition
- exploration
- aesthetic experience
- existential exploration

They see an act of vandalism as very complex behaviour which might be the result of a number of different motivations.

Rennie Ellis, an Australian graffiti collector, regards graffiti as "... the result of someone's urge to say something, to comment, inform, entertain, persuade, offend or simply to confirm his or her own existence here on earth" (Ellis 1985).

For the most part, however, Australian spray painters, with the notable exception of BUGA UP, are not political: they don't leave slogans, just their calling card in the form of a nickname. And they prefer to steal the paint as part of the thrill.

Police psychologists say there are three sorts of vandals, each group with different motives. Phone busters are thieves; school burners and breakers are lashing out at authority; spray paint kids are showoffs, and seat slashers are less-elloquent showoffs.

The current polarisation of the debate about graffitiists into dangerous criminals versus high-spirited kids with a love of

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public art may be preventing a serious examination of graffiti as a symptom of extensive alienation, hostility and social malaise on the part of growing numbers of youngsters.

Children have a tendency to stick together against the adult world, but most of them grow out of it and take their places in adult society. Kids who join graffiti gangs and become absorbed into the graffiti subculture may tend to stay outside normal society. At best this will cut them off from many of the benefits of participation in their community; at worst, it could lock them into a lifetime of crime.

Local graffiti gangs have tended to follow overseas trends—in rhetoric, artistic styles, symbolism—and the danger must be acknowledged that they will follow the lead of graffiti gangs in Los Angeles and New York who moved into drug dealing with all the violence it entails.

### **Types of vandalism**

In their investigation into graffiti and vandalism for the New South Wales State Rail Authority (1986), Paul Wilson and Patricia Healy used the following categorisation of vandalism, adapted from Cohen (1972):

- **Acquisitive vandalism**—damage done in order to acquire money or property, for example damaging telephone boxes.
- **Tactical vandalism**—damage done as a conscious tactic to achieve another end.
- **Ideological vandalism**—damage done to further a cause or communicate a message, for example slogans on buildings.
- **Vindictive vandalism**—damage done to get revenge, for example breaking school windows because of perceived unfairness by teachers.
- **Play vandalism**—damage inflicted incidentally or deliberately as part of a game or competition, for example seeing who can break the most windows.
- **Malicious vandalism**—damage as an expression of rage or frustration, for example scratching the paintwork on expensive cars.
- **Innocuous vandalism**—damage done to property defined by youth as unimportant or of no value, for example slashing railway seats.

Wilson concluded that, though the motivation involved in tactical, ideological and vindictive vandalism is fairly obvious, the motivations for play, malicious and innocuous vandalism—most common to railway damage—are less obvious, and unfortunately, quite widespread.

# Public housing

## The crucial factors

British researcher Sheena Wilson (1979) pointed out that it is often difficult to distinguish intentional forms of damage from wear and tear, indifference, neglect and thoughtlessness in public housing estates. Vandalism, it seems, is part of a spectrum of behaviour which begins with very common forms of carelessness such as dropping litter, and continues through a wide range of rough handling—bumping prams into glass swing doors, taking short cuts through newly planted flower beds, for example—to the stage where damage is deliberate: glass broken by airgun pellets, smashed fittings, and dismantled fire-hoses.

Wilson concluded that it came down to people's lack of a feeling of ownership—and therefore lack of responsibility—for the welfare of public parts of an estate. One solution would be instilling this sense of ownership.

Wilson suggested a style of management which treats tenants as customers buying a service, rather than as welfare supplicants. It would include a new attitude to everyday transactions such as reporting repairs, rent queries and applying for transfers; a more relaxed atmosphere at the local housing office; an open and friendly manner on the part of housing officers, and less reliance on curt, computer-printed communications.

The key to controlling vandalism and graffiti in public housing would seem to lie in a recognition of its special characteristics.

- It is "public", and does not therefore encourage a sense of "ownership" among its tenants.
- It is high-density living with the accompanying frictions.
- Maintenance is often slow and inefficient.
- Buildings and interiors are not designed with graffiti and vandalism prevention in mind.
- There is often a high percentage of children and the inevitable "problem families".
- Public housing is often socially stigmatised, too big to manage effectively, and managed by bureaucrats.

What emerges from the British and Australian research and case studies is that there is a need for the following.

- Humane, consultative management of public housing, partly as a desirable social goal in itself, but also to help instil a sense of ownership and pride in public housing tenants.
- Ongoing communications between the architects and designers who build the accommodation and the maintenance staff who look after it and can therefore feed back vital information about design weaknesses.
- Special arrangements for children so their normal play does not turn into vandalism.
- Good maintenance so that vandalised property and a general air of neglect does not encourage more destruction.

Fundamental changes in the organisation and training of housing management might be needed if this new approach is to be implemented successfully.

Ms Wendy Sarkissian, who carried out a study for the then New South Wales Housing Commission on security through environmental design (1984), recommended three major strategies for minimising vandalism in public housing.

- Avoid a high density of children.
- Provide adequate facilities for youth to give them something to do.
- Make vandalism more difficult by using vandal-proof materials wherever possible.

### *Defensible space*

Damage occurs most frequently where there is little or no surveillance—garages, refuse chambers and lifts, for example. To this extent, certain building and estate layouts can be said to encourage vandalism. This idea has been developed most fully by Oscar Newman (1972), who calls such no-man's-lands "indefensible space".

Others postulate that ownership can be just as important as territory, and Sheena Wilson, in her 1986 survey for the Home Office Research Unit, gave Newman's theory only limited support. Her examination of 52 housing estates in two London boroughs suggested that the design of buildings did not affect overall levels of vandalism. Tower blocks, in particular, she

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found, were not more susceptible to vandalism than other types of buildings.

### *Building design*

Wilson's survey did find, however, that different sorts of buildings encouraged different types of vandalism.

For example, in large buildings where access routes were very public and people could come and go unchallenged, communal areas were heavily vandalised. In tower blocks, damage was concentrated round entries. One answer is to make entrances less inviting to outsiders—as an extreme measure, entryphones might be installed at the entrance to tower blocks.

According to the 1977 Lambeth Inner Area Study, the most vulnerable access ways are those linking flats in deck access and continuous gallery-type buildings. Everybody uses these, but no-one is responsible for them. Here the type of building is undeniably responsible for whole tracts of indefensible space. In addition, entrances and staircases that are isolated and out of sight—for example fire stairs—become "vandal temptation zones".

### *Scale*

Scale has an important bearing on the amount of vandalism an estate suffers. The Lambeth study found that a factor common to the least vandalised estates was small-scale, well-maintained green space where the common areas appeared to belong to the residents rather than everyone and no-one. And alternatively, spaces which were severed by short-cuts appeared to be heavily vandalised.

### *Child density*

Wilson's 1986 survey of London estates showed quite clearly that child density was a critical factor in determining degrees of vandalism. She found that all types of buildings were likely to experience some vandalism problems once the ratio of school-age children went above five to every 10 dwellings, or where the overall number of children in a block exceeded 20.

As high-rises exacerbate the children problem, local authorities should house families with children on or near the ground. Because a lot of vandalism is caused by children's play, one form



of prevention is providing public play and leisure facilities. When siting such facilities, it is wise to heed research showing that children tend to play near to home and do not use flat and uninteresting playing fields.

In her study into preventing vandalism in New South Wales public housing estates, Wendy Sarkissian (1984) made the following recommendations concerning children.

- Design becomes important where child density is high, the critical point being when the ratio of adults to children is less than 3:1, and where densities are more than 60 to 70 children per hectare.
- As children will play everywhere, noisy activities, digging, sitting quietly, etc. should be separated out to cause least disturbance to people in dwellings.
- One way of preventing children taking risks on buildings etc. is to build adventure play areas on site or nearby.
- Children like to play on footpaths, so they should be designed to accommodate this.
- Leave part of the site undeveloped for natural play areas.
- Playground equipment should be sturdy and good looking.
- Supervised after-school and summer holidays play is needed.
- To stop teenagers getting bored and vandalising, provide challenging, varied and exciting activities for them, as well as informal gathering places and indoor social places exclusively for young people.

The Lambeth study suggested that play areas be moved from one part of an estate to another—as in crop rotation—to give the grass a chance to grow and share the nuisance of living near a large playground among residents.

In some cases playground facilities are underused because children are not encouraged to use them. The Exeter Police Crime Prevention Support Unit increased the number of children using a playing field from 10 to 300 in a week by turning up to organise games of football. They then persuaded schools to open up their grounds in the evenings for children.

A major problem here is getting officials to bend the rules a little: often purely administrative objections were raised by officials who wanted to save themselves trouble and effort.

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Projects which help reduce vandalism tend to have a strong creative element and give participants a sense of ownership. For example, as soon as Halton local authority in the UK organised mural painting by groups of adolescents, they stopped defacing the walls (Wilson 1979).

### *Maintenance*

Sarkissian (1984) came to regard vandalism as much a problem of maintenance, overuse or neglect, as one of outright destruction, and recommended the following.

- Use hardy, easily-replaced materials.
- Use standard sizes for easy replacement.
- Prepare maintenance manuals for speedy repairs.
- Insist on maintenance contracts for playground equipment so it was not out of action for long.
- Avoid removable materials such as paving bricks.
- Make funds available for maintenance and for correcting design faults.

Sarkissian warned that designers need to steer a course between durability and good looks because "hard architecture" discourages people from using facilities.

As damage left unrepaired often encourages destruction, a good policy for housing authorities is prompt repairs—particularly in the case of graffiti and broken windows—combined with strong on-site management and an insistence on responsible behaviour by adults and children.

### **The role of housing authorities**

The approach of housing authorities to vandalism should be both diagnostic and prognostic, said David White (1979). That is, on the level of materials and fittings, authorities should look back, find out what has been damaged and replace it with something stronger—a basic, self-defence, reactive, even negative approach. The authorities must also look forward to, and avoid or allow for future damage, by building in easy-to-maintain or replaceable materials and fittings—a positive approach. Either of these approaches will only work if linked to a system of management which constantly responds to feedback from users and maintenance staff.

Working from local authority repair notes, the UK Building Research Establishment (White 1979a) found that the most frequently reported damage was to glass—at foot level, and in entrances and access ways, particularly in buildings which housed children. Damaged glazing, more than any other single feature, makes a building look vandalised.

In the long term, such damage suggests that defensive rather than reactive measures are needed: modifications to the design and layout of housing estates, caretakers to provide supervision and a housing allocation policy which distributes families with children more equably. But with the immediate needs of the user in mind, the Building Research Authority's summary confined itself to commonsense precautions and listed finishes, materials and design features that work. According to White, the first step a housing authority needs to take is collating and analysing its own housing repair notes and devising from them a preventive design guide for architects.

The Consortium for Method Building, a grouping of seven local authorities in the UK has drawn up a checklist of likely damage and the remedies or precautions required (Sykes 1979). The key instruction, in almost all areas, is to aim at robust construction.

The Consortium's working party felt that the likelihood of vandalism was broadly affected by two factors:

- The general building design—its siting, the relationship and adequacy of play space and circulation spaces, its robustness in areas of high use and risk of attack, the relationship of its parts and the overall atmosphere created.
- Design detail and the choice of materials and fittings.

Neglect is infectious, and accidental damage which is left unrepaired encourages further damage. Areas of "low esteem" are particularly vulnerable. Anything temporary, slipshod or over-used, anything indeed which suggests that the housing authority is indifferent to the well-being of its tenants will invite casual ill-treatment.

The critical need then is to reduce the opportunities for casual vandalism. This means designing to prevent building failures, which the Greater London Council has found to be the commonest triggers for vandalism. For example, tough detailing is needed to prevent damage to the copings ends and exposed

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edges of brick walls as a minor initial failure can encourage a major collapse. And when doors fail in public areas, they positively invite vandalism.

### *NACRO projects in the United Kingdom*

The work of the National Association for the Care and Resettlement of Offenders (NACRO) on problem estates flowed out of a meeting on crime and architecture.

Its first project began in 1976 on a heavily vandalised and unpopular estate in Widnes. A Crime Prevention Unit was established in 1979 and a Safe Neighbourhoods Unit in 1980. By 1985 the latter had worked on 19 estates in five inner London boroughs. Its aims were to confront vandalism and minor crime by involving the residents on demoralised estates in planning improvements in such a way they would feel inclined to maintain and protect them (Rock 1988).

NACRO saw the victimisation and decay of problem estates arising from lack of pride, co-operation, power and cohesion, and the remedy in a restoration of structure and purpose.

Estate management programs were co-ordinated in liaison with different agencies and with tenant participation; tenants' organisations were established and strengthened; consultations were held with tenants, tenants' associations and local authorities; councils and tenants were assisted in planning and implementing the localisation of housing services to an estate or neighbourhood level; attempts were made to improve and develop policing, and facilities were provided for the young.

NACRO's Widnes project was reported to have brought about an appreciable decline in crime. Eighteen per cent of a sample of households on the estate claimed to have suffered a break-in in 1976; by 1979, the comparable figure was 11 per cent. There was also a major decrease in the amount of damage noticed by residents.

The consensus was that crime and vandalism on the estate had abated, although by no means disappeared. There were fewer signs of graffiti and malicious damage around the estate, and on the whole less evidence of nuisance to residents (Rock 1988).

Cunningham Road Estate—population 1,600, half aged under 17—had serious crime and vandalism problems in 1975, when

NACRO and SCPR (Social and Community Planning Research) began their joint project.

The estate comprised 250 houses built around 1950 and about 200 new houses and flats. Houses were mostly two-storey with three or four bedrooms and front and rear gardens.

When the program started, some of the old houses were boarded up, others had broken windows. Gardens were untended; fences were a jumble of corrugated iron, wire and old boards. Shops were barricaded with steel shutters and daubed with graffiti. Streets and pavements were in poor condition. Vandalism was rife—broken glass, graffiti, smashed brickwork and litter. Even the new part of the estate was damaged, with vandalised playgrounds and broken glass.

The tenants were demoralised, apathetic, and hostile to the council and police. Police did not bother to do anything about crime on the estate, council dumped problem families on the residents, and they were angered by petty restrictions such as not being able to paint their front doors.

NACRO's approach was influenced by the work of Oscar Newman (1972), particularly his notions about the positive effects of a sense of control and ownership on crime and vandalism. To this, the program team added extensive consultation with tenants to get their views and co-operation on measures to be carried out to fight crime.

Social and Community Planning Research people began by distributing a questionnaire survey to most households. This provided them with reliable statistics, informed the tenants about the scheme, and set up invaluable personal contacts between the researchers and the local people.

NACRO wanted tenants to analyse the problem, and sought the views of a wide cross-section of the community, not just the most vocal. They invited randomly-selected tenants—adults and children—to a small, group discussion of about eight people, paid them to participate, and brought them back three times over a couple of months.

These group meetings elicited residents' views, gave everybody a chance to speak, and helped people develop a sense of community. The meetings exposed the low morale of the residents, who felt helpless to change things for the better, and the gap in understanding between the tenants and the council.

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Consequently the process also raised the consciousness of council workers.

The major problems aired by the Cunningham Road residents were anxiety about security, dissatisfaction with the council's record on repairs and maintenance, and disturbance and destruction caused by young people.

An analysis showed that the problems stemmed from poor planning and design coupled with poor management. Children's playgrounds were an example of poor planning and design. They had been designed for small children and sited close to dwellings, but because they were the only well-lit, dry areas with seating, teenagers congregated there and bullied children, broke equipment, and kept families awake at night with rowdy behaviour.

When consulted, the teenagers decided to build a hut for themselves. They also became involved in the process of cleaning up the estate by painting murals and planting trees.

Problems with garden fences arose from both poor planning and bad management. Tenants from the old part of the estate had to provide their own; some were unsightly, and others inadequate to keep out dogs and children. In addition, council had torn up front fences—which had been a hotchpotch of hedges and fencing—and replaced them with low walls which did not keep out children, dogs nor litter.

The scheme succeeded in helping tenants overcome their feelings of helplessness and apathy. The meetings brought people together for the first time, a sense of community developed, and tenants were able to negotiate with council on an equal footing.

Tenants set up a Residents' Association which organised leisure activities on the estate and lobbied council about repairs. An adventure playground opened near the estate and a play leader was appointed and organised mothers to help. Council let people paint their front doors, plant hedges and put fences on top of the dwarf walls. Pavements and street lights were repaired, and some outstanding repairs were done. A beat policeman was assigned to the estate at the request of tenants.

After initial problems with vandalism, the adventure playground began to succeed and the Residents' Association thrived. The council kept up repairs and maintenance, and a long-planned Youth and Community Centre opened nearby.

The estate no longer gives the impression of being under siege. There is little visible sign of litter, broken glass or other breakage, and no new graffiti. Almost all the trees planted at the beginning are still standing. Teenagers are seldom a nuisance now; the beat policeman reports a dramatic decrease in crime; and the few families which had been terrorising the neighbourhood appear to have quietened down.

Because of the residents' increased confidence and sense of community, relations with the police and council improved; and although violence and vandalism did not disappear, they did decrease.

Very little money was spent on the Cunningham Road project that was not already allocated to the area, although some was transferred from other budgets so small repairs could be done quickly. Council officers gave a great deal of time to the tenants, and it was the relationships which grew out of this contact that raised the tenants' morale.

What began as an anti-vandalism project had implications far beyond its original terms of reference. It demonstrated: that tenants' conditions could be greatly improved without massive capital spending; the importance and difficulty of dialogue between tenants and housing authorities; the importance of morale to the welfare of the estate and the way this is affected by communications between tenants and housing authorities; and the latent possibilities for self-help among tenants (Blaber 1979).

And finally, largely as a result of this experience, Halton council adopted a package of changes emphasising the importance of improving estate management.

### *Priority Estates Project (PEP)*

The UK Department of Environment's Priority Estates Project also recommended social reconstruction to fight demoralisation on problem estates. It was not concerned expressly with crime and the criminal justice system, but with crime and vandalism as indirect policy issues arising out of their effect on the environment.

The Priority Estates Project (PEP) was launched in 1979 to improve housing management and decrease the number of vacant properties on difficult-to-let estates. The aim was to move

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management and maintenance staff from Town Hall and put them on the housing estates where they could work closely with residents.

A PEP begun on the Penrhys Estate in the Rhondda in Wales in 1984 is:

- involving tenants in consultations and programs;
- working with the local authority and other relevant agencies;
- initiating major repairs;
- improving lighting;
- treating walls with anti-graffiti paint;
- reducing the number of dwellings per block;
- localising lettings and repairs;
- intensifying beat policing and instituting night police patrols.

The Priority Estates Project was not directed specifically at crime, but it nonetheless seems to have had a very real impact on it (Rock 1986). One of the consultants involved asserted that the burglary rate was decreasing on all but one of the Project's estates. The most conspicuous change was observed on the Broadwater Farm Estate in Haringey, which had been called a "nightmare estate"; between 1982 and 1984 the burglary rate dropped by 62 per cent.

A quantifiable success story emerges from the Gibbshill Estate near Glasgow (Burrall 1979). Crime and vandalism were once so rife that shops windows were bricked up and the Council considered demolishing the estate. Instead, with the full involvement of the tenants' association and the police, Council undertook a £3 million environmental improvement scheme.

Over 200 houses were knocked down to make way for amenities including sports and recreation facilities, a community centre and a new shopping centre. The police introduced foot patrols and a local business gave a hut to a youth club.

As a result, vandalism almost disappeared, and the number of crimes and offences on the estate dropped by almost 40 per cent at a time when the rate was rapidly increasing elsewhere.

### **Design tips for vandal-proofing public housing**

Sykes (1979) gives some design tips for preventing graffiti and vandalism.







- One method of discouraging graffiti is to apply approved "graffiti" in the form of murals or mosaics where an undecorated surface might be tempting.
- Where murals are unsuitable, avoid soft-textured wall finishes which can be easily scratched, particularly if the surface colour contrasts with that of the substrate.
- Avoid light colours on walls.
- If it is likely that a surface will have to be renewed, avoid materials that are expensive to renew.
- Vital structural elements should be carefully protected; this can be done by cladding concrete with steel or a strong sheeting material provided that the method of fastening does not lend itself to vandalism.
- Soft mortar in brickwork can easily be scraped out, so joints should be regularly inspected and deteriorated mortar mix raked out and replaced by a good-quality mix of sand and cement.
- Glazing and tile-hung walls below ground-floor window level are best avoided.
- Piping should be installed inside rather than outside a building.
- Drain pipes should be cast iron rather than plastics or asbestos-cement below the height of two metres. They should be built up with concrete so they cannot be wrenched off the building, nor can the bracket fixings then be used as footholds.
- In areas where breakage of glass is mostly due to carelessness, or in ground-floor windows, toughened glass can be used.
- It is now possible to install vandal-proof lifts, or a vandal-resistant push-button system for lifts.
- Warnings that certain acts may evoke penalties might deter some vandalism. Warning signs must be clear and unambiguous, and as many vandals are very young or non-achievers, pictorial signs are the best.

## Summary

Vandalism problems on many housing estates stem from poor planning and design coupled with poor management. The following solutions have arisen from case studies in Australia and the United Kingdom.

- Fostering a sense of territoriality. Public housing estates where architectural styles, tenant programs and management

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policies give tenants a sense of "owning" their residences seem to be less vulnerable to vandalism than huge impersonal estates where the tenants are alienated from the buildings and the management.

- Planners and architects can minimise vandalism and graffiti by designing spaces which can be easily seen to belong to particular groups of people, which can be watched and thus guarded by residents or passers-by, and to which access is limited to those who have a legitimate right to be there.
- Sensible management policies and practices. In public housing estates, effective management involves developing a good working relationship with tenants, good maintenance and quick repairs, sensible tenant allocation and fair eviction policies, and an insistence on responsible behaviour by adults and children.
- Better buildings. Faulty design and inappropriate material selection and specification result in building defects, which are widely regarded as one of the major triggers of vandalism. Architects and builders must be aware of the use to which buildings and fixtures will be put, making sure they are strong enough to withstand everyday wear and tear, careless use and misuse.
- Good maintenance and quick repairs. As much vandalism is caused by overuse or neglect of property, and as damage seems to attract more vandalism, well-maintained buildings and speedy repairs are essential.
- Providing alternative activities. Estate management, police, parents or a combination of these can help prevent vandalism by organising sporting, leisure and entertainment programs for young children and teenagers on public housing estates.

## Public transport: On the railways

As a result of their 1986 investigation into the graffiti and vandalism problems of the New South Wales State Railway Authority, Paul Wilson and Patricia Healy concluded that more than increased surveillance and higher penalties were needed.

From international evidence, they concluded that reducing graffiti and vandalism would best be accomplished not only by increasing the risk of capture of offenders, but also by diverting motivation by involving young people—and the community as a whole—in creative schemes to improve the environment, and by giving transportation systems a more human face.

Experience in a number of countries shows that preventing or minimising graffiti and vandalism seems to depend on the right formula, or package, of measures—police or railway police presence, electronic surveillance, quick and effective clean-ups, education campaigns, restrictions on the weapons or tools used, and programs and activities that prove more attractive to young people than “bombing” trains or hanging around railway stations.

A less traditional response—and one that seems to be successful with some graffitiists at least—is mounting programs which take graffitiists’ artistic aspirations seriously and offering them a legal outlet for their art. This is the approach taken by the Bondi Youth Centre in Sydney and in Planned Parenthood’s New York program.

### **New South Wales, Australia**

In a 1986 public opinion poll carried out for the New South Wales State Rail Authority (SRA) by ANOP Research Services, 80 per cent of Sydneysiders surveyed said they were worried about their personal safety on trains and were also concerned about graffiti and vandalism. The SRA commissioned a study into the problem from the Australian Institute of Criminology, and this was produced in the same year as *Graffiti and Vandalism* by co-authors Paul Wilson and Patricia Healy.

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### *The Wilson/Healy recommendations*

As a result of their investigation, Paul Wilson and Patricia Healy made the following recommendations:

Fast repair of vandalism and graffiti removal by:

- establishing realistic and practical time limits for quick removal and repair;
- formation of mobile graffiti removal squads;
- incorporating, as quickly as possible, vandalism and graffiti resistant materials.

Community measures involving:

- publicly differentiating vandalism and graffiti from violent crime;
- using community murals and other forms of art on stations and in trains;
- improving liaison between transportation departments and schools, local communities and the media;
- diverting motivation by providing challenges or programs to raise young people's esteem through schools' parent/teacher associations;
- improving, in as many ways as economically possible, the physical and social environment of stations, carriages and public walkways.

Information systems which should:

- introduce a comprehensive system for the collection, analysis and dissemination of information on graffiti and vandalism.

Deterrent measures involving:

- establishing professional and specialised security services to combat these behaviours;
- increasing visibility of staff on trains and improved patrol procedures;
- establishing a Rail Watch (based on Neighbourhood Watch) for the staff and public;
- thorough investigation of the appropriateness of Community Service Orders for offenders.

If the opinion poll were repeated today, it would almost certainly reveal an escalation in the general anxiety level about safety in and around trains and stations. The matter came to a head in New South Wales in September 1988, when a series of

violent incidents made the front pages of Sydney newspapers and caught the attention of the nation.

For example, graffiti was allegedly the link between five teenagers charged with abducting a Sydney woman from a railway station carpark at knifepoint and killing her. Shortly after, a 14-year-old street girl was charged with the murder of an old woman who often slept in Sydney's Central Station women's lavatory.

The NSW Transport Police reportedly attributed 50 per cent of assaults on trains to youths (*The Weekend Australian* 17-18 September 1988). A spokesman listed an average day's crimes at Central as 10 bag snatches, a couple of assaults and a couple of sexual activities in the toilets.

Figures for a typical month at Central Station showed 25 robberies between 6 a.m. and 5 p.m.; four assaults, 24 thefts, one graffiti and eight "drugs and behavioural" incidents between 5 p.m. and 10 p.m.; between 10 p.m. and 1 a.m., 10 thefts, seven assaults, four drug and behavioural problems and one graffiti incident; and nine assaults between 1 a.m. and 6 a.m. A spokesman for the New South Wales Police Graffiti Squad maintains most of the 2,000 to 5,000 gang members carry weapons.

### *The 1988 Train Crime Offensive*

The following are among the measures adopted by the New South Wales Government to combat vandalism and graffiti on trains.

- In February 1988, 250 members of the State Rail Authority's Railway Police were transferred to the New South Wales Police Department as the Transport Police.
- A number of these TIB officers were selected to staff a Graffiti Task Force, which is part of the Police Department's Street Safety Program. Members of the Task Force patrol vulnerable areas and places where graffitiists are known to congregate, identify graffitiists by their tags and apprehend them, and respond to information from the public.
- The Graffiti Task Force's Tactical Intelligence Unit is endeavouring to systematise information on known and suspected graffitiists to make identification and apprehension easier.

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### *Bondi Youth Centre*

This Government-funded youth centre is a home away from home for about 50 reformed graffiti artists, who have left their mark (legally) on the building's colourful walls. The youths have stopped "bombing" in favour of doing "pieces", or complete pictures.

The drop-in centre keeps young people entertained with activities, including a graffiti course which teaches them art and allows them to test their talents at legal venues donated by private or public contacts.

The centre's co-ordinator says it is "street kids" rather than the majority of graffitiists who are into drugs, violence or vandalism. He says the bad publicity given graffiti gangs in the media will put the centre at risk, by attracting younger children to graffiti for all the wrong reasons (*Sun-Herald*, 18 September 1988).

### **Vandalism and graffiti on the MET, Victoria**

According to the Victorian Minister for Transport (28 June 1988), the annual cost of combating graffiti and vandalism on the Met—Melbourne's urban rail system—is about \$5 million a year.

The Victorian Government has initiated the following measures to fight the problem.

- Video surveillance of railway stations, starting with the new station at Frankston. Security cameras already operate at a number of stations. The Government also intends to trial closed circuit television surveillance inside trains.
- The Transit Police numbers will be increased from 220 to 400 by June 1990.
- Commuter Watch, the transport arm of Neighbourhood Watch has been set up. A poster campaign at stations is also being mounted to encourage passengers to report graffitiists to the Transit Police on a special phone number.
- A Graffiti Clean Up Gang has been formed.
- Offenders on Community Service Orders will clean railway stations on weekends.
- Advertising will be introduced on trains for a trial period to reduce the amount of wall space available to graffitiists and to help offset the cost of eradicating graffiti.



- In 1988 the Government doubled the number of train cleaners from 15 to 30 to get graffiti-damaged trains repaired and back into service as quickly as possible.
- Bicycle lockers and "chain and lockguard" devices were installed at a number of metropolitan stations in 1987, and bicycle cages will be erected at others to prevent theft.
- Train guards are now required to move up and down carriages to be more visible and to offer help where needed. They investigate unruly behaviour and carry hand-held radios to summon assistance and report vandalism on trains or at stations.
- Sixty suburban stations are to be cleaned up.
- The Met is to experiment with vandal-proof surfaces, fittings and finishes.
- Security in stabling yards is to be improved, and the use of closed circuit television will be investigated.
- A Women and Transport Task Force has been established to advise the Minister for Transport on public transport matters affecting women. The first stage was a Women's Transport Needs Study.

## **The London Underground, the United Kingdom**

An investigation by London Underground Limited (LUL) found that graffiti had developed from a minor problem in 1984 into a serious one by 1986. Graffiti styles had changed, too, apparently influenced by the popular American book *Subway Art*. (Cooper & Chalfant)

In 1985 the cost of cleaning trains, structures and stations totalled £200,000 and this was expected to rise to £408,000 in 1986. Staff reductions on some stations and the introduction of one-person-operated trains appeared to be contributing factors. On two badly hit lines, Hammersmith and the Circle Line, the worst damaged cars were those farthest from the train driver.

### *Preventive strategies*

According to Paul Ekblom in a paper on preventing graffiti on the London Underground (1986), the challenge for authorities was to find ways of responding to graffiti that did not:

1. increase the challenge or reward for offenders;
2. place the offenders in physical danger;

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3. interfere with safe operations such as maintenance, cleaning, etc.;
4. cost too much;
5. require excessive manpower;
6. cause displacement to other places or to other anti-social activities.

Eklblom suggested the following approaches: (1) reducing or diverting the motivation of the offender, (2) substantially reducing the risk of capture, (3) rethinking penalties, (4) changing the composition or distribution of the paints used, and (5) target hardening on the trains and in the depots.

1. Eklblom suggested that the motivation of the offender can be reduced or diverted by:

- removing artwork quickly;
- making sure surfaces ("canvases") are aesthetically unpleasing to the artists;
- taking the glamour out of graffiti by reducing the challenge and preventing publicity;
- promoting public disapproval or ridicule of the activity, or
- waiting for the craze to die down.

As well, offenders could be diverted from spray painting to another activity which provided a similar challenge and raises self-esteem. This could be done through schools or parent-teacher associations.

2. Authorities can attempt to reduce graffiti and vandalism by substantially increasing the risk of capture. This could be achieved by improved surveillance for example, through:

- closed circuit television combined with a fast response;
- better lighting;
- surveillance by staff or nearby residents;
- real or simulated security patrols.

It could also be achieved by increasing security to prevent potential offenders gaining access to London Underground's operations information.

3. Eklblom suggested that, with regard to penalties, offenders should be required to make cash reparations, rather than cleaning up their mess, as cleaning off the graffiti could expose them to toxic chemicals or danger from live tracks or trains.

4. An obvious situational crime prevention solution is to attack the tool—in this case the paint spray. This could be done by asking manufacturers to:

- produce paints less likely to cling to unprepared surfaces;
- provide information on the most effective solvents for their paints;
- make cans less suitable for the narrow jet favoured by graffiti artists;
- put whistles in the cans.

As well, the paint supply could be reduced by requiring retailers to:

- tighten up security on spray paint displays;
- introduce codes of practice on sales of cans to children, perhaps taking the restrictions placed on harmful glues as an example.

5. The targets—train depots, trains, carriage surfaces—could be hardened in the following ways.

- The target could be made more difficult to damage, and/or easier to repair by:
  - \* painting or impregnating surfaces;
  - \* using pop-out panels;
  - \* using wet surfaces.
- Access to sites could be controlled by:
  - \* blocking or keeping under surveillance illegitimate entries
  - \* improving security at legitimate entrances.

### *The program*

The following anti-graffiti strategies were recommended and adopted by a special meeting of London Underground Limited (11 June 1986).

- Continue to publicise monetary rewards to staff whose information leads to successful prosecutions.
- Enlist the help of regular passengers to assist in combating graffiti and criminal damage, using Neighbourhood Watch as a model, and seek the co-operation of people living along the train lines.
- Improve liaison between operating staff and the police.
- Improve reporting of graffiti to cleaning services department.

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- As older trains are more susceptible to getting and retaining graffiti than new ones, newer stock should be stabled on roads known to be targets.
- Cultivate thorny brambles inside fences in vulnerable areas instead of impenetrable and insurmountable fences which cost too much.
- Improve staff security in closing and locking gates.
- As stations are refurbished, vandal-proof—or at least easily-cleaned—surfaces should be installed.
- Graffiti can be painted over on stations, and a paint should be developed that will cover graffiti on trains and resemble the metal surface.
- Investigations into non-toxic cleaning solvents should be intensified: a combined solvent and high pressure steam process seems promising.

The following recommendations were also considered to have merit, but because they were significantly more expensive, were conditional on a detailed cost-benefit analysis.

- Extend closed-circuit television monitoring to cover some rolling stock depots and more stations—this was favoured by the police.
- Increasing police manpower was considered but found too costly and inflexible.
- Linishing (sanding down and polishing a bare metal surface) rolling stock exteriors. (This weakens the body panels and shows up against other unaffected panels, however.)
- Painting rolling stock exteriors. This has proven effective on British Rail trains. It is easier to clean and unremovable designs can be painted over. Because of the expense, however, LUL saw this as a last resort.

### **Transit Police, Houston, the United States**

Different jurisdictions in the United States have responded to railway crime differently—from employing traditional measures such as transport police, through educational programs, to art programs for graffitiists.

Crime prevention measures—particularly the creation of the METRO Transit Police in 1982—have cut associated crime in half on Houston's METRO Transit Authority (*Crime Prevention News* 1988).

Between 1983 and 1986 vandalism dropped by 52 per cent, crime on buses by 60 per cent, and crime on park and ride lots by 59 per cent. Crime incidents per 100,000 passengers fell from 12.3 to 5.0.

The Transit Authority takes crime prevention education and anti-vandalism programs into primary and secondary schools and produces crime prevention brochures for adults, available from all METRO Transit Centres.

Recently METRO Transit initiated a Lifesaver identification tag program for children and a mobile crime prevention bus. A Transit Watch program, which will train drivers to report suspicious activities to the police, is also planned.

### **New York Transit Authority campaign, USA**

According to a spokesman for "The We Care About New York", a non-profit, private group dedicated to fighting graffiti and litter, 95 per cent of railway carriages on the New York subway had been vandalised inside and out by the early 1980s, costing the City of New York some \$42 million in cleaning bills. After the campaign, 86 per cent of the city's railway cars have been made graffiti-free (*Sunday Telegraph* 25 September 1988). As well, the number of arrests for graffiti-vandalism had dropped from approximately 2,400 people in 1984 to 300 in 1987.

The anti-graffiti campaign initiated by the Transit Authority's new director, David L. Gunn, in 1984 included greatly improved security measures, fast removal of graffiti to deny vandals the pleasure of seeing their handiwork, and the introduction of imaginative programs to provide graffitiists with alternative pursuits. New York State has also clamped down on the sale of spray paint cans, preventing their sale to minors; and new city ordinances require store owners to keep the sprays behind wire mesh or locked in racks to prevent theft—graffitiists' preferred method of obtaining their tools (*Sunday Telegraph* 25 September 1988).

According to New York Transit Police statistics (*New York Times* May 1989) the environment in New York's subway system has improved dramatically in the past four years. The percentage of subway cars with broken door panels has dropped from 29 to 11, of defaced wall subway maps from 36 to 2, of interior graffiti from 85 to 3 and broken or spray-painted windows from 62 to 1.

Although the Transit Authority's director said guard dogs on unused cars and the new ordinances made it harder for minors to buy or steal spray paints, Gunn gave most of the credit for the dramatic decrease in graffiti to the Authority's policy of erasing graffiti—whether a tag or a mural running the length of a train—within 24 hours.

Crime is another story. The number of crimes reported in February 1985 was 2,413, and 2,420 in February 1989, with the number of robberies increasing from 324 to 550. On the positive side, however, robbery arrests in the same two months rose from 138 to 280.

Other cities in the United States have reportedly followed New York's example.

#### *Planned Parenthood Program*

Planned Parenthood of New York have launched a program in which offenders receive art supplies and a chance to exhibit their work in return for a pledge not to write graffiti. In 1987 nine former graffitiists reportedly earned over \$2,000 for their art at an exhibition (*Sunday Telegraph* 25 September 1988).

#### **The Guardian Angels, New York**

In some cases, members of the public have taken action themselves to prevent crime on public transport. For the past 10 years groups of young people called the Guardian Angels have been patrolling New York's subway system trying to prevent violence on trains. They carry no weapons, but wear khaki army fatigues, black army boots, badge-clustered red berets and white tee-shirts with the Angels insignia.

Angels are not permitted to drink alcohol or carry weapons.

Claiming that subway crime was out of control, Curtis Sliwa and 12 volunteers began riding the New York subways during allegedly peak crime hours as "The Magnificent Thirteen Subway Safety Patrol" in February 1979. Their purpose was to deter crime by their presence and make citizen arrests when serious crimes were observed.

The idea caught on and attracted large numbers of volunteers. The group was formally organised, the now familiar uniform of a tee-shirt and red beret was adopted, and the name changed to the Guardian Angels. By 1981 the Angels were claiming a mem-

bership of 1,000 throughout the United States, 700 of whom operated within the five boroughs of New York City; and by 1985, membership was estimated at 5,000 (Kenney 1986).

The Guardian Angels regard crime as a breakdown not in law enforcement, but in citizen involvement, and offer themselves as examples of community responsibility. They claim that, by 1982 they had interrupted crimes and made arrests in over 258 instances, 136 of which involved suspects armed with guns or knives. They also report numerous cases of finding missing children, helping the elderly and injured, and even rescuing one police officer. Many see preventing crime by their presence as their major contribution to law and order.

Studies have been carried out both to measure the effectiveness of the Guardian Angels in reducing crime and fear of crime on subways, and to decide whether or not they should be regarded as vigilantes.

To test the Guardian Angels' impact on crime in New York subways, Kenney and his associates (1986) carried out a complex evaluation of their program. Among their findings were the following.

- Because crime rates turned out to be so low on the subway—accounting for somewhat less than 2.7 per cent of the city's crime—and crime was so sporadic in the survey area, the researchers could not reach any definite conclusion about the Angels' impact on reducing crime.
- Although the level of fear turned out to be much lower than expected—with half the respondents only a little worried or not worried at all about subway crime—61 per cent of those surveyed felt that the presence of the Angels made them feel safer, while 66 per cent believed the Angels could actually reduce crime itself.
- The Guardian Angels found their greatest support among those who felt most threatened by night-time crime on the subways—women, especially Hispanic women.

The evaluation team concluded that the Guardian Angels' role in law enforcement was mixed, and that it was difficult to determine how strongly the public's opinion about them were held. They speculated that the Angels' rhetoric about subway crime might actually contribute to fear, and maintained that the organisation's claim of reducing crime on the subways remains

unproven but doubtful. Finally, they echoed the concern of some commentators that the Guardian Angels, like many active citizen action organisations before them, might evolve into a socially destructive force.

On the positive side, an assessment of the Guardian Angels carried out by Pennell, Curtis and Henderson for the US National Institute of Justice (1986) found:

- In some cities like Cleveland, Angels are quite visible performing both a helping role and an order maintenance role as they assist people onto buses and urge riders to stay behind the lines where the buses stop.
- There are few organisations like the Guardian Angels that purposely recruit multi-racial groups of young people to commit time and energy to community crime prevention.
- The Angels offer an alternative approach for citizen involvement in crime prevention by providing positive role models for youth, bridging the gap between older citizens and adolescents and reducing the fear of crime for certain segments of the general citizenry.
- The founder, Curtis Sliwa, possesses charismatic qualities that motivate minority youth to become positive role models by becoming involved in volunteer crime prevention efforts. By tapping a previously unrecognised group of young people, Sliwa offers what is perceived as a worthy mission. He "dares" the Angels to "care" and combines the macho image with an orientation that supports the value of helping others.
- The most significant feature of the Guardian Angels may be that they represent a group of young people generally seen as contributing to the crime problem rather than to its solution.

The authors cite a study which contradicts the label of vigilantism often attached to the Guardian Angels by the popular press and law enforcement authorities. They speculated that the cool response of the police to the Angels was based on both this perception of them as vigilantes and a fear that groups would make tactical mistakes and abuse their power (although the authors found few specific instances where Angels intervened inappropriately).

Pennell et al. made the following recommendations designed to improve Guardian Angels' approach to crime prevention and deterrence.



- The Angels should adhere to their National Rules and Regulations, in terms of minimum age, screening of applicants, standardised uniforms and improved record keeping.
- They should increase their interaction and co-ordination with other citizen groups.
- In each city, Angel chapters should increase public awareness about their objectives.
- Training for members should be standardised.
- To improve recruitment, the national leader should participate in local recruitment drives on an ongoing basis.
- The Guardian Angels should seek a rapprochement with police, community leaders and decision makers in cities where there is not a clear understanding of respective roles.
- Prior to setting up new patrols in neighbourhoods, Guardian Angels should first meet with community leaders to identify concerns and needs of the citizenry and the types of groups in existence to address these problems.

Late in 1988 the group's founder, Curtis Sliwa, visited London to assess the need for a British chapter of the organisation and returned with four followers in January 1989, only to be held at Heathrow Airport and questioned by Special Branch officers. The view of the U.K. Home Office was that the problem in London is not as bad as that in New York, and vigilantes are not the answer (*Sydney Morning Herald*, 27 January 1989).

Representatives of the Guardian Angels also visited Australia in 1989, but so far no chapters of the organisation have been set up here.

### **Metro, Washington DC, the United States**

During its first year of operation, the Metro mass transit system in Washington—a city with one of the highest crime rates in the United States—had only 46 crime incidents, and these were minor. The Metro's security plan included employing crime prevention through environmental design (CPTED) measures in the planning and construction of the system, heavy staffing by uniformed transit police during the first phase, and a sophisticated communications system linking station attendants, a control centre and police and emergency services.

Metro architects designed the system to instil a sense of security in passengers and to minimise opportunities for crime. To diminish people's fear of going underground, they designed a spacious environment with excellent visibility. Columns were kept to a minimum and attendants' booths were centrally located. There are no long passageways; the route from the surface to the station is relatively short. This means passengers do not lose their sense of orientation and people are discouraged from hanging around.

The stations offer virtually no places where criminals can conceal themselves. Indirect, soft lighting provides ample illumination while reducing glare and eliminating shadows. And because public lavatories in subways attract criminal activities, Metro opens them only on request.

Metro has also developed a sophisticated communications system connecting station attendants and police to the operations control centre. Control centre, in turn, can communicate directly with all local police, fire and rescue teams. Closed circuit television cameras in blind spots can be monitored from attendants' booths.

### **AC Transit Company Campaign, Oakland, California, the United States**

As a response to serious problems of vandalism, harassment and drug activity on the AC Transit Company in the early 1980s, one of the company's administrators brought together Oakland gang leaders, service providers and businesses to address the issue. A youth council of gang leaders was established, and private sector support was enlisted to develop programs to provide jobs for young adults. The result was that crime fell on the transit system and minority youth were given a stake in their community (Pennell et al 1986).

## Public Transport: On the buses

A study by Sturman (1980) found that the location and extent of damage on a bus was related to the amount of supervision the crew could give. Upper decks on all types of buses suffered more damage than the lower decks, and the upper decks on driver-only buses received nearly twice as much damage as upper decks on buses with conductors.

### **Video cameras on buses in the United Kingdom**

On Go-Ahead Northern's fleet of 700 buses in Tyne and Wear, in the north of England, damage to one-person buses was costing about £250,000 million per year. Upper decks were the target of much of this damage, and school children were held responsible. Types of damage included smashed windows; seats slashed or thrown out; paint sprayed; egg, water bombs, fireworks, snowballs thrown; vomiting and spitting. Fiddling with emergency doors was also a problem.

After consultation with staff, the company installed video cameras, which were expected to be useful in cases of assault on drivers as well. Two video cameras were fitted in a bus in a trial run to test their effectiveness.

From the camera at the front of the top deck in an armoured glass mounting, it was possible to supervise most of the top deck, particularly the rear seats. From a second camera at the front of the lower deck above the driver's head, the area around the driver was covered, but the rest of the lower deck was obscured by the stairs. Video cassette recording equipment was concealed beneath the driver in a space formerly used to store bags and prams. As the recorder could only record one camera at a time, the driver had to choose which camera to activate, and when.

The video bus was tried out in November 1985 on a problem route, plagued by rowdy school children by day and drunks at night. A number of incidents was recorded in the first month and the offenders were followed up at school and at home.

It was found that once an action had been taken against a child, that child did not re-offend. It was claimed that after a few

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weeks and only a few follow-ups, damage to the video bus virtually ceased and damage to other buses working from that depot also decreased. The wide publicity the scheme attracted was felt to contribute to its success.

As it cost about £3,000 to convert a bus to video and more to buy the playback equipment at the depot, compared to £50 to fit a bus with dummy cameras, the company decided to try out dummy cameras as well.

By February 1986 12 real video buses and 32 with dummy cameras—which were fitted each time buses went in for an overhaul—were operating. The cost of the entire program worked out at about £130,000, less than the cost of two double-decker buses.

### *Bus Watch, United Kingdom*

While the videos were being introduced, the Deputy Manager of the depot in question introduced a program of visits to schools to encourage children to treat buses and staff with more respect. Originally called "Our Bus Scheme", the scheme was relaunched as "Bus Watch".

To illustrate the risks of vandalism, the scheme included a ride on the top deck for school children, whose behaviour was then filmed and played back. Children were also told that cameras existed on buses where they did not, and that the driver's mirror concealed a camera.

Since 1986 the technology has improved; now pictures are clearer, a computer printout of frozen frames can be obtained, and photos of offenders can be distributed.

The scheme was evaluated by Poyner and Webb in 1987. Because tapes were not stored, the researchers were not able to use them, but conversations with those who monitored the tapes made it quite clear that behaviour had significantly improved on the buses.

Although there were no records of seat repairs before 1986, an examination of records for the nine months following the introduction of the program showed a dramatic reduction in damage to seat cushions. By May 1987 seat repairs at the depot in question were a third of what they were one year earlier. In this period, as well, the number of bus cleaners was reduced from six to two because of a lack of work.

Poyner and Webb concluded that Go-Ahead Northern's measures to reduce vandalism on their one-person, double-decker buses were very successful. The estimated cost of installing live video systems in two buses, dummy cameras in three buses and conducting an educational program in schools for one year was about £20,000, were more than offset by savings in seat repairs over one year (£17,000), and savings on cleaners (about £30,000 a year).

Poyner and Webb concluded that the company's policy of following up offences in the child's school and home was very effective, as was its publicity campaign. They also noted that displacement of this vandalism had not occurred: in fact the reverse was true. Damage and misbehaviour were not only reduced on the five buses with live or dummy video cameras, but damage and cleaning problems decreased throughout the whole fleet of 80 buses.

## Summary

Vandalism and graffiti on public transport have been reduced by a variety of strategies in several countries.

- Quick repairs and fast removal of graffiti. As graffiti and vandalism seem to attract imitators, trains and railway stations should be kept as clean and attractive as possible—through the use of special graffiti squads, if necessary.
- The employment of crime prevention through environmental design (CPTED) strategies in the planning and design stages of new railway stations and in the renovation of existing stations.
- The use of vandal-proof material wherever possible.
- Schools, police and the community should mount education programs to discourage children from becoming graffitiists or vandals.
- As people seem less likely to deface environments they find attractive, trains and stations should be as aesthetically pleasing as possible.
- Trains, depots and stations should be patrolled regularly by professional or specialised security services transit police, or police.
- The community should be encouraged to police their own transport systems by joining groups such as Rail Watch.

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- If the problem is acute, electronic surveillance through closed circuit television might prove cost effective.
- Attacking the tools. Governments could ask private enterprise to develop paints which are easy to remove and better solvents for other types of graffiti. Retailers could be asked to provide better security for displays of spray paint packs and to restrict their sale to adults. Marking pens that are not water soluble could be taken off the market entirely.
- Programs could be mounted to enable graffitists to practise their art legally, for example on hoardings of building developments, or on walls provided by councils for mural painting.
- Bored or alienated children and teenagers, particularly those living on public housing estates, could be offered organised sporting, leisure and entertainment programs to keep them off the streets.

## Schools

Education Departments in a number of countries are facing enormous financial losses through arson and vandalism in primary, secondary and tertiary education institutions. In New South Wales, the cost of arson in public schools had reached \$100 million per year by 1987-88 and was increasing at 20 per cent annually (Parliament of New South Wales Public Accounts Committee 1988).

In 1983 the New Zealand Government was reporting almost 12,000 annual incidents of vandalism at a cost of \$2.8 million in its education institutions (School Damage File 1983). According to one commentator, the cost had increased five fold by 1988 (Stoks 1988, personal communication). By the same year, the UK Department on Education and Science was spending between £25 and £30 million on vandalism in English schools (*Crime Prevention News* 1988).

The motivation for school vandalism and arson is not clear cut. Many experts believe that much of what is called vandalism is not actually vandalism in the legal sense of wilful damage, but results rather from unintended use; casual misuse and designers' failure to anticipate the way in which products and facilities are used; or failure to accommodate the users' requirements, so that the users "adapt" the environment. Others believe that much vandalism is caused by the failures of urban planners, policy makers, financial planners, designers, architects, administrators and custodians of facilities, which provoke and make possible a wide range of behaviour which is then misclassified as vandalism.

It emerged from the New South Wales Committee's Public Accounts (PAC) investigation that some schools were partly to blame for arson attacks because doors and windows were often left unlocked, computer paper was left lying around, and security lights were not turned on. And the PAC was told that most fires were lit to hide signs of forced entry.

Francis Stoks (1982) believes the most useful ways of addressing the problems of vandalism and graffiti are based on

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sociological, psychological and ergonomic approaches. He maintains that target hardening is the most expensive and fruitless strategy. He also warns that every setting for vandalism should be analysed separately as a complex system of influences, and that it is dangerous to generalise on solutions for vandalism.

On the other hand, the United Kingdom's Department of Education and Science, while acknowledging the role of instilling a sense of ownership and pride in pupils, has taken a situational crime prevention approach to reducing crime, arson and vandalism in schools in its Building Bulletin 67—*Crime prevention in schools: practical guidance* (1987).

### **Arson in New South Wales schools**

The extent of arson in the New South Wales public sector prompted the Government's Public Accounts Committee (PAC) to carry out an inquiry into the problem in 1988. According to committee estimates, the cost of deliberately lit and suspicious fires in New South Wales schools rose from almost \$5 million in 1985–86 to \$11 million in 1987–88, the latter comprising 27 per cent of all arson in the state.

The incidence of arson and the level of damage have risen steadily in recent years. In 1983–84, for example, 103 fires cost \$4.2 million in building restoration costs, while in 1987–88, 88 fires cost \$10 million—\$6 million of the latter in one fire alone in Narooma High School.

These statistics do not adequately convey the true costs of arson in schools, however. The estimated \$600,000 cost of restoring burnt buildings at Pittwater High School for example, does not take into account the cost of donated equipment, student and teacher time spent in cleaning up and salvage, the cost of demountables for temporary accommodation, or the disruption to students.

The incidence of fires in public schools was higher than that in Colleges of Advanced Education, Universities and Colleges of Technical and Further Education, and the committee speculated that this might be due to the greater number of public schools, their accessibility, discipline problems, the age composition of students, patterns of after-hours use and community attitudes.

The PAC found that, despite the size of the problem, the Education Department did not have a comprehensive risk man-



agement system. It therefore endorsed Treasury initiatives of February 1988 (published as Asset Appraisal Guidelines), which directed the Department of Education to review standards, planning procedures, and available surplus sites.

### *Electronic Surveillance*

The Education Department had, however, initiated a major schools electronic security surveillance program. Although this was piloted as early as 1977, it was not until the mid-1980s that rising public concern led the Government to allocate a further \$40 million to improving school security. By the end of 1988, 339 schools were connected to the Department's Electronic Surveillance System, and connection is planned for all 969 metropolitan schools by 1992.

The system is designed to detect intruders once they are inside the building and works on a matrix of infra-red detectors which are connected to a central base station via modem and telephone lines. No alarm is given at the site, but the system allows the base station to monitor the location of an intruder in the building and report that position to security guards.

As a 1983 survey showed that 67 per cent of damage to schools was mainly external, the system has some drawbacks. For example, it does not detect intruders until they are inside the building and within the infra-red detection range, and neither does it offer protection against damage such as graffiti on the outside of school buildings. It provides only limited protection from fires which are well under way before they affect the inside of the building, and it cannot detect smoke alone.

In both New South Wales and Victoria, the incidence of damage at schools covered by electronic surveillance has declined visibly, but the PAC noted problems with the surveillance system, particularly with switching it on. In some schools, this was delegated to cleaners, teachers, community groups or others. Sometimes people simply forgot to turn them on, and where community groups used the school after hours, there could be a gap in protection between the end of the school day and start of evening activities.

As well, alarm systems publicly reported as installed in some schools were not fully operational, and two systems could not be

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operated on request—one due to damage, the other because the headmaster did not know how to activate it.

### *Surveillance in country schools*

Country schools are covered by a separate scheme in which the Department installs return-to-base security alarm systems in high-risk areas within the school, and installation, monitoring response and maintenance is carried out by private contractors chosen by the Public Works Department.

### *Evaluation*

The PAC's report is critical of the way in which the Education Department handled the whole electronic surveillance systems program. In contrast with the Victorian program, that in New South Wales was slow to start, more expensive and less effective. Planned risk and financial management and strategy were lacking, and co-ordination in the Department was poor. The committee consequently recommended that an independent cost-effectiveness analysis of the existing Schools' Electronic Surveillance System be conducted.

This analysis, conducted by Coopers and Lybrand Chartered Accountants, concluded that the Education Department's electronic surveillance system could not deal with well-organised vandalism, theft or arson (*Sydney Morning Herald* 6 October 1989). Although attacks on schools linked to the system were less costly than attacks on totally unprotected systems, installing the system in all 2,300 primary and secondary schools in New South Wales was not economically justifiable, given the high cost of installation and maintenance, the report said.

### *Joint police/education school community awareness security program (south west area)*

This program was piloted in 1988 to counter illegal entry, vandalism and arson through increased community and school awareness. The program is staffed full time by a team of four consultants—two police and two teachers—located at Heckenberg in Sydney's south west.

Its main strategies are:

- School Watch—passive patrols of schools at night and on weekends by members of the community;

- curriculum workshops—lessons on pride in the school;
- crime prevention workshops, which teach young people ways of preventing crime;
- student participation and clubs.

#### *Mobile and static security guards*

In 1987–88, \$1.6 million was spent on mobile security patrols to protect high-risk schools, and in special cases such as bomb threats, static or sit-in guards were used. Security guards are also being used to back up electronic surveillance systems. The New South Wales Education Department has begun to employ, train and provide physical support to its own guards rather than using contract operators. This will cost \$4 million annually.

The Victorian Education Department maintains that dedicated security patrols—patrols exclusively employed to secure departmental property in tandem with the electronic surveillance system—have proven superior to private company area security patrols.

### **The Victorian surveillance system**

Unlike New South Wales, Victoria started systematically installing silent alarm systems in a number of high-risk schools in 1977, and by 1983, about 600 metropolitan schools had been connected. As of 1988, 830 out of a total of 2,200 schools had alarms—1,475 had systems, and 51,625 had detectors.

The PAC noted that “the capital cost of the New South Wales surveillance system (\$4 million for metropolitan schools alone) appears to be significantly more expensive than the Victorian system, with no demonstrable gain in performance” (p. 51). In fact, the New South Wales system has had 30 per cent more false alarms than the Victorian system.

In Victoria 45 per cent of entries or alarms identified lead to arrests, while in New South Wales in 1988 some 241 offenders had been apprehended, and 50 charged. Some 87 per cent of those apprehended in New South Wales were under 18 years of age, with one as young as six.

In the cheaper Victorian program, the government uses eight companies to design systems. These companies are small and work almost exclusively for the Education Department. Tendering is done through school principals.

## **The School Damage File, New Zealand**

Following considerable publicity about school vandalism in New Zealand, a working party was set up in 1979 in the Department of Education and produced a report in 1982 called "Measures to Combat Vandalism Against School Property" (NZ Department of Education, 1982).

The working party identified school design, curriculum and social climate and community factors as influences on vandalism in schools. It also recommended that notes be prepared to help designers identify materials susceptible to damage.

The Architectural Directorate of the Ministry of Works and Development was asked to prepare these notes. They expanded the concept of notes to include many other formats for use not just by designers, but also by property supervisors, maintenance workers, administrators and school principals.

According to the Department's School Damage File, (1983) no conclusive pattern of vandalism emerged across schools. Expenditure on vandalism damage repair bore no consistent relationship to the size of the school population, or the city or region in which the school was located.

The working party therefore concentrated on two strategies for reducing vandalism—the social and "nuts and bolts" strategies. Statistics showed that individual students were often responsible for multiple incidents, suggesting that the problem was more social than physical. The Working Party concluded that, when a small number of individuals are involved, it may be more efficient to modify anti-social behaviour through distractions, incentives and discipline, rather than through vandal proofing the physical environment.

Nevertheless, as it often provided opportunities or even provoked vandalism, the physical environment was seen as a major contributing factor.

Working on the knowledge that all damage, however caused, ultimately influences the way pupils use the school, and thus affects school vandalism (Pablant & Baxter 1975), the team broadened the scope of the study from pure vandalism to property damage in general.

The initial survey of 16 secondary schools seemed to show no apparent consistent pattern in variables such as school size,

average age of building, racial mix of students, and the socio-economic status of the community in which the school was located. In schools where vandalism and property damage seemed lowest, school principals were also found to be motivated, enthusiastic and personally interested in individual students.

It was obvious, too, that damage problems and solutions to property damage were already well known to property supervisors and principals. While property supervisors were damage-proofing items such as toilet paper dispensers, principals were experimenting with management and social strategies such as school personalisation through participatory landscaping, litter control incentive schemes etc.

Francis Stoks (1985) characterises it as an "enormous, continuous and expensive nationwide experiment in which all the participants—property supervisors, school principals and staff, and to a lesser degree architects—were operating in isolation". They were simply not sharing notes on common problems and solutions. The issue then was not inadequate knowledge to combat the problem, but how to co-ordinate this knowledge and circulate it more widely.

To determine the extent and nature of vandalism in schools and find out what people thought caused it, the Education Department chose two highly-vandalised schools, consulted with staff and students, examined the vandalism and took photos. The result was an illustrated "cookbook" type of resource, with each page dedicated to a single "recipe" for describing one way of solving a school vandalism problem. It was reproduced in a loose-leaf format and was called *The School Vandals Reduction Bulletin*.

A study was done of 16 more schools to collect more design data to include in the schools' damage information system. Workshops were held in some of the schools to discuss the project generally, to solicit support for the concept of a school damage resource, and especially to test the bulletin information gathering system on a range of different people. About 100 new bulletins were produced in this way.

The bulletin's name was changed from *Vandalism Bulletin* to *Damage Bulletin*. All the bulletins went into the new *School Damage File*. For examples of pages from the New Zealand

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Department of Education Property Damage Bulletin *see* Appendix I.

Extreme target hardening strategies such as stripping off architectural features and removing toilet cubicle doors were rejected as they often challenge vandals into further wilful damage. Instead, using crime prevention through environmental design theories—which maintain that those who identify positively with the physical environment are less likely to damage it and might even prevent others from doing so—the Working Party developed strategies through the File to encourage student investment in the school environment, for example by involving them in designing, building and caring for the school. (Landscaping, adventure playgrounds, outdoor seating, display arts and mural projects are examples of student participation projects consistently proven to have a substantial effect on reducing vandalism.)

Where schools did not lend themselves to student participation and construction, attention was paid to the state of repair and colour schemes of paintwork, correct functioning of toilets, wash basins, drinking fountains etc. and many other property maintenance strategies which have an indirect influence on vandalism.

### **Evaluation**

For reasons of cost, the School Damage File was not widely circulated, so the effectiveness of the program was never measured. Another problem was that the program required a central clearing house for receipt, editing and publishing and distribution of the loose-leaf pages, and the clearing house function disappeared under a massive government restructuring and privatisation program.

### **The DES Study, UK**

The importance of carefully recording the type, time and circumstances of offences as an aid to defining prevention strategies was also stressed by the UK Department of Education and Science (DES) in its 1987 manual, *Crime prevention in schools: practical guidance*.







With vandalism in English schools costing between £25 and £30 million a year, the Department of Education and Science commissioned an investigation by consultants who visited 11 schools and one polytechnic college in six local education authorities. Of those, one or two were suffering severe and recurrent damage, but the rest had succeeded in overcoming major problems of malicious damage.

The review looked at various initiatives undertaken by local education authorities to combat theft, arson and vandalism and found they fell into four broad categories.

- Security—alarms, locks and the like to prevent unauthorised access and detect intruders and fires.
- Management practices designed to keep premises in good repair and to encourage support from pupils, staff and parents.
- Design modifications to minimise breakage and reduce replacement costs, improve security and reduce spread of fire.
- Strategic planning to deploy resources most effectively, co-ordinate effort and define roles and responsibilities.

The report concluded that, though many authorities still regarded crime prevention as a matter of introducing hardware, good housekeeping and good management were likely to be the most cost-effective ways of preventing damage. It also stressed the importance of incorporating effective design strategies into new schools.

The project team evaluated various anti-vandalism/theft measures for their cost effectiveness: the results are reproduced below.

### ***A framework for prevention***

The DES project team stressed the need to identify the level of risk and the nature of risk in schools. To identify the level of risk, they said, the following factors should be considered:

- location;
- nature of the site;
- building construction and design;
- day-to-day management of the building;
- type of school;
- history of damage incidents;
- value of the building and its contents.

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Example of locational factors adding to risk are:

- public footpath through site;
- public housing in vicinity;
- no overlooking from neighbouring houses and roads;
- area of high social stress and deprivation.

Some site factors adding to risk would be:

- undulating topography and concealing shrubbery;
- no fencing;
- no lighting;
- open;
- many entrances to site and school buildings.

Some building factors adding to risk are:

- combustible building material;
- large areas of low-level glazing;
- glazing near playing fields;
- flat roofs and easy access to roofs;
- hidden alcoves and entrances;
- secluded loading bays;
- louvred windows.

Examples of management factors adding to risk are:

- unsecured building materials and contractors' equipment;
- unsecured inflammable materials;
- rubbish containers near backyards which can be overturned and set alight;
- haphazard procedures for making deliveries;
- poor directions for visitors;
- no on-site knowledge of resetting and checking alarm systems;
- poorly understood procedures for fire escapes and locking up;
- unsecured ladders.

The team prescribed different measures for preventing damage etc. when the school is occupied, when it is unoccupied, and when it is in use outside normal hours. For example:

### **The school when occupied**

#### **Types of damage and loss:**

- wear and tear;
- accidental damage;
- malicious vandalism;
- theft.

#### **The focus of prevention:**

- an ethos stressing pride in place;
- preventive maintenance to reduce opportunities for damage and help keep down replacement;
- deterrence of casual intruders;
- protection of equipment while in use.

### **The school when unoccupied**

#### **Types of damage or loss:**

- break-ins;
- malicious attack;
- arson and accidental fires.

#### **The focus of prevention:**

- reduce opportunities for fire-raising;
- prevent unauthorised access;
- deter unauthorised access;
- store and protect valuables.

### **The school in use outside normal hours**

#### **Times of risk:**

- fetes;
- sports days;
- parent days;
- start of term;
- end of term;
- delivery days;
- extra-curricular evening activities.

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The focus of prevention:

- warnings to people to keep their belongings in sight;
- clear signs for visitors;
- extra vigilance by staff;
- safely locking up all school equipment;
- provision of effective lockers;
- locking of sensitive zones.

Finally, the team came up with this seven-point plan for preventing vandalism, damage and arson in schools.

1. anticipate vulnerable areas;
2. design with use in mind;
3. design for robustness;
4. make positive use of casual surveillance;
5. securely store valuable items;
6. deter casual access and intrusion;
7. foil the determined intruder.

### *School Watch in the UK*

Acting on recommendations of the Association of County Councils' 1987 working party on arson, the education authority in Stockport launched a self-help scheme aimed at drawing the problem to the attention of the whole community.

In consultation with police, fire services and the council's insurers, the education authority initiated its School Watch campaign, a two-pronged attack on vandals—improving school security and acquainting the public with the real costs of damage in Stockport's schools.

In Schoolwatch, neighbourhoods adopt their school buildings, much as Neighbourhood Watch participants watch their neighbours' homes. Stockport's campaign is believed to be the first of its kind in the UK.

### *School burglaries in London*

Tim Hope (1986) surveyed 59 London schools, focusing on single-sex boys' and co-educational secondary schools which had the highest rates of burglary among Inner London Education Authority (ILEA) schools, and found that a quarter of the schools accounted for over half the burglaries, while half the schools produced no more than a tenth of the total number of burglaries.

The survey provided information on the characteristics of burglary, the area where the schools were located, the design of school buildings, and certain aspects of their management. Using site plans, the authors came up with a formula for school design types. At the low end of the design spectrum were small, compact schools mostly built before 1920. Their sites were small and restricted and had no grass, trees or shrubs. They were brick, with small window areas. The authors called them small, old and compact schools—SOC schools for short.

At the other end of the spectrum were large, post-1945 remodelled schools with sprawling buildings set in extensive grounds which were often grassed and landscaped. Buildings varied substantially in height and often had lots of windows. These were called LMS, or large, modern and sprawling schools.

Two facts emerged: SOC schools had significantly fewer burglaries than other schools; as schools more closely resembled the LMS design tendency, differences in burglary rates became much more variable.

The survey found that: neither the areas in which schools were situated nor the characteristics of their pupils accounted for differences in burglary rates, though these factors increased the probability of burglary when combined with design factors; and differences in design rather than the higher number of pupils in LMS schools seemed to account for higher burglary rates.

It seemed, therefore, that the little old schools were not attractive to burglars, perhaps because they provided fewer opportunities for burglary. Broadly speaking, opportunities for burgling schools fall into three types—access, degree of surveillance, and the availability of property.

The SOC schools offered fewer opportunities to burglars for the following reasons.

- They were less accessible, with their high, brick perimeters, heavy wooden sash windows with grilles, strong external roofs and difficulty in getting onto the roof.
- Surveillance was usually better because they were built in densely populated areas rather than in the suburbs. They were usually close to roads so their perimeters were well lit. Their smallness meant neighbours and resident caretakers could see most of their exteriors.

## 58 Preventing graffiti and vandalism

- Being small, and often split up, these schools had less equipment to steal.

LMS schools, on the other hand, were located in the suburbs away from main roads; their size meant more access points for burglars and less chance of being seen once inside; and with more pupils and multi-purpose and evening use, these schools were more likely to have valuable equipment.

The authors concluded that school design significantly influences the burglary rate, and raised three possibilities for prevention—building different sorts of schools, changing educational policies, or trying to patch up the design faults in existing schools.

Being realistic, they opted for piecemeal environmental improvements to the schools that most needed it—in the London case, the large, modern and sprawling schools. They recommended three major improvements:

- additional night-time surveillance at the most vulnerable schools;
- improved lighting at LMS schools to enhance surveillance and scare off intruders;
- improved crime prevention management, for example tighter security on entries already used by thieves, better co-ordination where fire regulations and security measures conflicted, and more sensible security and storage measures for audio-visual equipment.

The authors warned that the two major types of crime in schools—nuisance burglaries usually done by young adolescents on the one hand, and professional burglaries or malicious vandalism on the other—pose different problems for school authorities. A prevention strategy focusing on greater security for school equipment using alarms, safes etc. might prevent professional burglary, but might be ineffective against nuisance burglaries. A strategy concentrating on making it more difficult to break into schools—particularly LMS schools—would probably prevent both types of burglary, but would be much more difficult and costly to achieve. They concluded that preventing burglary in schools essentially becomes a matter of choice between costs and benefits.

## Design tips for vandal-proofing schools

The following design tips come from the Greater London Council Architects' department's Security Design Guide (White 1979a). They can be used in any public building.

### *Doors and windows*

- Hinges which face out and are illuminated should be fixed so that pins cannot be removed from the outside of the building.
- All vulnerable windows (on the ground floor, for example) should have adequate locks.
- Generally, metal sash or centre-pivoted windows are more secure. Louvred windows are extremely vulnerable and difficult to secure and should be avoided, as should horizontal sliding windows unless they are fitted with adequate fasteners. In general, all windows and fanlights should be fitted with some sort of mechanical restraint which limits openings to a maximum of 127 mm.
- Doors should be solidly built, with solid cores if possible. If glazed vision panels are used in doors to improve surveillance, they should be kept to a minimum size.
- Doors to high-security stores should be lined on the outside with sheet metal and fitted with good quality five-lever locks. Cheaper locks will suffice on classrooms or rooms without a specific security risk. Most doors in school buildings should be the same standard as fire doors.
- Adequate and properly-installed stops or buffers will prevent much accidental damage to doors. To prevent damage to lightweight partitions from continually slamming doors, install storey-height door frames, securely fixed to floor and structural ceiling. Knobs are preferable to level handles.

### *Lavatories*

Lavatories are focal points for vandalism, so their design requires an interplay of management, planning and design decisions. It is possible to design vandal-resistant lavatories.

- Lavatories should be centrally located and staffed by a supervisor who should also be responsible for cleaning.
- Their floors should be designed to cope with flooding, by falling to gullies or channels.

## 60 Preventing graffiti and vandalism

- Cisterns should be secured in a locked service duct which can be reached from outside the lavatory, though the general provision of concealed plumbing may be too expensive.
- Spray taps dispensing blended water rather than plugs in wash basins soon repay the higher original outlay.
- Stainless steel pans outlast conventional pans, which are quickly demolished.

### *Building design*

The GLC's approach inside buildings is to concentrate on the detailing of three or four key areas to reduce opportunities for vandalism. Where supervision is good—for example where the sides of buildings are overlooked by the schoolkeeper's house—break-ins are rare.

- Schoolkeeper's or caretaker's house should be sited to give supervision of main entrances and as much of the building as possible.
- The school building should also relate to the community, so that neighbours can supervise by overlooking the schoolkeeper's entrances.

The very shape of buildings is critical to their degree of security, particularly in single-storey buildings.

- Concealed inner courts are particularly vulnerable and need a high degree of security in detailing doors and windows.
- Detailing can aid break-ins—for example the stepping of flat roofs and rooflights can act as a ladder, and deep recesses and reveals can act as a shield.

Open-plan designs used in recent buildings make surveillance by police and public much easier.

### **Summary**

A United Kingdom study concluded that school design significantly influences the burglary rate and raised three possibilities for prevention—building different sorts of schools, changing education policies, or trying to patch up design faults in existing schools. Essentially, they said, it came down to a comparison of costs and benefits. They opted for additional night-time surveillance on the most vulnerable schools, improved lighting and improved crime prevention management such as tighter security on entries already used by thieves, better co-ordination between



fire and security regulations, and better security and storage measures for valuable school equipment.

Other measures used in schools in the UK, Australia and New Zealand for reducing school burglary, vandalism and arson include:

- School Watch programs, in which the local community are asked to take responsibility for surveillance.
- Electronic security surveillance programs incorporating detectors inside schools connected to a central base station via modem and telephone lines, with response by security guards.
- Community awareness programs run by police and education authorities.
- Education programs in schools, crime prevention workshops and student participation in clubs.
- Improved security measures and better target hardening in schools.
- A centralised information system on vandalism problems and solutions—for example the New Zealand School Damage File—to share knowledge quickly among schools.

All that is required in some cases is commonsense and a heightened sense of responsibility among staff and pupils, so they lock up valuables, lock doors and remember to turn on alarms.

# Public telephones

## **The Australian Government working party**

Telephone vandalism in Australia was perceived to be such a serious problem that, early in 1988, the Police Ministers' Council meeting in Hobart called for the establishment of a Working Party to develop a coordinated national approach. This Working Party began meeting in March 1988, and comprised representations of the New South Wales and Victorian Police, Telecom and the Australian Institute of Criminology (namely, the authors of this report).

Telecom advised the Working Party that theft from public telephones was costing them \$18 million annually, and that, in Queensland alone, incidents had increased 400 per cent in less than a year.

Other Telecom statistics reveal:

- Telecom lost \$4 million through theft in 1986/87 and replaced 3,000 coin tins.
- In 1987 in Victoria, Telecom had to fix 150 phones in one district in a two to three-week period.
- Vandalism/robbery was running at 6,000 incidents per month in New South Wales.
- 29 per cent of offences were drug related and one per cent alcohol related.

The main offenders were juveniles—70 per cent in New South Wales—who often vandalised a phone for the \$7 or \$8 in the coin chute. Most coin box thefts—which can net a criminal up to \$200—were done by drug users, with offenders using anything from screwdrivers to acetylene torches.

Telecom reported that comprehensive national figures on vandalism have not been available to date because, although all thefts were reported to police, all cases of vandalism and malicious damage were not. As a result of a Working Party recommendation, Telecom has reviewed its statistics keeping and reporting methods.

Various initiatives arose out of the deliberations of the Working Party.

- Telecom guaranteed to provide speakers on telephone vandalism prevention to Neighbourhood Watch groups in states which had them, and other appropriate bodies where Neighbourhood Watch did not exist.
- As a long-term strategy, an educational package on telephone vandalism was developed by Telecom in conjunction with the Victorian Education Department for trialling in Victorian schools with a view to inclusion in syllabuses in all states.
- As tests in New South Wales showed that electronic surveillance systems worked, they are now to be used as part of combined police-Telecom operations in areas with high rates of telephone vandalism.
- Audible alarms are being installed in some public telephones and Telecom facilities where other means of prevention or detection would not be effective.
- Devices are being fitted to phones to let Telecom know immediately if phones are out of operation so they can be fixed quickly.
- A small working party was set up to investigate the possibility of siting telephones near police stations.
- Commonwealth legislation was reviewed to clarify the powers of Telecom investigators and Transport Police under the *Crimes Act 1984*.
- An exchange of statistics between police and Telecom was recommended, and new statistical reporting methods initiated.
- Formal links were set up between Telecom and the New South Wales Police's Co-ordinator of Street Crime.
- Police on the beat are to be regularly reminded to pay particular attention to public telephones.
- When electronic surveillance operations are initiated by Telecom, police in that area will be directed to provide immediate response.

### *Evaluation*

After only one year, Telecom reports that the cost of repairing vandalised telephones has dropped by \$18 million to \$9 million (Wilson 1990).

Statistics show a marked decrease in telephone vandalism in several states after surveillance was stepped up and Kirk safes,

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coin safe "wave" doors and modifications to the coin head mechanism were fitted.

For example, in South Australia and the Northern Territory, after a marked upswing in vandalism incidents (anything from blocked coin shutes and minor damage to theft of coin tins) in the last quarter of 1987-88 and the first quarter of 1988-89, vandalism decreased dramatically—down from a high of 2,122 incidents in the last period of 1987-88 to a low of 201 in Period 10 of 1988-89 (Telecom Australia 1989). In the SA program, 1,800 coin safe "wave" doors and 20 Kirk safes were fitted, and coin heads were modified.

Telephone vandalism has also decreased in Queensland, from 29,945 incidents in 1987-88 to 17,613 in 1988-89. After Telecom in New South Wales implemented proactive surveillance and installed Kirk safes, vandalism and theft fell—from 215 people arrested and 325 charges of damage and 293 incidents of stealing laid in 1986-87 to 101 arrests and 72 and 68 charges respectively in 1988-89.

Following this preventive program, telephone vandalism and theft increased in Victoria, indicating some displacement. Telecom responded with a campaign of arresting gangs of offenders and modifying equipment to thwart each new breaking method. Proactive surveillance and target hardening now have the breakings rate down to almost zero, the only exception being attacks with an oxy welder (Telecom Australia 1989, personal communication).

### **An educational campaign in the United Kingdom**

Late in 1985, when half its payphones in Liverpool were out of commission at any given time, British Telecom (BT) approached Merseyside Police in Liverpool to help them design an educational package as a long-term approach to preventing telephone vandalism.

Merseyside Police agreed, seeing this as a means of enhancing their Schools Liaison Program. It took six months for Telecom and the Police Youth and Community Branch to develop a package for primary schools called P.C. Payphone. Telecom were also developing a video with Mersey Television for secondary schools called The Big Chance.

The P.C. Payphone character was created by a policeman using a suit containing electronic equipment so he or she could talk to children and play the payphone song and safety messages. Publicity material consisted of posters and leaflets with the messages "Streetwise kids don't vandalise", "Stranger Danger", "Help, Help, always play safe", and "It's good news, pass it on"; bookmarks containing the words of the payphone song; a cassette of the payphone song; P.C. Payphone badges and colouring and activity sheets.

Telecom provided large quantities of these to the Police at no cost. The kit was introduced into schools in September 1986.

At the same time, BT modernised equipment, and this—plus the P.C. Payphone material and many other factors—led to a significant drop in payphone vandalism. In one area, payphone revenue increased by 500 per cent (Merseyside Police Public Relations Department 1988). In 1987 the Merseyside program was adopted nationally by Telecom. So far, over 30 police forces are using the P.C. Payphone character.

### **Public telephones in police stations in the United Kingdom**

Early in 1987 British Telecom installed 10 public payphones in three selected police stations in Liverpool for a trial period of 12 months. Police stations were chosen on the basis of a high incidence of payphone vandalism, few private telephones in the area, and the suitability of the police station for installation. As well, four payphone boxes were re-sited on public thoroughfares outside two police stations where there were few phones.

Results were excellent, with no damage caused to any of the 14 phones in or near police stations. Merseyside Police did not charge British Telecom rent for the sites, and revenue went to the phone company. After nine months, Telecom had made enough profit to consider installing a second phone in one police station in an area where large numbers of Black and Asian people lived. The police believe the existence of the phones has drawn into the station many Black and Asian people who would otherwise be too frightened to enter.

As a spin-off, British Telecom have agreed to install display panels in phone boxes containing crime prevention material and community information, both in police stations and at other sites.

## Public areas

An excellent article by Jane Sykes in *Designing Against Vandalism* (1979) is the source of the following design tips for minimising vandalism in public places.

### **Vandal-proof materials**

Ideal targets for vandals are interior surfaces in places like public toilets and subways that are open to the public but private enough for vandals to go undetected.

- Their walls can be covered with tough, glazed ceramic tiles. Special vandal-proof tiles that look attractive but will not readily mark or scratch are available.
- Plastic laminates can be used as panels to protect surfaces.
- Special non-stick, non-mark paints and coatings based on polyurethanes such as fluorocarbons are available for both internal and external surfaces.
- Special solvents for removing graffiti in any medium from paint to lipstick, felt tip to oil, and for both easy-to-clean and untreated surfaces can be purchased.
- Ribbed metal sheet, rough-textured bricks or roughcast surfaces can be used in buildings to resist damage. These are not easy to clean, however, and may act as a challenge to vandals.

### **Lighting**

Good lighting deters vandals, but because it is permanent and unguarded, it also attracts vandalism itself. The vulnerable parts of lighting are the luminaire and the doors to control gear compartments in columns.

- It is ideal to put luminaires out of reach, either by placing them on high columns or attaching them high up the walls of buildings.
- Columns should not be sited near walls or low buildings where people can climb them to gain access to property or other buildings.
- Lighting equipment should not be located in hidden corners or behind buildings where it can easily be tampered with.

- Lighting should be regularly and systematically checked and repaired.
- The actual equipment should be sturdy and durable with the sort of finish that is not easily marked or scratched. Materials should not corrode, not be readily bent or deformed, and fixings should be hidden wherever possible, leaving nothing that could be torn off or opened.
- Lanterns made for mounting on a plain pole and with the control gear incorporated into them are comparatively safe from interference.
- Avoid using column doors protecting control gear on the bottom of columns by housing the control gear for a group of lamp standards separately in a specially-designed tamper-proof unit.
- Replace glass with tough plastic materials such as polycarbonate.

## Street furniture

The same principles apply to street furniture as to lighting—strong construction, good surfaces, non-corrodible materials and fixings, hidden fastenings, avoidance of projecting or easily removable parts, sensible siting, and regular maintenance. It should also be easy to repair.

- Damage to some items—street signs, for example—can be prevented by placing them out of reach.
- Vandal-resistant plastics can be used for glazing in items like bus shelters, illuminated bollards and traffic lights.
- Furniture which must be accessible—rubbish bins, seats, parking meters—should be sited so it does not provide ways of climbing walls or into buildings.
- In high-vandalism areas, replace conventional litter bins with those made in vandal-resistant materials and if necessary, attach to lamp-posts with extra strong steel bands.
- Ground-level furniture—seats, bins, pedestrian guard rails etc.—should be fixed in the ground at a reasonable depth, and the pavement or road surfacing around them should be properly finished off to discourage disturbance.
- Furniture that is not fixed should be too heavy to remove easily.

- Parking meters should have flush-fitting doors that allow no gap for levering open; the doors should have hidden internal hinges and tamper-proof lock; they should be in a strong material to resist attack.

### **Lavatories and public conveniences**

The employment of a supervisor is desirable in public conveniences, but much can be achieved by design.

- Exposed pipes are particularly vulnerable and can cause flooding if damaged, so they should be hidden behind strong panels with tamperproof fastenings. A locked door, preferably outside the lavatory, should give access to the plumbing for maintenance.
- Fit stainless steel units if sanitary units are continually smashed.
- To stop sinks blocking and flooding, install spray taps, remove plugs, and build channels in the floor to drain off excess water.
- To stop people pilfering toilet rolls, jumbo-sized rolls weighing 2 and 3 kg are available—they are difficult to remove without attracting attention.
- Ashtrays should be provided only in lavatories with attendants. Where there is no attendant, surfaces should not be inflammable; ceramic tiles can replace plastics, for example.

### **A crime prevention through environmental design (CPTED) approach**

A quick look around shows that bus shelters, lights and other street furniture are vandalised in some locations, but remain untouched in others. An analysis of the location, taking into consideration crime prevention through environmental design (CPTED) factors such as:

- surveillability by residents, local workers or passersby;
- lighting in the area;
- proximity to places where potential vandals congregate, for example schools, discos, pubs, fast-food outlets, pinball parlours, football stadiums etc.;
- speed of maintenance;
- aesthetic appeal



could isolate factors which either encourage or prevent vandalism or graffiti on publicly-owned facilities. It might be simpler and cheaper to relocate a bus-stop or a phone box than constantly to repair or repaint it. An analysis of the vandalism potential of a particular location can also help architects decide what sorts of materials to use—antique street lamps may survive in some precincts, for example, and be smashed immediately in others.

For up-to-date American responses to preventing vandalism in public areas, for example damage to turf, picnic areas, signs, trails, lavatories and graffiti, consult J. Bruce Shattuck's *Vandalism in Public Park Facilities: A Guide for Park Managers*, published by Publishing Horizons, Columbus, Ohio in 1987.

## Recommendations

A careful examination of strategies and programs tried in a number of countries to reduce vandalism and graffiti reveals a number of general principles:

- **Planning and design:** Planners, builders and architects can play a vital role in reducing vandalism and graffiti in public housing and public places by designing spaces which are attractive, which foster a sense of ownership in users and which are defensible—that is, which incorporate design factors which minimise the opportunities for vandalism and graffiti.
- **Management policies and practices:** Management policies which foster a sense of ownership and responsibility in tenants, and management practices such as constant maintenance and quick repairs, sensible tenant allocation, and a fair eviction policy have been shown to reduce vandalism and graffiti in public housing estates.
- **Building standards:** Faulty design and inappropriate material selection and specification result in building defects, which are widely regarded as one of the major triggers of vandalism. Architects and builders need to be aware of the use to which buildings will be put and ensure materials and fixtures will be strong enough to withstand everyday wear and tear, careless use and even misuse.
- **Maintenance and repairs:** Damage attracts more damage, so vandalised property should be repaired as quickly as possible, and graffiti should be removed before it attracts imitators.
- **Materials:** Wherever economically feasible, vandalproof materials should be used. This could include surfaces which resist paint or are easy to clean, unbreakable glass and plastics, and durable fixtures with no removable parts.
- **Education programs:** Imaginative campaigns in schools can help children realise the consequences of vandalism and graffiti and discourage them from these activities.
- **Community responsibility:** Promoting a sense of responsibility and ownership in the whole community for those services and facilities which belong to everyone—through programs such

as Neighbourhood Watch, School Watch, Rail Watch, etc.—can help reduce intentional damage.

- **Alternative activities:** Sports, leisure and entertainment programs for children and teenagers can reduce their boredom and sense of alienation and divert them from antisocial activities.
- **Legal outlets:** Programs which give graffitists the chance to practice their art in an officially sanctioned way—on hoardings donated by developers or on walls set aside for murals, for example—can help reduce illegal spraypainting.
- **Attacking the tools:** Measures such as developing easy to remove paints and better solvents, requiring retailers to tighten up security on spraypaint displays, restricting the sale of spraypaints to adults, or even banning the sale of spraypaints completely are under consideration in countries where graffiti is a problem.
- **Surveillance:** Increased surveillance, through professional security patrols or guards—or more expensively via closed circuit television—can be required in heavily vandalised areas where the benefits outweigh the costs.
- **Target hardening:** Stronger locks and frames on doors, windows storerooms and cupboards in schools can deter some inexperienced and opportunistic thieves, and safes can stop professional burglars.
- **Sensible security practices:** Much opportunistic burglary, vandalism and arson could be prevented in schools if staff and students were impressed with the need to put valuable equipment away after use, to lock up after themselves, and to remember to turn on electronic security surveillance before they leave the building.
- **Information sharing:** Comprehensive statistics should be kept on vandalism so the scope of the problem can be understood, and methods of preventing vandalism and graffiti and repairing vandalised property should be shared among victims.

# Appendix 1

**Property Damage Bulletin,  
New Zealand**

# Education Property Damage Bulletin

	(31.5)	(T7)
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CUS/B date: 2 April 1984

## SUBJECT

ENTRANCE DOORS TO SECURITY ROOMS  
AND CUPBOARDS

## FACILITY

(primary school, all schools, etc.)

All schools

## PROBLEM

(one problem per bulletin)

Doors get battered and jambs get split  
and broken

## USER BEHAVIOUR

(how is it done?)

Doors usually are kicked in with considerable  
force.

## USER MOTIVATION

(why do they do it?)

Entrance being sought to gain access to  
electronic equipment, in spite of security  
locks.

## CONSEQUENCES

(short and long term direct  
and indirect results)

- Loss of very expensive equipment
- As doors are solid, jamb usually collapses  
first

## SOLUTIONS

(all tried problem remedies)

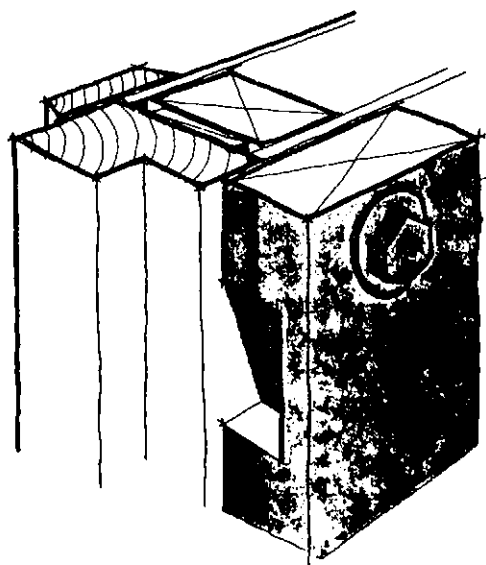
- Provide backing to door jambs by means of  
additional 100 x 50 members to support  
jambs. Timber should go from floor to  
ceiling.

## COMMENTS

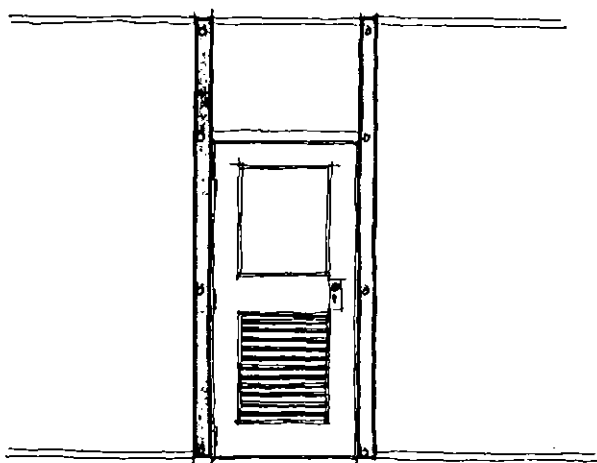
(notes on relative success  
or failure of solution,  
or related issues)

- Fixings must be substantial, e.g coach  
screws.
- Timber to be fitted over lock keep to  
guard against screws coming out.
- Essential that 100 x 50 fixes to top and  
bottom plates.
- Preferred lock - Lockwood 203.

## REFERENCES



100 x 50 backing to door  
jamb coach screwed to  
stud and checked out over  
lock



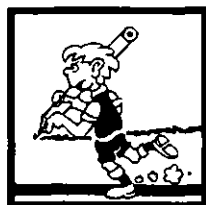
# Education Property Damage Bulletin

(42)

R

C/S/B

date: May 1984



## SUBJECT

WALLS OF CORRIDORS

## FACILITY

(primary school, all schools, etc.)

All schools

## PROBLEM

(one problem per bulletin)

Marking and chipping of walls in corridors

## USER BEHAVIOUR

(how is it done?)

Pupils scrape along with their gears, bags, pens, etc

## USER MOTIVATION

(why do they do it?)

## CONSEQUENCES

(short and long term direct and indirect results)

- Progressive deterioration and drabness

## SOLUTIONS

(all tried problem remedies)

- Use a material which is sturdy and when marked will not show clearly, e.g. polyurethane on sheet chipboard or plywood

## COMMENTS

(notes on relative success or failure of solution, or related issues)

- We do not know of a cheap (there are costly ones) unmarkable wall material yet made, e.g. one which cannot be damaged at all.
- There is a possibility that technology will develop a material that will withstand impacts and still remain in a pristine state.

## REFERENCES

NZS 2239

# Education Property Damage Bulletin

	(52.5)	I	(A3)
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C/SB date: April 1984

## SUBJECT

DOWNPIPES

## FACILITY

(primary school, all schools, etc.)

All schools

## PROBLEM

(one problem per bulletin)

Roof access

## USER BEHAVIOUR

(how is it done?)

Down pipes used as climbing aids

## USER MOTIVATION

(why do they do it?)

- To gain access to roof for various legitimate and improper reasons.

## CONSEQUENCES

(short and long term direct and indirect results)

- Damaged downpipes, spoutings.
- Surface flooding, water damage.

## SOLUTIONS

(all tried problem remedies)

1. Provide ladder for access to roof and retrieval of balls etc, under supervised conditions.
2. Wrap barbed wire around downpipes to inhibit or prevent their use as climbing aids.

## COMMENTS

(notes on relative success or failure of solution, or related issues)

- on 2. This solution used in some schools is counter-productive, antagonises users of the environment and will provoke further vandalism. See reference - Sommer.

## REFERENCES

NZS 3471

Sommer R. Tight Spaces, Englewood Cliffs, N J Prentice Hall, 1974



# Education Property Damage Bulletin



998		W	(T7)
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CI/SIB date June 1984

## SUBJECT

TREES, SHRUBS, LANDSCAPES

## FACILITY

(primary school, all schools, etc.)

## PROBLEM

(one problem per bulletin)

- Trees and shrubs damaged and uprooted

## USER BEHAVIOUR

(how is it done?)

- High spirited or malicious behaviour results in individually planted trees being damaged and in some cases, uprooted.

## USER MOTIVATION

(why do they do it?)

- Single specimen trees planted in isolation invite damage specially if planted in or near play areas or traffic routes.

## CONSEQUENCES

(short and long term direct and indirect results)

- General untidiness.
- Discourages further attempts to establish planting.

## SOLUTIONS

(all tried problem remedies)

1. Select planting areas carefully so as not to impinge upon play or traffic areas.
2. Plant expensive trees or shrubs among other superficial ground cover plants with large boulders to discourage traffic.

## COMMENTS

(notes on relative success or failure of solution, or related issues)

- Well planned planting is necessary to ensure success. Engagement of landscape architects is suggested.

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## Crime prevention series

General Editor Paul R. Wilson

Vandalism and graffiti can endanger lives through loss of services. It increases fear of crime among the old and the underprivileged, and can lower the quality of life in our communities. It is also costly to eradicate.

*Preventing Graffiti and Vandalism* discusses criminological theories on vandalism, describes planning, management, architectural and design strategies for minimising vandalism and graffiti on public transport, in public places, in and around public telephones, in schools, and in public housing. It will be of interest to town planners, architects, public transport organisations, school administrations, Telecom, and local and municipal councils.