





# Designing out crime

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# Designing out crime

Crime prevention through  
environmental design

*Susan Geason and Paul R. Wilson*



Australian Institute of Criminology

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# Introduction

This booklet contains straightforward and sensible advice, directed mainly to Australian home-owners and builders, about ways of avoiding or minimising the risk of becoming a victim of certain types of crime. It is a booklet which forms part of a series being produced by the Australian Institute of Criminology designed to assist all citizens to make our nation a safer place in which to live.

In the past we have too frequently viewed crime prevention as something dealt with entirely by the police. That view is now undergoing rapid change. As this series demonstrates there is a great deal which can be done by individuals, neighbourhoods local authorities, planners and others to reduce the incidence and fear of crime.

We welcome your comments about this booklet, and your ideas and advice about other topics which might be included in the series.

*Duncan Chappell*  
Director





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# Part I

## Theory of crime prevention through environmental design



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Over ninety per cent of all crime reported to the New South Wales police is property related, and residential burglary constitutes about sixteen per cent of this crime. Relatively few offenders are caught because spur-of-the-moment property crimes are quickly committed and seldom witnessed. Thus the police clear-up rate for residential burglary is only about six per cent. Although much of this crime involves little financial loss, people, particularly the elderly, fear burglary.

The police alone cannot provide all the solutions to property crime – householders and communities must learn to help themselves and regain control over their neighbourhoods through forming groups such as Neighbourhood Watch.

The literature on crime prevention is convincing in the claim that property crime can be prevented through manipulating the design of individual dwellings, and their relationship to one another and to the surrounding neighbourhood. This process is called crime prevention through environmental design - CPTED.

This booklet briefly outlines the genesis of crime prevention through environmental design, and provides practical guidance on implementing the various strategies that constitute a successful CPTED campaign.

Argument in crime prevention circles has long raged over the relative merits of trying to prevent crime through alleviating the social problems which are thought to encourage crime, versus treating the symptoms - that is, reducing the opportunities for criminals to commit crimes or as it is called, situational crime prevention.

Underlying this debate is the conflict of opinion over whether criminals act randomly - and therefore uncontrollably - or whether they operate through a process of rational choice, and can therefore be deterred from crime if it is made too difficult or dangerous.

This booklet operates on two assumptions: criminals do make rational choices and can therefore be deterred from crime; it is worthwhile initiating situational crime prevention programs either in the absence of, or in conjunction with, measures to alleviate the alleged social causes of criminal behaviour.

One of the major criticisms of situational crime prevention is that it "displaces" crime - that is, criminals thwarted from committing a crime in a particular place simply go elsewhere or turn to another type of crime. Research seems to indicate that situational prevention can reduce crime by influencing the final decision of some potential offenders; and

that even where displacement occurs, only a proportion of the initial potential offenders will pursue their intent to commit crime (Heal & Laycock 1986).

This indicates that crime prevention measures stop some criminals from carrying out a crime in a particular place, and not all of them will go elsewhere and commit a crime. To minimise the likelihood of displacement, we suggest that police and government agencies concentrate their crime prevention efforts and funds in less affluent, more vulnerable areas.

The first publication in this Crime Prevention Series – *Crime Prevention: Theory and Practice* – discusses these theoretical aspects of the problem in detail.

One of the major components of CPTED is the notion of "defensible space" and this booklet uses the theory as the basis for a situational crime prevention program employing design changes to residences and their environments in both private and public housing

## **Theory of CPTED**

Environmental crime prevention emerged in the 1960s with Jane Jacob's *The Death and Life of Great American Cities* (1961) and Elizabeth Wood's *Social Aspects of Housing in Urban Development* (1967). Jacob's book was the first influential work to suggest that active streetlife could cut down opportunities for crime.

The early 1970s saw a surge of interest in the possibilities of manipulating the built environment to prevent delinquency and crime. Two works were particularly influential - C. Ray Jeffery's *Crime Prevention Through Environmental Design* (1971), and Oscar Newman's *Defensible Space* (1972).

In *Crime Prevention Through Environmental Design* Jeffery suggested urban design, including the design of streets, parks, terminals, super highways, etc, could prevent crime by reducing the "opportunities".

This "opportunity theory" of crime prevention and control was expanded by Mayhew, Clarke, Sturman and Hough (1976) and Clarke and Mayhew (1980) in their work for the UK Home Office Research Unit, and by Canadian researchers Brantingham and Brantingham (1981).

Oscar Newman's study of public housing and crime in New York City, *Defensible Space*, established a definite relationship between

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*This women's lavatory is an example of poor design. It is badly lit and surrounded by high walls and hedges, making surveillance by passers-by impossible. Photographer Marie Colvill, Science Photography Unit, ANUPS, Australian National University*



*A laneway in Canberra linking a public carpark and a theatre complex is poorly lit and offers no opportunity for surveillance at night. Photographer Marie Colvill, Science Photography Unit, ANUPS, Australian National University.*

urban design and crime rates. He found that high-rise buildings with lobbies, elevators, fire escapes, roofs and corridors isolated from public view had much higher crime rates than low-rise buildings. His solution was to redesign apartment blocks so that areas in public use would be under public surveillance at all times. In his analysis of the relationship between design and crime in public housing, Newman came up with three crucial factors: territoriality, natural surveillance and image and milieu.

*Territoriality:* Newman's defensible space theory assumed that people need to mark out and defend their territory. He believed a good design would encourage people to express these territorial urges; that is, they would defend their territory from outsiders. A well-designed housing project, therefore, would make clear which spaces belonged to whom - some would be completely private, some could be shared with permission from the owner, and others would be public.

An important aspect of this is household allocation. This requires management to assign groups in a housing project to environments they can best use and control, taking into consideration ages, lifestyles, backgrounds, incomes and family structures.

*Natural surveillance:* in which residents casually observe and monitor public and semi-public spaces in their environment and intercept those who do not belong. Residents would only do this if they had developed a territorial instinct about their housing project and felt responsible for its safety. Practically, people must be able to see all the non-private parts of the housing development if they are to help prevent crime.

*Image and milieu:* Newman believed defensible space design could counteract the negative effects on residents of the bad image that housing projects often have in the community. The notion of "milieu" is part of this, as it insists on the need for harmony between a housing estate and its immediate neighbourhood.

*Social surveillance* following on Newman's natural surveillance Rubenstein et al. (1980) developed the notion of social surveillance. As well as watching their environment for intruders, residents would be confident and involved enough to challenge them and even intervene. This theory assumed that changes to physical design could affect social

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interaction and cohesion, which in turn effect crime and the fear of crime.

*Employee surveillance:* Mayhew et al. (1979) pointed out the surveillance potential of employees working in public places-bus conductors, carpark attendants, receptionists, caretakers in schools or housing estates, and shop owners, managers or assistants. The authors cited cases where the presence of employees had improved security, for example the Lambeth Inner Area Study of vandalism on housing estates (Great Britain Department of the Environment 1977), which showed that estates with resident caretakers had fewer vandalism problems; and a Home Office Research Unit study of vandalism to double-decker buses which showed much more damage on one-man operated buses and in the rear top deck where passengers could not be well observed (Mayhew et al. 1976).

*CPTED plus:* by the mid-1970s researchers working on defensible space had lost faith in the ability of design changes alone to reduce crime and now regarded design measures as only one component of a crime-reduction package; other crime-reduction measures would be the creation of groups dedicated to preventing crime among residents, better policing, and improved relationships between the police and the community (Murray 1983).

*Manageable space:* Donald Perlgut (1981, 1982) believes the scope of defensible space is too limited and stresses the role of management in the security of a housing project. The two most important crime prevention strategies in what he called "manageable space" are management policies and practices, and the process of creating, through physical design and site layout, space which can easily be managed by residents.

Manageable space combines "soft" architecture with "soft" management practices. Soft architecture responds to people, and the design welcomes and reflects the presence of human beings. Soft management assumes most residents can learn to accept, and even seek out, responsibility and exercise high degrees of imagination and creativity in participating in their environment. This is also strongly emphasised by Wilson (1976).

Perlgut stresses the importance to security of design considerations such as the definition of territorial zones, surveillance opportunities,



proper hardware, provision of community facilities, adequate lighting, controlled access to housing estates, the avoidance of spaces no-one "owns" and spaces which people might quarrel over. Management can influence crime through the way it handles the following: maintenance; its response to crime; its coordination with police and other agencies; tenant screening; the way people are allocated to buildings; tenant organisation; personalisation of units; intervention in neighbour disputes; and eviction policies.

In his Physical Design and Kinetic Management theory, Marcus Felson (1987) believes in "the principle of least effort" articulated by Zipf in 1950, namely that criminals and victims find the shortest route, spend the least time and seek the easiest means to accomplish something; therefore we can predict where they will come into contact. Conversely, by manipulating the environment, we should be able to minimise their contacts.

Felson charts a shift in the main unit of ecological organisation from the community via the street to what he calls the "facility". This facility, a social organisation rapidly gaining popularity, is a development linking several independent businesses or departments in one complex, with responsibility for security, litter, parking, etc. falling on the management of the facility. Thus, he says, when the community is dominant, crime is prevented by largely unaided informal social control (the family, the neighbours); when streets are dominant—as they now are in Australia—crime control is largely carried out by hit-and-miss public policing; when facilities become dominant, architects, security planners and facility managers will be central actors in crime prevention.

Therefore, says Felson, we need to think in terms of physical design and kinetic management. For example, designers should try to divert flows of likely offenders away from likely targets, or keep those flows restricted to where they can be monitored. As well, potential victims should be channelled away from risk.

## **Arguments for CPTED**

R. E. Moffatt (1982), a crime prevention specialist with the Royal Canadian Mounted Police, has put the following case for incorporating CPTED into the overall crime prevention campaign.

- Even though police might not wish to sit on planning boards designing crime-free environments, it is more cost-effective in the

long run, as police will need fewer resources to police the area.

- CPTED changes are permanent and do not need costly support programs involving lots of people and money. Defensive design can be supported by inexpensive programs (such as Neighbourhood Watch) and good management practices.

## **Arguments against CPTED**

Those who regard crime as the result of social conditions such as poverty, unemployment, etc. believe that manipulation of the physical environment and behaviour modification programs are no substitute for improved social services providing daycare, rape crisis counselling, alcoholic treatment, and enhanced education and employment opportunities.

Some people believe CPTED merely displaces crime to other areas. That is, once a target is hardened by the installation of door locks and barred windows, or is protected by improved surveillance, the criminal simply moves on to an easier building or takes up another form of crime. When the New York city police increased surveillance on subways, for example, bus robberies increased. This problem is discussed in Gason and Wilson *Crime Prevention: Theory and Practice* (1988).

## **Problems with implementing CPTED**

Implementing CPTED is not without its problems. Moffatt lists the following:

- Striking a balance between security and practicality on the one hand and aesthetics on the other is the main problem. Too much security promotes a fortress mentality. Environmental design must reduce criminal activity while maintaining aesthetic standards sought by architects.
- Because voluntary or compulsory security codes and standards for maintenance do not generally exist, because competition among proprietors has not generally extended to security, and because the essential role of the architect in security planning has not been widely recognised, landlords do not request that architects design for security, nor do building permit officials insist on it.

- Architects do not always know who is going to be living in the building they design and cannot therefore involve residents in the security planning process. As well, architects tend to be more concerned with ideal aesthetics than crime prevention.
- Police often regard resident involvement in the planning process as meddling.
- There are problems with some citizen patrols that are often part of crime prevention programs, e.g. participants losing interest, lack of volunteers at the most vital times Such as late at night, and factionalisation.

## **Conclusion**

As we have shown, crime prevention through environmental design poses some problems for the community, most notably that policymakers, town planners, developers, architects and individual householders have to take greater responsibility for protecting the community-and themselves -from crime.

Traditionally, the community has turned to the police and the judicial system to protect them by deterring criminals and punishing offenders. And traditionally, more resources have been allocated to apprehending criminals and punishing them after the event than to preventing the offence.

The general public's apathy about self-protection arises mainly from ignorance of the means of protection, and a perception that somebody else – "the Government" or insurance companies-bears most of the cost of theft and vandalism. The community is beginning to realise, however, that crime rates are rising despite increasing penalties, that the judicial system cannot cope, and that it is the individual who eventually foots the bill for crime through increased taxes for expanded police forces and more jails, and through higher insurance premiums.

The purpose of this booklet is to raise the consciousness of developers, architects, town planners, policy-makers and individual householders; to convince them that, whatever the arguments against CPTED, its benefits outweigh its drawbacks, and to give practical advice on preventing crime.

We are not advocating crime prevention through environmental

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designs situational approach-as a panacea for burglary, vandalism and assault; we are presenting it as a partial solution, and one that is within the scope of all the major actors. Until such time as a perfect society exists, or until social programs can be devised which reduce the motivation of people to commit such crimes, CPTED can help make our homes and streets safer.

## Part II

Practice: designing out crime



## Implementing CPTED

Experts in the Royal Canadian Mounted Police's Crime Prevention Centre have put together some practical advice on implementing CPTED (Moffatt 1982). There are six Conditions considered necessary for the successful implementation of CPTED programs which are:

- Citizens must feel that a crime problem exists in their area.
- The parties involved, e.g. residents, police, managers, citizens' groups, in the CPTED program cannot be hostile to each other.
- From the start there must be some agreement on goals among the parties involved.
- Government agencies involved must be prepared to delegate responsibility to community groups.
- There must be a joint effort to identify areas of friction, and mutual agreements must be worked out to solve those problems.
- Citizens must be willing to accept responsibility.

Moffatt also offers the following seven strategies which can be used to form the planning model of CPTED, warning that they must be adapted to the needs of individual neighbourhoods. In general the greater the number of strategies used, the more successful the CPTED program.

- **Defensible space:** a residential community must look as if it is defending itself, and residents must have maximum control over their neighbourhood. These two elements create a "defensible" environment.
- **Territoriality:** outdoor spaces should be redesigned to foster a stronger sense of ownership. Residents need to feel that public spaces such as halls and elevators belong to them, for example.
- **Natural surveillance:** surveillance can be the natural by-product of normal and routine residents' activities. One sample would be positioning windows for clear sightlines so parking and play areas can be watched.
- **Formal organised surveillance:** equipment such as cameras or monitors can provide surveillance. In residential areas, surveillance

can be provided by Neighbourhood Watch, tenant and senior citizen patrols, etc.

- **Target hardening:** improving building security standards. Obstacles such as locks and security screens should be installed to deter thieves. Doors, windows and halls should be made more secure, and the quality of exterior doors, door frames, hinges and locks must be high. Exterior lighting, alarm systems and key control call add to security.
- **Access control:** uses real or psychological barriers to discourage unwarranted intrusion. Real barriers include a picket fence, a brick wall or a hedge. Psychological barriers can be created by a row of stories, a flower garden or a change in ground level. Inside a building, psychological barriers can be created by something as simple as a change in floor colour. Access to neighbourhoods can be controlled by traffic re-routing (though it must be remembered that too little traffic can encourage crime).
- **Activity program support:** includes the creation of on-site facilities such as daycare centres and organised playgrounds. Care should be taken to avoid conflicting activities overlapping, however. Programs on how to discourage crime should be run for residents, and additional social services such as youth employment programs are helpful.

The following sections of this booklet provide practical advice on implementing the six strategies outlined by Moffat which fall within our situational crime prevention approach: activity program support, while a highly desirable component of any crime prevention program, is beyond the scope of this work. Also included are case histories which seem to prove the effectiveness of various CPTED strategies.

## **Territoriality**

Problems arise in public housing estates because of crowding, the large numbers of children, unemployment and a high proportion of women as head of the household. Such conditions can give rise to conflict within and draw crime from outside—consequently vandalism and crime are rife in some estates. Adding to these problems are often inadequate or poorly maintained common facilities, and too great a spread of age

groups, ethnic origins or lifestyles.

As Newman points out, a well-designed housing project makes quite clear which space belongs to whom. When residents identify with their space not only their private areas, but the semi-public and public spaces that are part of their environment they are more likely to share in looking after that space and keeping intruders out.

In his 1976 study, Paul Wilson described three of Newman's physical design measures as particularly relevant to Australian public housing. First, he cautioned against providing large, open recreational spaces which are meant to be shared by all residents of an estate because such areas are rarely used, are considered to be "no man's land" and are often centres of crime. Residents relate better to smaller land spaces attached to specific buildings or clusters of buildings, and use them more often.

Secondly, subdividing housing estates into small enclaves, recognisable and identifiable by the residents, contributes to a feeling of community and helps foster a sense of territoriality in a project.



*Public, semi-public and private spaces must be clearly delineated in Public housing estates if tenants are to establish a sense of territoriality, and recognise and challenge intruders. Reproduced with the kind permission of the Canberra Times.*

The third important design feature is modifying dwelling entrances so that people coming in have a sense of moving from public to private space. In both walk-ups and single-dwelling residences this helps communicate directly to the resident, neighbours and potential criminals that "out of bounds" areas begin before they reach an entrance or apartment door. This allows residents to observe - and perhaps challenge - intruders early. Modifications such as these can also



enhance resident's sense of privacy and individuality, even in the most densely populated project.

### *Space hierarchies*

The first prerequisite, then, for the development of territoriality in residents is to delineate clearly public space such as streets, community space (e.g. shared open space, play areas, communal laundries), private space such as the actual dwellings and private open spaces such as yards. One method of delineating space is to allow a private zone around dwellings to provide visual privacy, a buffer zone to stop noise, and a place for children to play, for clothes drying, etc.

Space hierarchies can be spelled out as follows:

- Make sure private spaces on the estate look different from public streets.
- Communal facilities on housing estates should be built in places which quickly communicate to non-residents that they are not for Public use.
- Ensure that residents' leases specify rights, responsibilities and maintenance arrangements for every category of space - public, communal and private - on the site.
- Build a visual buffer in the form of private yard or patio between "public" pathways, courtyards or streets, and the "private" area of the dwelling interior.

The following strategies help build a sense of territoriality in residents.

- Divide the site into clusters of buildings so residents get to know each other and can recognise non-residents.
- Make sure each cluster has unique design features which give it an identity and a sense of place.
- Open space should belong indisputably to a particular group of dwellings.
- Erect real or symbolic barriers to discourage strangers from entering residents' territory.

- Use shrubbery, building features, changes of level and fencing to create semi-private entrances to communal and open spaces. while ensuring these do not become a security hazard themselves or create barriers for old or disabled tenants. This can be done by providing adequate lighting and making sure landscaping cannot hide intruders.

### *Transitional Filters*

One method of marking out territory is to provide a series of transitional filters for people moving from public to private spaces. This lets people know that out-of-bounds areas begin well before all apartment door.

In a study of public housing in the United States and Australia, Paul Wilson (1976) examined layout techniques recommended by Oscar Newman for defining transition from public to private spaces and found the following the most effective:

- Increased lighting at the entrance or just prior to it. In addition, a hierarchy of lighting intensities and different types of lighting should accompany and articulate sequential movement through what Newman would call public to private space.
- Change in texture. For example, public footpaths may be concrete and private paths brick. Alternatively, patterns on paths may change in size as the path gets closer to the entrance.
- Change in level. Footpaths of a private nature may, for example, be one or two steps higher than public footpaths or gradually slope upwards to the doorway.
- Landscaping or fencing using shrubbery or flowers define individual territory or alternatively, transparent fencing up to a metre high could achieve the same effect.
- Extension of building structure to avoid immediate entry into the living room area - instead there should be an open, semi-private area or lobby-differentiating private from public space.

### *Penetrability*

A space is ambiguous when it lacks symbolic, functional or verbal

cues on how it should be used, who it is for, who should control its use, and who should maintain it. An ambiguous space is often an insecure space.

Methods to make the function of spaces quite clear (Sarkissian 1984) include:

- Employ real or symbolic barriers to stop intruders entering landscaped spaces intended for residents.
- Minimise the number of entries to a site.
- Design vehicular and pedestrian circulation so it is obvious how people and vehicles are supposed to enter and leave the site - one-way is preferable.
- Put entrances to the site in places where they can be watched formally or informally
- Do not build narrow passages or underpasses for entering or leaving a site, as they are favoured by muggers.
- Where a real barrier to entry is needed, but visual privacy is not important, install wrought iron or tubular steel fences and gates which look good but are hard to vandalise and easy to maintain.
- Avoid fencing the whole site and creating a fortress. If this is necessary, a fence is better than a wall, but the fence should be low and open in style to help surveillance and air circulation.
- Make sure landscaping features such as bushes do not create a hiding place for intruders.
- Eliminate short-cutting through a site, perhaps using bollards 1 to 1.5 m apart to separate and control people and cars.
- If symbolic level changes are used as barriers against vehicles, make sure they do not become impassable to wheelchairs, shopping trolleys or prams.
- Make sure none of these design features stops emergency vehicles getting onto the site.
- If the estate provides playing areas needed by the whole neighbourhood, either locate them on the perimeter and make them public, or locate them in the interior of the estate to discourage public use.

## *Image*

A central premise of defensible space theory is that the security and livability of a housing project is bound up with the residents' and surrounding neighbourhood's perceptions of the estate. If the estate has a bad image, it is more likely to manufacture or attract crime. Newman therefore recommends making public housing fit in better with its surroundings to minimise this sense of difference and isolation.

Some strategies for giving public housing a positive image (Sarkissian 1984) include:

- Build some unique elements into each sub-unit on an estate.
- Orient housing estates outwards so residents can join in the life of nearby streets. To help the estate fit into its environment, design of buildings and landscaping on the outer edge of new developments ,should be consistent with local standards.
- Avoid large paved areas.
- Make sure public housing design fits local architectural norms. The design should not be either too extreme nor institutionalised, and building materials should be of comparable quality to those in local owner-occupied dwellings.
- Incorporate local streets into the site plans of new developments.
- Site dwellings so residents can enter their own front door from the street, and allow vehicular- access to dwellings from street.
- Restrict access to entrances to as few families as possible.
- Give preference to types of housing with direct street access - townhouses, for example.

## *Management for security*

Management can help create a community by keeping intruders out, encouraging a sense of ownership and responsibility among tenants, providing meeting and recreational rooms, developing a system for welcoming new tenants and introducing them to their neighbours, and generally fostering contact among residents.

Security education programs: management can also help reduce crime and vandalism by running security education programs, perhaps

in conjunction with police crime prevention units, local authorities or tenants' groups. Security education programs emphasise some basic precautions:

- General precautions: keeping doors and windows locked and installing appropriate locking systems; making sure newspapers, garbage and mail are looked after when tenants are away; and providing duplicate keys in case of loss.
- Security procedures: information on how to use entrance keys, storage areas and letter boxes to minimise crime.
- Reporting procedures: tell people how and when to report trouble or suspicious behaviour to management or police.
- Protecting personal property: by insuring it; keeping sales slips and serial numbers; marking valuable property with drivers' licence numbers, etc.
- Information about the neighbourhood: stressing areas which are unsafe.
- Self-protection: for example how to react during an assault, first-aid training, etc.

Developing defensible space: management can, however, play a much more specific and important role in reducing crime in public housing. Some effective management strategies outlined by Wendy Sarkissian (1984) for the then New South Wales Housing Commission are:

- Encourage tenant organisations to develop self-help approaches to security issues, including landscaping and maintaining common spaces.
- Use existing local crime prevention programs or help set them up.
- Set up tenant security education programs in conjunction with local police. A door-to-door program, supplemented by displays in local centres and using mobile facilities, is an effective method.
- Develop a system of orientation (including handbooks, verbal instruction and introduction to neighbours) for new tenants.
- Encourage tenants to be neighbourly and put the personal touch on their dwellings.

- Develop special escort programs, e.g. for old people or females.
- Allocate residents to dwelling units in such a way as to minimise conflict, and transfer households from dwellings of inappropriate size or location.
- Use eviction only when really necessary.
- Coordinate all security efforts with tenants after consultation.
- Contact police directly and negotiate to alter or increase patrol and other services.
- Use police and other outside security experts to inspect plans for developments and the developments themselves for possible security problems.
- Use any available outside sources to supply funds for security personnel and other strategies.
- Develop a comprehensive crime reporting system, encourage reporting of all crimes, and keep accurate statistics.
- Provide informal surveillance, and maintain high visibility of management and maintenance workers around the housing development.
- Actively coordinate security planning with neighbouring developments, local government, government departments and other relevant parties.
- Ensure that adequate funds are available to maintain all buildings and grounds at a high level of repair and to modify obvious design faults at an early stage.

### *Public housing carparks*

Carparks can be the source of many problems on public housing estates – not only car theft and theft from cars, but vandalism and danger to residents from intruders, especially at night. However, there are crime prevention strategies:

Theft and vandalism: wherever possible, provide each dwelling with its own locked garage within the property boundaries. Locked garages outside the boundaries or well-lit and visible common carparks are the next best thing.



*Carparks should be well lit, close to residences, and visible from nearby houses to minimise crime. Reproduced with the kind permission of the Canberra Times.*



*Covered garages which are not visible from the street or from nearby residences are an open invitation to muggers, thieves and possible rapists. Cars parked in open view are safer. Reproduced with the kind permission of the Canberra Times.*

Where private garages are not feasible, a car port or driveway parking is preferable to grouped parking away from dwellings.

As a general rule, underground or multi-storey car parks should be avoided. They are breeding grounds for vandalism and crime. If a complex already has multi-storey car parks, danger could be minimised by limiting entry points and providing the entrances with sturdy locked gates. Alternatively, each resident could be provided with a lockable garage in their own space, with robust, vandal-proof metal doors - garages within garages, so to speak. Or users can be provided with a secure lock or a plastic keycard which operates electronic doors.

Grouped car parks should be avoided in high-crime areas. If they cannot be avoided, they should be within view of some dwellings, should be equipped with sturdy gates or tiltadoors, and should never be sited near alleyways.

Open car parks should be small and within view of dwellings with visitors' car parks clearly identifiable, well lit, and visible from dwellings.

Rape, assault and robbery: to make car parks safer, planners should provide direct access from parking areas to the entrance of dwellings. Car parks should be no further than 60 m from dwellings, the path should be well lit and free from shrubbery and, if it is desirable to limit access to dwellings, make sure access via car parks is monitored.

In high-crime areas, advanced technological surveillance methods may be needed in car parks. For example, an infra-red unit is available which detects the presence of intruders - but not cats and dogs - by body heat, and automatically switches on all lights in the car park and turns them off after fifteen to twenty minutes.

### ***The Hartford Neighbourhood Crime Prevention Program***

A crime prevention program in operation from 1973 to 1976 in Asylum Hill - a deteriorating neighbourhood in Hartford, Connecticut showed quite clearly that changes to the built environment, together with increased police support, reduced burglaries and fear of burglaries and nipped a growing purse-snatching industry in the bud. The program was designed to increase surveillance, to make the area more attractive to residents, and to stimulate people's desire to help prevent crime.

Three major physical design changes were made in Asylum Hill: cul-de-sacs were created to stop through traffic; outside motor traffic



was diverted to define neighbourhoods better; and residents were encouraged to put up fences. And to promote a sense of territoriality and control in the area, residents were encouraged to use the area more while outside pedestrians were discouraged.

Beside revealing a substantial drop in crime and fear of crime, an evaluation of the project (Fowler et al. 1979) concluded that the three components of the project - changes in physical design, police operations and community responses to crime - were essential in producing the positive results, but that the physical design changes were crucial in making the other crime prevention strategies work.

"A physical environment which encouraged informal efforts of individual residents (such as using neighbourhood spaces and watching one another's homes) appears to have been the key to the reduction that occurred" (Fowler et al. 1979, pp. 56-7).

## **Surveillance**

According to a study of burglars' attitudes by Trevor Bennett (1986), the two factors which were most likely to stop them burgling a dwelling were: signs of occupation, and surveillance of the dwelling.

Burglars also confirmed the importance of groups like Neighbourhood Watch, and reported that the neighbours were the most important group to avoid after the owners. However, later studies (Bennett 1987, Mustofa 1988) are showing a decline in the effectiveness of Neighbourhood Watch programs because of design, administration, and implementation problems - in the overall organisation of the scheme (see pp. 29-30 for details).

There are two major types of surveillance which are likely to discourage criminal activity:

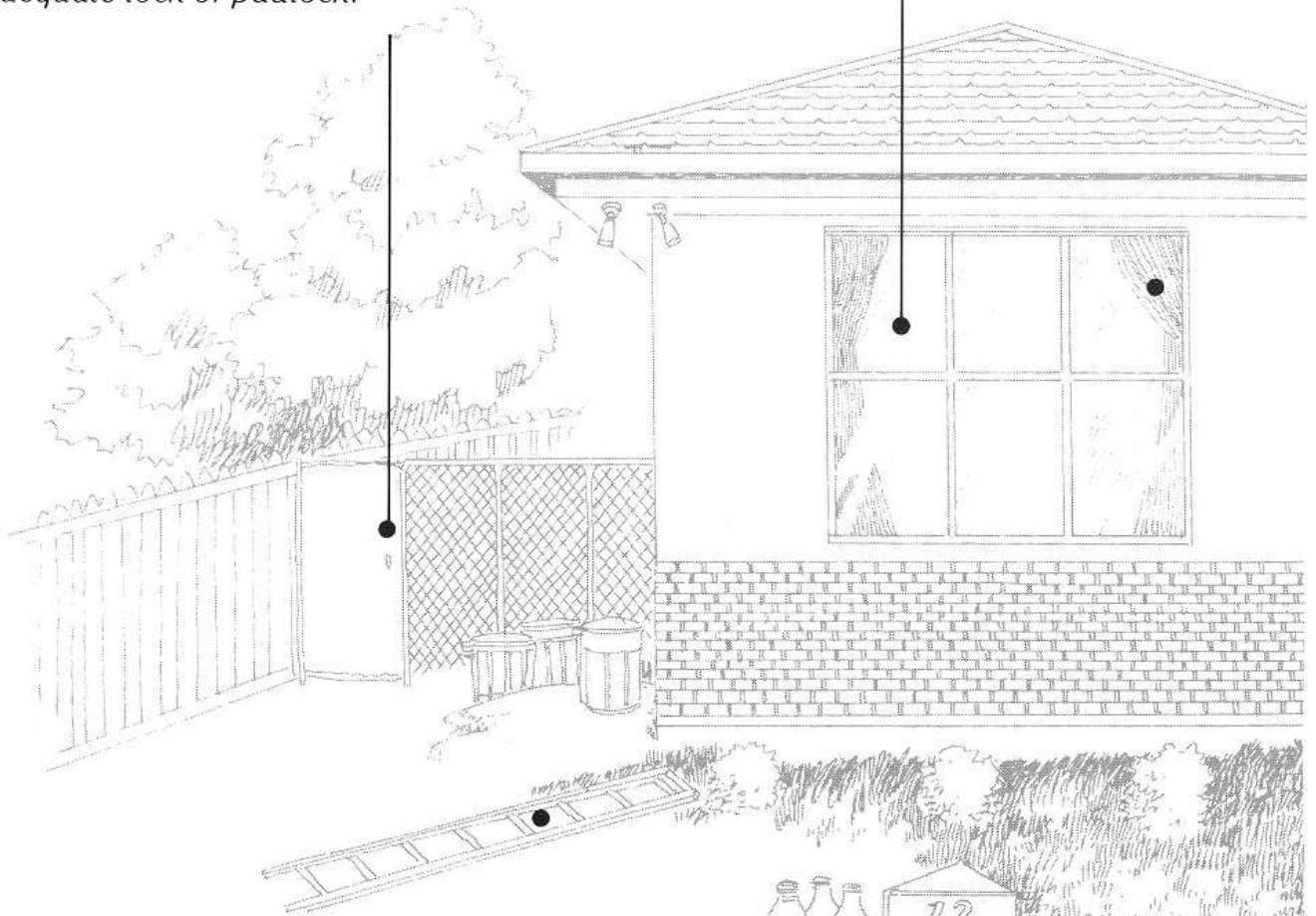
- natural surveillance
- formal, organised surveillance.

### *Natural surveillance*

Natural surveillance is achieved by siting dwellings in such a way that residents inside can keep an eye on both their own spaces and semi-public and public areas. For the private home owner, this means being able to see the yard, the garage or carpark, and the street. For tenants in public housing, it means being able to watch children playing in

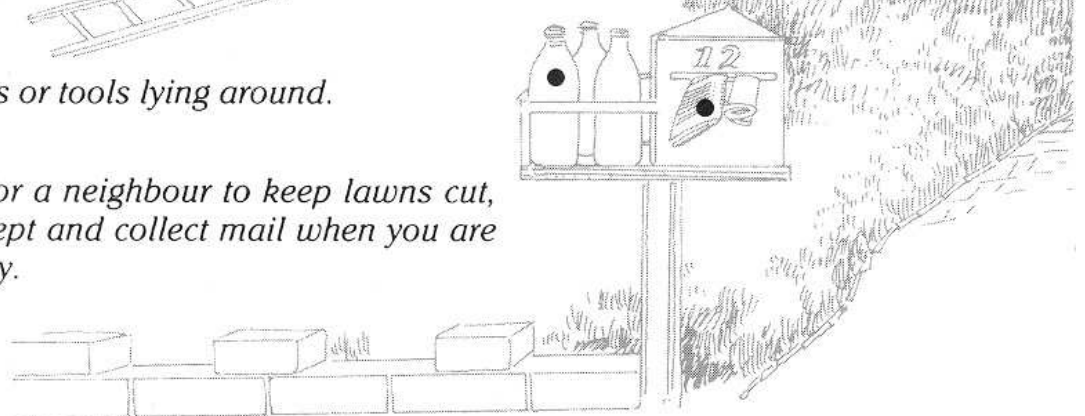
*As the majority of burglars gain access by a window, fit window locks.*

*The front of your house should always be visible from the front street. A sturdy fence should surround the sides and back of your property. Side or back gates should have an adequate lock or padlock.*



*Don't leave ladders or tools lying around.*

*Arrange for a neighbour to keep lawns cut, paths swept and collect mail when you are on holiday.*



*Leave your blinds and curtains as you normally do when away from the home for any length of time.*

*Back or side doors to a house give a burglar cover to pick a lock. Install a deadlock — and use it — as well as bolts at both the top and bottom. Ensure hinges cannot be removed to gain access.*

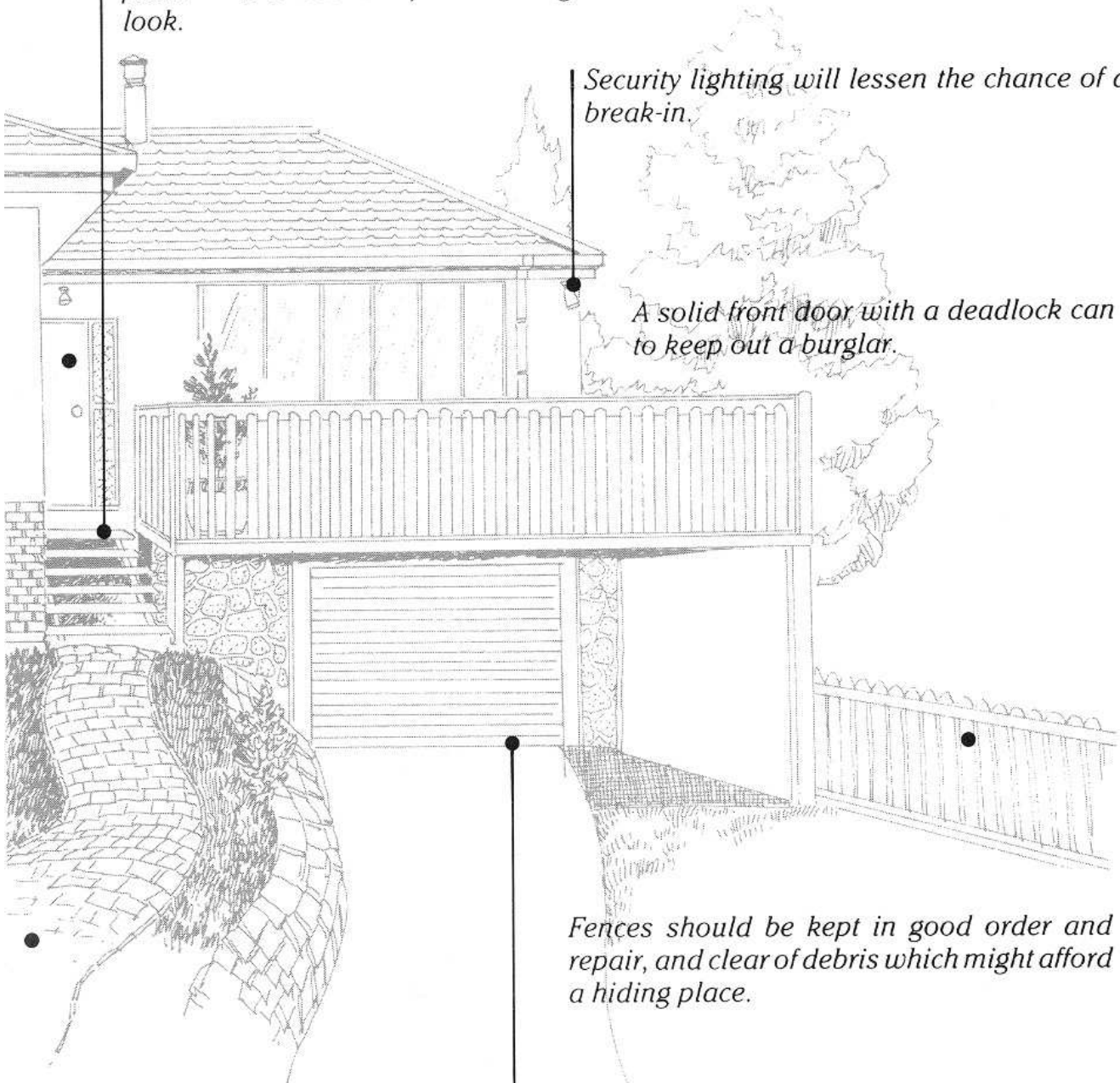
*Never leave a spare key under the mat or pot plant — it is the first place a burglar will look.*

*Security lighting will lessen the chance of a break-in.*

*A solid front door with a deadlock can help to keep out a burglar.*

*Fences should be kept in good order and repair, and clear of debris which might afford a hiding place.*

*Always lock garden sheds and garages, particularly if the garage has direct access to your house. A ladder or tools in an unlocked garden shed could assist a burglar to break into your home.*



communal playgrounds, being able to see who comes in entrances and who is using carparks as well as being able to monitor their own private living spaces.

In practical terms, it means effective lighting, keeping shrubbery out of the line of vision, siting windows in sensible locations and locating carparks in clear view.

Lobbies in public housing projects: Research on crime in multi-family housing shows that interior public spaces of buildings, such as lobbies, corridors, stairwells and elevators, are most vulnerable, especially for crimes such as assault, robbery and rape. These areas, though open to the public, are often without surveillance by passers-by or police.

Lobbies can be made safer in the following ways (Sarkissian 1984):

- Shared entrances should have locked doors, buzzers, intercoms or entryphones made of strong, vandal-proof materials. They should be easy enough for small children to use.
- Closed circuit television may be needed in high-crime areas.
- Residents should be able to see into lobbies before they enter.
- Hidden areas and blind corners should be avoided, but where they already exist, provide mirrors, windows and improved lighting.
- Encourage residents to linger in lobbies for social reasons.
- Distinguish the area around a main entrance from public walkways so people entering will know they are entering an area controlled by residents.
- Time lights with automatic switch-off are adequate in lobbies of buildings in low to medium- crime areas, but stairwells and lobbies in high-crime areas should be permanently lit from a control device away from the lobby.

To encourage surveillance by neighbours in public housing:

- Without violating privacy, site windows and orient entries to maximise natural surveillance.
- Where possible, ensure each dwelling entry is visible from as many other dwellings as possible.
- Locate windows so that casual surveillance of entries, open



*Ensure some degree of homogeneity within a community. Site windows for natural surveillance.*

carparks, open spaces, children at play in rear yards and footpaths is possible from frequently used rooms, without sacrificing privacy from passers-by being able to see in from public areas.

- Provide solid fencing or a mix of fencing types to enable people to see out but limit views into dwellings and private open spaces.
- Avoid low windows in blocks where there are communal decks.
- Situate lights to illuminate entries and approaches to them without such lights shining directly into windows.
- Ensure some degree of homogeneity within the community.
- Link all design initiatives to security education and public information programs to ensure that residents know how to use the security measures.

Enclosures of private spaces should not prevent surveillance, therefore:

- Fence private open space so surveillance into and out of the space is enhanced, without interfering too much with privacy.
- Locate private yards away from public spaces or shield them by

using fences or walls or adjoining private yards.

Footpath surveillance measures include:

- Lighting on paths should be adequate and direct, and should not cast dark shadows, especially on stairs. It should be bright, even and vandal-proof.
- People on paths should be able to see others coming, and shrubs, seats, etc. should not be located so that intruders can hide in or behind them.
- Paths should not pass too close to windows.
- Foot paths should be visible from dwellings.
- Avoid the use of underpasses.
- Letter boxes in high-crime areas are often vandalised and pried open on pension days.
- Individual mail slots should be located in property fences.
- Individual or grouped letter boxes should be visible from dwellings.
- Letter boxes should be sturdy, fireproof and fitted with a strong, key-operated lock.

Social activities can assist in natural surveillance.

- Casual use of public and semi-private open spaces by residents and their friends should be encouraged to increase surveillance opportunities.
- A simple meeting or multi-purpose room should be located near other heavily-used areas, but it would have to have substantial use, otherwise it could become a target for vandals.
- Indoor communal recreation facilities should be provided only if supervision by salaried personnel is possible.

### *Formal, organised surveillance*

Neighbourhood Watch (NW) is the best-known form of organised surveillance aimed at reducing crime-not only property crime, but personal and sexual attacks, a large percentage of which take place in or

near the victim's home. NW operates on the assumption that resources are insufficient to provide adequate police protection to all the people all the time, and that part of the answer is for the community to protect itself from crime.

The program focuses on:

- Encouraging people to note suspicious activity and immediately report serious crime.
- Minimising preventable crime through improved personal and household security.



- Deterring burglars by marking property and displaying stickers around the house as a warning.

Neighbourhood Watch is not a vigilante group, and members are discouraged from becoming physically involved with intruders. After some initial successes overseas and in Australia, there is now some doubt as to Neighbourhood Watch's ability to reduce crime (Bennett 1987, Mustofa 1988).

Bennett's evaluation of two NW schemes in London showed that the prevalence of crime (the total number of households victimised at least once) had not changed significantly over the experimental period in one area and increased in the other, and the incidence of crime (the total number of victimisations) increased in both areas. Mustofa's study, which contrasted an area in Melbourne which had a NW scheme with an area which did not, found little evidence to show that the NW program was effective in preventing crime in North Carlton.

In terms of public attitudes, however, one area in Bennett's study showed a decrease in fear of household crime and an increase in social cohesion, while the other area showed improved resident cooperation in home protection and a reduction in fear of crime among some sub-groups.

Bennett concluded that the major problem of implementing NW did not lie in the specific efforts of residents and police responsible for the two programs, but in the general design and administration of the scheme in London. Some requirements for a successful NW program can be extrapolated from the design and administrative shortcomings uncovered in London NW programs by Trevor Bennett.

- Local police need information on the specific details of the scheme, plus guidelines from headquarters on acceptable levels of implementation of the various elements.
- Regular formal, as well as informal, meetings of all residents are needed.
- Residents displaying stickers and looking out for suspicious behaviour and activities is not enough to deter burglars.
- If beat police are too busy to respond to NW calls, the scheme will fail.
- Residents will not mark property unless sufficient equipment is made available.
- If home security surveys are advertised as part of NW schemes, police must be made available to carry these out.

The lesson for Australian police and community groups is clear: unless the design and administration of NW programs are constantly monitored and evaluated for effectiveness, NW schemes will eventually fail. Early results showed that NW can work, however, so the idea should not be abandoned yet.

To be effective, Neighbourhood Watch programs must be well organised and run along lines drawn up by police departments. If you want to start NW in your area, first contact the police through their Community Relations Bureau. The numbers are\*:

ACT	(062) 45 7288
NSW	(02) 339 5013
NT	(089) 22 3618
Qld	(07) 226 6001
SA	(08) 218 1212
Tas	(002) 38 1101
Vic	(03) 320 3333
WA	(09) 22 2111



Police require evidence of substantial community support for the idea before they will initiate a program. The police will call a public meeting and will ask for volunteers to help run the program. Group coordinators will be appointed from this group, and an area coordinator will be elected, responsible for liaison between police and residents.

There are other watch programs. For example, the *Sydney Morning Herald* 5 May 1988 carried the following:

### Now A Slippery Dips Patrol

Couples who take their pleasure under the slippery dips in Liverpool's parks may soon be obliged to exercise more discretion.

In an attempt to curb anti-social behaviour and to encourage community involvement in parks, the Liverpool City Council is expected to set up a Park Watch scheme, similar to the successful Neighbourhood Watch schemes.

Residents living near parks and reserves will be asked to become "honorary park rangers" and to report vandals and other offenders on a 24-hour council telephone number.

Alderman Mark Latham said the council, like most others in Sydney, spent "tens of thousands of dollars" each year on park repairs.

He said residents had complained of "fornication under the slippery dips", wild parties, trail bike riders, and smashed windows.

After a call to the 24-hour service, the council would ring the police or send out a park ranger, depending on the complaint.

The Park Watch scheme is expected to be approved by the council after the plan goes before a works committee meeting later this month.

*Marine Watch:* according to the ABC News of 9 May 1988, boat owners in the South Coast resort of Merimbula were considering a Marine Watch, to prevent vandalism and theft on boats moored at local marinas.

*Rural Watch:* was set up in rural New South Wales in 1988 to try to prevent theft of farm animals, as cattle duffing in particular was causing serious losses to graziers. Stock Watch, part of a rural version of Neighbourhood Watch was piloted in Armidale and Glen Innes and has been expanded throughout the State.

*School Watch:* an extension of Neighbourhood Watch, School Watch is operating in New South Wales. The new security plan for schools includes increasing night patrols, linking all metropolitan schools to electronic alarm systems and setting up caretaker units in high-risk schools.

Lighting will also be improved around high-risk schools and rewards of \$25,000 will be offered for information about schools vandalism and arson (*Sydney Morning Herald* 6 June 1988).

*Hospital Watch:* the New South Wales Health Department piloted Hospital Watch in 1988 in an effort to combat theft of equipment and pilfering by staff.

According to the *Sun-Herald* newspaper (19 June 1988), property stolen from Sydney's major hospitals during the first five months of 1988 included specialised medical equipment such as heart monitors and electroscopes, cars, computer terminals and printers, slide projectors, typewriters, VCRs, televisions, microwave ovens, dictaphones, push-button telephones, calculators, stethoscopes, power tools, battery rechargers, radio cassette players, mirrors, light fittings, and expensive office furniture such as special tables and chairs.

*Citizens' Patrols:* in some neighbourhoods in the United States where crime is a particular problem, residents have set up their own security patrols. Studies of citizens' patrols have found them to be a valuable addition to police protection. Local people know better than police who the strangers and trouble-makers are, and can monitor private or semi-private areas more easily. As well, because members of citizens' patrols don't wear uniforms, they have the element of surprise.

A study (Yin and associates 1976) of more than 200 such patrols in sixteen areas of the United States found they were most successful when they focused on specific and limited situations. Another study (Curtis & Kohn 1980) found the smaller the territory patrolled, the more successful the program and concluded that a public housing project -

with its clear boundaries and relatively homogeneous constituency - was a good candidate for a successful citizens' patrol.

But like many crime prevention measures, citizens' patrols are more likely to be effective when they form part of a package of strategies probably including increased police presence, some form of organised surveillance such as Neighbourhood Watch, design modifications, and in the case of public housing, improved management practices.

### *Closed-circuit television in Surrey University carpark*

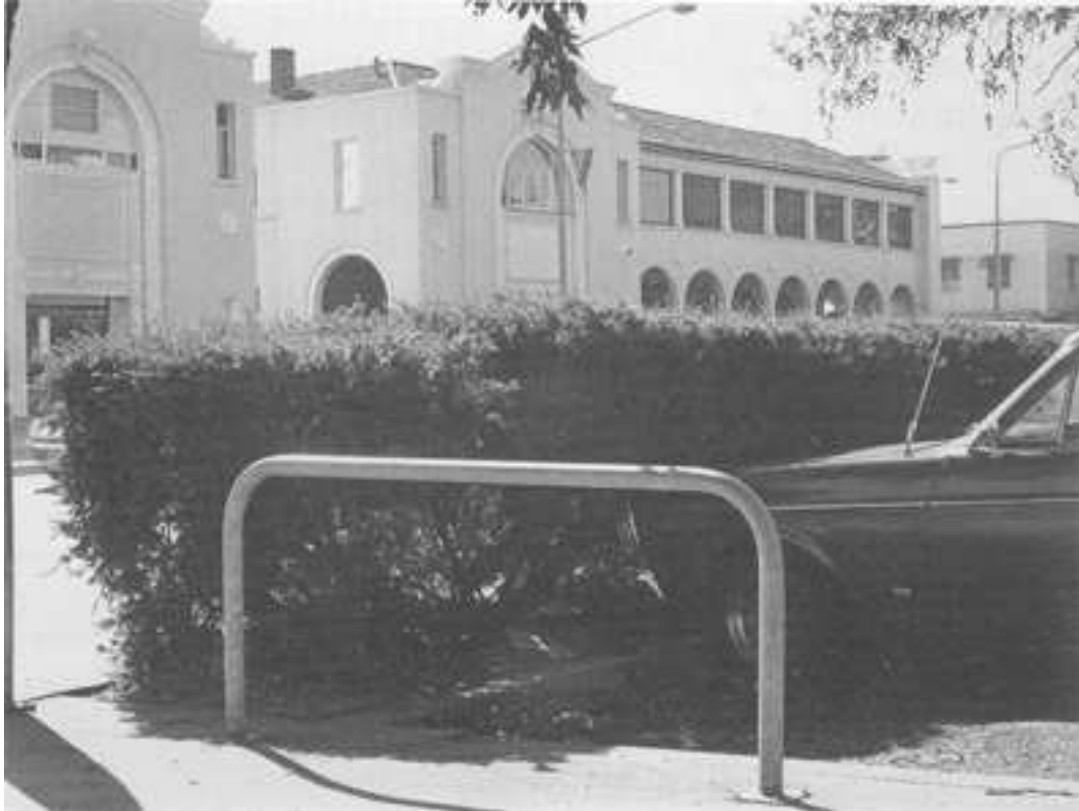
Surveillance can be effective in open carparks, and can be improved by modern technology. One closed-circuit television camera (CCTV) and monitoring equipment reduced thefts from cars parked on the Surrey University campus by 66 per cent by greatly extending the ability of existing security staff to supervise large open parking areas (Poyner & Webb 1987).

The University had four main carparks around its perimeter, all some distance from buildings and residences. Theft from these carparks was the major crime problem on campus in 1984 and 1985.

First, hedges bordering carparks and the perimeter road were trimmed to increase surveillance, and lights were left on longer. As well, £30,000 worth of CCTV was installed. Cameras were set high to minimise interference or vandalism and to maximise their range and sweep. They also had infra-red vision for night-time surveillance and were connected to loudspeakers. As Carpark 4 was the focus of much of the autocrime on campus, one CCTV camera was positioned on top of a tower overlooking it and Carpark 3.

### *Crime in Canberra carparks*

In response to community concern about a spate of violent attacks on women in inner-Canberra early in 1988, the Minister for the Australian Capital Territory issued instructions to improve surveillance in carparks in Civic by trimming hedges and shrubbery and improving lighting. Seven areas in the inner city have been targeted for improvement, including three carparks and lanes leading from carparks to entertainment complexes.



*These photographs show a public carpark in Canberra before and after hedges were removed to improve surveillance from surrounding streets. Photographer Marie Colvill, Science Photography Unit, ANUPS, Australian National University*

## Access control

### *How important is access?*

Thieves and vandals are more likely to hit targets which are easy to get in and out of, where a fast getaway is possible. For example, studies have shown that crime rates are higher in areas where parking lots are located close to housing developments (Moffatt 1982). Not only can criminals get away more easily, but they can pass from carparks to houses unobserved.

As well, there are fewer break-ins at residences with limited access-at the end of cul de sacs, for instance - than at those with easy access such as houses on intersections. Other studies have found that houses on the edges of neighbourhoods were more often victimised than those in the heart of neighbourhoods.

Alice Coleman found that the number of access points into the site perimeter of high-rise blocks was crucial to the incidence of problems in British housing estates. Her study (1985) showed that if there were gates or gaps on each side, outsiders took short cuts across the grounds with the result that housing estates became full of anonymous strangers, creating the sort of atmosphere in which crime flourished. Coleman suggests that if the number of access points could be reduced from five to one - often a simple and inexpensive matter - the percentage of blocks affected by crime could fall by up to two-thirds.

The question of traffic flow is not so clear-cut, however. If there is too much street traffic, the criminal can blend into the crowd; if there is too little, pedestrians and residences can become targets of criminal attack.

Criminals' access to victims can be limited in a number of ways:

- Increasing natural surveillance and people's sense of territoriality so that strangers are noticed and suspicious behaviour challenged and reported.
- Installing electronic surveillance such as closed circuit television in lobbies and carparks.
- Installing entryphones and reception desk services and paying close attention to the siting of walkways in public housing estates.
- Target hardening, that is, the fortification of doors and windows

with strong frames and locks, the installation of peepholes and chains on doors to monitor visitors, building walls and fences, and in some cases the installation of alarm systems.

- Channelling potential criminals out of vulnerable areas by sensible planning, for example not siting a pinball parlour next to an old people's residence; and closing off streets.

Territoriality and surveillance have been covered previously (pp. 13-33) and target hardening and planning for crime prevention is covered on pp 39-47. This section will detail some case studies showing how the establishment of a reception service, the control of access to walkways, and the installation of entryphones have reduced crime in public housing projects.

## **A reception service at Gloucester House**

A reception service established in council housing in London was very effective against vandalism, graffiti and mess in communal areas, but less effective against burglaries. On closer examination, however, Gloucester House's reception service was found to have special characteristics which, while contributing to its success, might be difficult to recreate elsewhere.

A service was set up on this south Kilburn public housing estate in northwest London in 1984, the impetus for action coming from an officer in the local Community Law Centre, and the idea for the reception service arising out of consultations with tenants.

The service was staffed by two people, one on the 8 am to 3 pm shift, and one for the 3 pm to 11 pm shift. It did not operate at night nor on weekends. The service ran in conjunction with an entryphone system which was switched off when the receptionist was on duty and switched on when the desk was not staffed. Beside vetting visitors, the receptionist took deliveries, messages, keys, housing queries and contacted the resident caretaker when necessary.

An evaluation of the program (Poyner & Webb 1987) showed that the establishment of the reception service had improved living conditions for tenants and reduced maintenance costs for the local housing authority. Damage and graffiti disappeared from communal areas on the ground floor, corridors were clean and lifts were in pristine condition.

But although the effects on vandalism were unarguable, the effect

of the reception service on burglary was less clear. Crime statistics for Gloucester House did not show a significant reduction in burglaries after it was established. This may be partly because reception services tend to be ineffective against burglaries carried out by - residents inside jobs.

Poyner and Webb attributed much of the success of the Gloucester House reception service to the fortunate choice of a receptionist on the late shift. She was the wife of the resident caretaker, and took a strong interest in the welfare of the tenants; she and her husband tended to regard the block as a sort of family business. The result was a relaxed and productive relationship with the tenants. Other reception services have run into trouble trying to find staff for the late shifts, and because the work is boring, staff will sometimes neglect the job and go home early.

### *Walkways on Lisson Green Estate*

Alice Coleman (1985) identified walkways as a major source of crime, and fear of crime, on public housing estates because they promoted all three impediments to a good community structure: anonymity, lack of surveillance and escape routes.

The Lisson Green Estate in England comprised nearly 1,500 dwellings in medium-rise blocks, all of which were linked by a system of walkways - an almost uninterrupted run of 1.2 km, even crossing a main road. Lisson Green's problems included annoying children, rubbish disposal problems, muggings, concern over asbestos in flats, inadequate heating, blocked sewers, leaking roofs, lift problems, flooding in flats, tenant squabbles, speeding cars, congested car parking, drugs and concerns over structural safety of blocks.

In 1987 Poyner and Webb evaluated the effects on crime of the removal of seven walkways and found that muggings had been reduced on the estate, and that burglary and damage to flats had decreased, but an analysis of crime statistics collected between 1982 and 1984 showed a significant reduction in muggings seven months before the walkways were removed. The key seems to have been entryphones, a number of which had been installed before the walkways were removed.

The removal of the walkways had not reduced crime on the Lisson Green Estate, the researchers found: instead, the positive results were achieved by blocking access to the walkways by the use of entryphones.

When the walkways were broken up in four places by entryphones, walkway muggings stopped.

The inescapable conclusion is that the council wasted the £100,000 it spent on removing the walkways. What the evaluation showed clearly was that a professional crime survey could have prevented the initiation of costly crime prevention measures aimed at the wrong problem or put into place after the problem had been solved by other means.

### *Entryphones and fences at South Acton*

Entryphones have become a popular remedial measure for problems in medium and high-rise housing, e.g., abuse and deterioration of internal communal areas such as entrances, lobbies, lifts, stairwells and corridors.

Poyner and Webb's case study (1987) was conducted on a large, post-war housing estate in West London between 1980 and 1985 and examined police crime data to assess the contribution of entry control systems to crime prevention. Police had identified South Acton as having "a high potential for disorder". The estate had 2,000 dwellings built in phases from the 1960s through to the mid-1970s and comprised blocks of flats with a few maisonnettes, some houses, twenty-storey towers, large medium-rise slab blocks and small low-rise balcony-access blocks.

A four-stage improvement program began in 1980. The Community centre and communal access areas were refurbished and two of the four blocks were physically improved and provided with entryphones. Grounds around the blocks were tidied and enclosed with substantial timber fencing, creating communal-and in the case of the low-rise block, individual-gardens.

An analysis of crime statistics for the estate showed that residential crime in areas with entryphones and fences decreased slightly, while crime increased considerably in the unimproved blocks. Entryphones and fencing also reduced vandalism to flats, with less damage to doors in one of the blocks and fewer flat windows smashed. Entry controls did not, however, seem to reduce burglary and break-ins inside blocks, indicating that they were possibly crimes committed by residents.



## Target hardening

Target hardening means improving building security standards to keep intruders out-tougher doors, windows, locks-and installing alarms. It can also mean redesigning objects which are commonly vandalised - rubbish tins, lights, lavatory stalls, walls, etc. - making them harder to deface or smash.

### *In private dwellings*

Responsibility for target hardening in private dwellings is largely left to the buyer. Major builders have not found it cost-effective to install any security measures other than deadlocks, for the most part.

It may be that their market research needs updating (or it may merely reflect a greater security problem in the United States), for according to Fulton Research Inc. of Virginia, security rates very highly with prospective homebuyers. Fulton asked visitors to model homes to rate desirable features on a one to five scale, with five the most appealing. A fireplace rated 4.58, but deadbolt locks came a close second, rating 4.57. A complete home security system was rated at 4 (*Crime Prevention News* 1988).

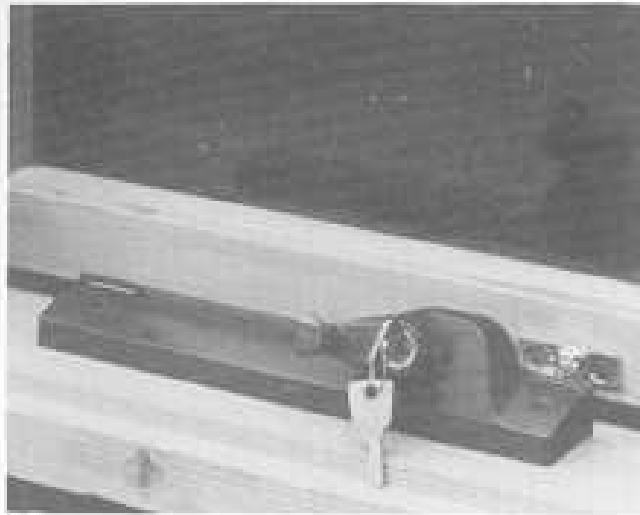
It is suggested homeowners consult a security firm to carry out a security survey on the house and advise on the most effective measures. The New South Wales Police Department (for one) will carry out free security reviews of private and public housing, but will not recommend private security companies.

### *In public housing*

Some Australian government authorities providing accommodation for disadvantaged people or government personnel have responded to actual or potential security problems by using target hardening measures.

Homeswest - the West Australian Government's housing agency - chooses from a number of strategies for dealing with security problems in its dwellings. These include relocating tenants, providing or increasing security lighting, providing security doors and screens, installing window locks, and building extra or better fences.

In Tasmanian public housing, very little of which is over three storeys high, security is not as great a problem as it is in New South



*Keyed security window-winder.*



*Patio door bolt.*

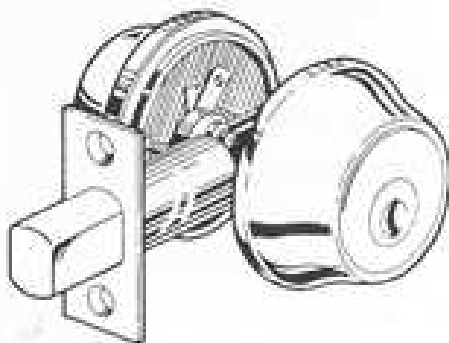
*Automatic deadlatch for front and back doors which deadlocks automatically when door is closed.*



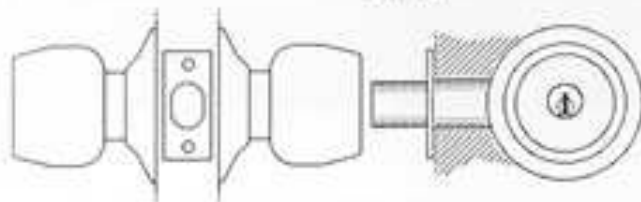
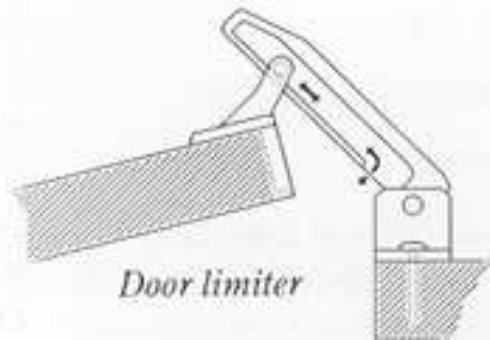
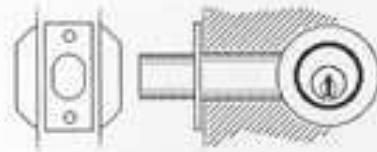
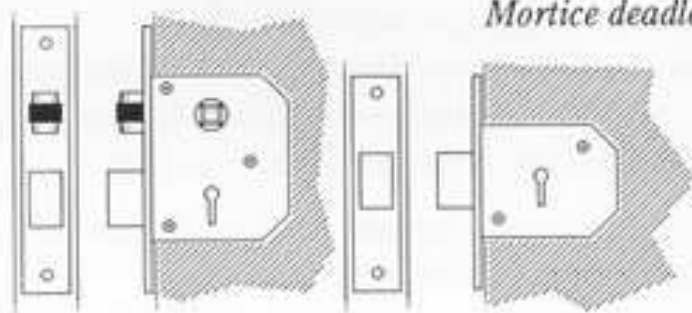
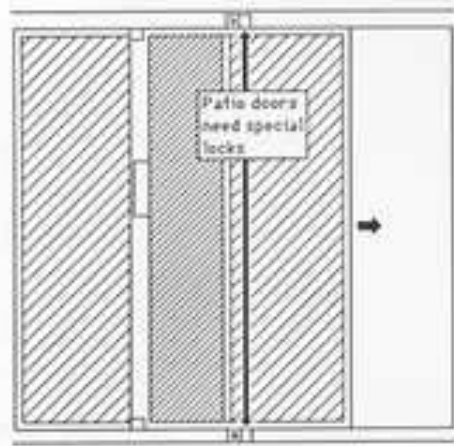
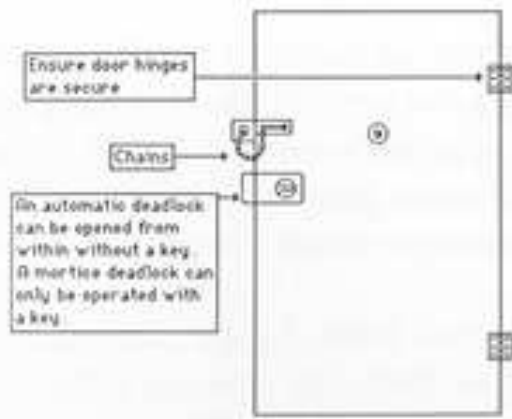
*Double cylinder deadlock. Key in either side will retract deadbolt from exterior or interior.*



*Window locks suitable for both sliding and casement windows are available.*



*All photographs reproduced with kind permission of Ogden Industries, Melbourne*



Wales and Victoria. Housing authorities are aware of the potential for security problems in public housing, however, and have been applying defensible space/ surveillance practices since the mid-1980s. In their new designs, they are incorporating wired glass on sidelights of front doors, and are making front doors stronger on old units as part of their maintenance program.

Political events overtook the former NSW Labor Government's policy-announced on 22 November 1987-to allocate \$25m over several years to improve security in public housing. The scheme was worked out in consultation with public housing tenants' groups, and would have included installing deadlocks, window locks, security screen doors, alarm systems, better outdoor lighting, stronger doors and windows, and improved house/apartment design.

Among the Commonwealth Defence Department's specifications for security for defence personnel quarters-outlined in their manual *Security of Government Facilities (Physical Security)* - are:

- Zinc-plated steel security doors, hinged to door frame by fixed double pin hinges. Locks are keyed alike, key both sides.
- Security doors have infill grille, steel diamond pattern, with aluminium flywire screen attached. Doors have double cylinder mortise locks positioned at head. The whole assembly is powder coated.
- Provide sturdy locks on all exterior doors.
- Ensure all locks are properly and securely installed.
- Door frame materials should be strong.
- Install key-in-door dead bolt or dead locks, at least 25 mm long on front and rear doors. Two or more locks are often recommended by security experts, with the secondary one being a vertical bolt or 38 mm horizontal bolt lock.
- Fit locks on bedroom windows used for ventilation. Do not open these more than 120 mm.
- To all exterior swinging doors, including storage sheds and garages, intermediate cylindrical locksets are attached, with exterior locking deadlatch, keyed alike.
- To all exterior sliding doors, short backset cylinder mortice sliding door deadlocks for wood are attached, fitted with double cylinders, keyed alike to exterior swinging doors.

- Key operated security locks with locked open vent position are attached to windows.

In her 1984 report into crime prevention through environmental design in public housing, carried out for the then NSW Housing Commission, Wendy Sarkissian made a number of commonsense recommendations on target hardening strategies. Many of these are relevant for private housing and individual homeowners as well.

## **Doors**

- A door should be able to withstand efforts to force entry, retain its attached locking devices and be fireproof, and the door frame must be strong.
- Exterior doors should be a minimum of 45 mm thick, preferably of solid core wood.
- Use steel frames in high-crime areas.
- Install anodised aluminium security doors, especially for single or aged tenants or in high-crime areas.

## **Sliding doors**

- In high or medium-crime areas, avoid sliding patio or balcony doors. Use standard-size swinging doors with a keyhole on the inside only.
- If sliding patio doors are already in place, install dead bolt key-operated locks, laminated glass, and sturdy frames. For extra security, provide safety bar and lock bolted to the floor.
- A length of dowel at the top of the door will prevent it being lifted out of the bottom of the track.

## **Upper windows**

- Avoid detailing designs which help offenders get in via the roof or upper story windows, e.g. porches, attached car-ports, concrete platforms outside windows, low-level balconies with horizontal side slots, staggered brickwork or bricks laid in a vertical checkerboard pattern which provides toe-holds, continuous private balconies, awnings, car ports or adjoining fences which would provide access, skylights, high slatted fences, external pipework which could be used as a ladder, glass louvre windows.

- In high-crime areas, consider roof alarm systems, and security grilles over windows installed in the brickwork.

## **Surveillance**

It should be possible to see who is at the door before you open it.

- When building a dwelling, site windows so that entry-ways are visible from inside houses/ dwellings.
- Install fish-eyes or peepholes on all solid exterior doors.

## **Alarms**

If you live in a high-crime area or own valuable possessions, you might want to install a burglar alarm. If you are building a new house, it would be wise to investigate installing an alarm at the construction stage, but discuss it with a reputable security firm first. The NRMA recommends using companies belonging to the Australian Security Industry Association, and the NRMA's Burglary Prevention Unit will give you free advice on alarms and locks.

Devices to detect intruders come in five types:

- Electromechanical devices such as pressure mats, magnetic switches for perimeter doors and windows, and vibration detectors.
- Space/movement detectors-ultrasonic, microwave or passive infra-red.
- Personal activating devices such as panic buttons and medical alert.
- Specialised detectors - to detect smoke or heat, for example, and
- Property perimeter devices, e.g. video for gate and grounds, and video intercoms for houses or flats.

## **Insurance incentives**

Some insurance companies have specially low premiums for householders who fit specific types of deadlocks, window locks, security door screens etc. GRE Insurance, for example, gives policyholders who install Lockwood devices a 7.5 per cent discount on home contents insurance. Check with your insurance company

## **Further reading**

Details about doors, locks, windows and alarms available in Australia are to be found in Bruce Stannard's *How to Beat the Burglar* available from The Building Centre at 525 Elizabeth Street South Broadway, NSW, 2007 - phone (02) 699 5435. The Building Centre also has selections of locks etc. on display.

As well, *Who's Afraid of Burglars*, a comprehensive guide to all aspects of home security, is now available through bookstores and is distributed by Bookwise International in Sydney whose toll-free number is (008) 888 538. Its author, Hugh Richards, spent ten years working for the Australian division of an international security company.

## ***U.K. Working group on residential burglary***

The U.K. Home Office's Working Group on Residential Burglary prepared a list of recommendations designed to help tenants protect themselves, as well as to assist local community self-help groups such as Neighbourhood Watch. This constituted a simple but practical guide to what people - especially those living in inner-city areas - could do to protect their homes.

As statistics showed that 20 per cent of entries by burglars in one city were made to insecure premises, the Working Party concentrated on raising the public's awareness of simple safety precautions using existing hardware. They also wanted to show that additional simple protective measures need not be expensive.

The result was a leaflet designed to raise awareness and curiosity without frightening people. As well, the Working Party compiled a table of high, medium and economy standard security measures for doors and windows of inner-city flats and houses. The cost of the package they recommended was deliberately kept to a level within the reach of most households. The Working Party stressed the security aspect of maintenance work, pointing out that security can be improved at very little additional cost in the course of routine repair and maintenance work.

## ***Hammersmith and Fulham Scheme***

In a pilot scheme in Hammersmith and Fulham, funded under the Home Office's Urban Program, grants of up to £40 were made to vulnerable households for mortise and rim deadlocks, door viewers,

door chains, window locks and door reinforcing strips. Police visited applicants and recommended appropriate measures, and professional fitters installed the devices. Eighty-five per cent of the first 1,000 grants went to elderly people, the majority of whom were public tenants.

The Council arranged for the police to monitor crime on certain housing estates in order to assess the effect of the scheme in preventing burglaries and reducing fear of crime.

### *Doors and windows in Bristol*

An evaluation of a building program to improve the effectiveness of doors and windows in a 750- dwelling housing estate in Bristol, England, showed that, while burglaries on the police beat which included the housing estate doubled between 1980 and 1986, the houses with improved door and window security remained virtually free of crime (Poyner & Webb 1987).

When the work was to be done, the council contacted the Avon and Somerset Constabulary's crime prevention department for security specifications for the rear doors and windows and took the advice of its Architect Liaison Officer, namely that the major factor influencing security of dwellings was window design.

The new doors and windows conformed to guidelines published in a March 1986 British Standards guide for the security of dwellings (British Standards Institution 1986). The relevant British Standard, BS 8220 (Part 1: Dwellings), is available from the Standards Association of Australia, 80 Arthur Street, North Sydney, NSW, 2060, for \$114.40, phone (02) 963 4111.

### *Shield of Confidence, Canada*

In 1980, the Crime Prevention Branch of the Hamilton-Wentworth Regional Police in Ontario, Canada-in consultation with the local real estate board, the local society of architects, the home builders association, the city building department and the Insurance Bureau of Canada-agreed on a voluntary building standards consisting of thirty-two vital crime prevention measures which would be incorporated into the construction phase of new houses.

This CPTED program was called Shield of Confidence. Homes which passed a police inspection were issued Shield of Confidence stickers, identifying them to consumers and potential burglars. The



police tested the Shield of Confidence houses with an experienced burglar, who rated them seven out of ten for security, compared to a rating of two for other new homes.

A kit is available from the Hamilton-Wentworth police for police forces wanting to set up Shield of Confidence security programs. It covers doors, windows, lighting, garage security and house number identification. As well as specifying target hardening techniques, the police encourage home buyers to keep site lines clear of shrubbery, fencing and other barriers providing cover for burglars, participate in Operation Identification in which they mark property, and join Neighbourhood Watch.

## **Protecting your home: some practical advice**

In this section we have compiled a list of simple protective measures to help you avoid being burgled and to minimise danger to your person if you suspect someone has broken into your home or a neighbouring property.

### *Sensible surveillance practices*

There are some general rules for maintaining surveillance over your territory and you don't have to be a member of Neighbourhood Watch to follow them.

- If you see someone breaking into a neighbour's house or hanging about, call the police emergency number - 000.
- If you notice a suspicious vehicle in a neighbour's driveway call the neighbours to see if the vehicle is legitimate. If they are not home, make a note of the vehicle's registration number, and if necessary, call your local police.
- If you think someone has been inside your house in your absence, don't go in, as the thief might still be there. Call the police from a neighbour's house, and watch your house till they arrive.
- Never let strangers inside your home without checking their credentials: if necessary, call the Organisation the person is supposed to be representing. If you are suspicious, call the police.
- If a neighbour's burglar alarm goes off, call them to see if it's a false alarm. If nobody is home, call the police in case there has been an

attempted break-in. If a neighbour's house is open when they are away, call the police.

### *Twelve tips for beating the burglar*

The Australian Insurance Council has drawn up a list of a dozen tips to protect your home while you are away:

- Don't advertise your absence by allowing milk, newspapers and mail to accumulate.
- Don't hide keys outside the house.
- Don't leave blinds or curtains closed if you're away for some time.
- Don't forget to inform police of your absence and address while you're on holidays, and to advise your insurance company if the house will be unoccupied for longer than your policy allows.
- Don't leave notes for thieves to read.
- Don't rely on outdated locks. Fit modern deadlocks on all outside doors.
- Don't leave ladders and tools around for thieves to use.
- Don't go out without locking all doors and windows of the house, garage and outbuildings.
- Don't forget to arrange for a neighbour to collect free delivery newspapers, park a car in your drive and mow the lawn.
- Don't let shrubs grow beyond window level - they can provide hiding places.
- Don't forget to switch on external lighting at dusk and leave on as usual if out for the evening. Consider installing a time-switch for internal lights.
- Don't forget to keep a record-make, model, serial number and photograph-of all valuables kept at home.

### *Safety tips for apartment dwellers*

- When choosing an apartment, try to rent or buy in a security building, that is, one with a caretaker, or entryphones. If you own a unit

in an insecure building, work through the body corporate to initiate a security system.

- Install reliable deadlocks on all exterior doors and if you are on the ground floor, install security locks on windows and balcony doors.
- Install a peephole in your front door so that you don't have to open your door to strangers. And always check the identification of tradespeople or public utility workers who present themselves at your door.
- Have a chain on your door so you do not have to open it completely until you have checked the credentials of strangers. It also gives you protection at night when you might not wish to deadlock yourself in, in case of fire or emergency.
- Keep a list of emergency numbers - police, fire brigade etc. - near your phone.
- Make friends with your neighbours. Surveillance by neighbours is the most effective deterrent for thieves after signs of occupancy.
- Do not indicate your sex on your mailbox: write J. Brown rather than Jane Brown.
- Make sure lobbies, stairwells and the area outside the apartment entrance are well lit. Work through the owners or the body corporate if necessary.
- Do not buzz in strangers through your entryphone system, or let strangers in when you are coming in the front door of the building even if they say they have friends in the building or that they are tradesmen. Many burglars get in this way.
- Body corporates should initiate a security information program for new owners or tenants so that security standards are maintained.
- Organise a Neighbourhood Watch for your apartment building. Contact the Police Public Relations Department for details, or consult pp 28-31 this booklet.

## **Checklist for a successful crime prevention through environmental design program**

The following factors are characteristic of a CPTED program. The

greater number in operation in your neighbourhood or housing estate the more successful the program will be, and the less likely it will be that you will be burgled or assaulted.

- Houses and apartments are situated where they are easily observable.
- Exits and entrances can be seen from the street.
- There is sufficient lighting to deter intruders.
- Solid core doors have been used on all exterior exits.
- All residences have security locks and one-way viewers.
- Children's play areas can easily be seen from windows.
- Rooms for family use are positioned for surveillance of the outside.
- Streets are wide and straight enough to give patrolling police an unobstructed view.
- Houses and apartments are clearly numbered.
- Residents have off-street parking and can see it from their houses.
- Cul-de-sacs control the way in and out of the residential areas.
- Garages are totally enclosed.
- Chainlink fences rather than privacy fences are used.
- Landscaping is designed so intruders cannot hide behind shrubbery.
- Police patrol cars can easily reach all sides of a building.
- Keys, or entryphones, control access to buildings.
- In apartment buildings, there are sufficient security guards, building maintenance is adequate, and the landlord has a fair eviction policy.
- Tenant storage areas are located in secure places.
- The building, house or apartment expresses a sense of defensible space, e.g.:
  - \* buildings are set far enough back from the street to create a semi-private space than can deter an intruder from entering;

- \* houses have been clustered and buildings are small enough to create social cohesion and defensible spaces;
  - \* the intended use of spaces is clear;
  - \* the incompatible use of spaces has been avoided;
  - \* landlords and town planners have provided enough recreational facilities to create social cohesion.
- Recreational areas are enclosed by chain link fencing.
  - Adequate social services and crisis and intervention services are available.
  - Sufficient self-help activities such as tenant associations exist.
  - Sufficient security surveys and inspection programs have been carried out.
  - Adequate crime prevention programs exist.

### ***Broader planning strategies***

A number of criminologists have looked at the wider planning aspects of crime prevention through environmental design. In *Design Against Crime: Beyond Defensible Space* (1983), for example, Barry Poyner makes the following suggestions:

- privatising residential streets;
- limiting pedestrian access;
- separating residential from commercial uses;
- limiting access to the rear of houses;
- blocking access from open land;
- arranging apartment doors and windows carefully;
- allocating residential child density;
- favouring pedestrian overpasses rather than underpasses;
- making sure schools are visible from other buildings;
- keeping school buildings compact;

- encouraging resident caretakers in schools.
- Brantingham and Brantingham in interviews with Marcus Felson in 1987 also described planning strategies to prevent crime, including:
  - siting a youth hangout in view of an all-night taxi stand;
  - letting recreation centre caretakers live in;
  - building crime-impact planning into early design stages;
  - in high-rise buildings for the elderly, siting recreation rooms on the first floor with a direct view of the doors;
  - regulating the flow of adolescents by carefully siting fast food shops and electronic games arcades.

Felson also reported the following suggestions from James Wise:

- Minimising obstructions and using bright pastel paints to protect flows through parking structures.
- Carefully positioning bank tellers, doors and flows of customers to discourage bank robberies.
- Siting bars and pubs in such a way as to create informal social control.
- Providing specific crime prevention training for facilities managers.

Other ideas cited by Felson include:

- Designing parks and parking lots in long strips to maximise visibility from passers-by.
- Doing away with open-campus designs.
- Using telecommunications and computers to reduce the size of offices and to develop "scattered site" business practices.
- Reducing the size of facilities catering to young males - high schools, for example - to maximise adult surveillance.

# Part III

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