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Reducing Crime and Anti-Social Behaviour in Pedestrian Access Ways Planning Guidelines



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Published by



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469 Wellington Street
Perth Western Australia 6000



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1 Introduction

1.1 Purpose of the guidelines

These guidelines have been prepared as a supplement to the Western Australian Planning Commission's (WAPC) *Planning Bulletin 79 Designing Out Crime* and associated *Designing Out Crime Planning Guidelines*. In particular, they enhance the material contained in section 5.18 of the Guidelines "Pedestrian routes, laneways, alleyways and access ways", by outlining an approach for developing and refining designing out crime best practice to reduce crime and anti-social behaviour in pedestrian access ways. The supplement builds on earlier work by the Office of Crime Prevention, and research undertaken by the Designing Out Crime Research Group at Curtin University of Technology and Edith Cowan University.

1.2 Objectives of the guidelines

The objectives of the guidelines are:

- To provide a brief overview of the problems associated with pedestrian access ways.
- To provide a tool for use by local government in assessing and responding to crime risks associated with pedestrian access ways.
- To outline general designing out crime guidance for pedestrian access ways.

1.3 Who should use the guidelines

The guidelines are designed to be used by state and local government decision-makers both as a tool in the decision-making process in the risk evaluation and management of pedestrian access ways and, in the case of the most intractable pedestrian access ways, in decision-making about potential temporary or permanent closure.

2 Pedestrian access ways in Western Australia

2.1 Pedestrian access way terminology

These guidelines follow the common language understanding of pedestrian access ways as paths in the public domain that are available for use by pedestrians, and vehicles that are not regulated by the *Road Traffic Act 1974* (eg bicycles, skateboards roller blades).

The majority of pedestrian access ways in Western Australia were originally established as part of the subdivision of land in accordance with section 20A of the, then, *Town Planning and Development Act 1928*. They were seen as a means of providing for the unimpeded

movement of pedestrians and cyclists in and around residential neighbourhoods following the change from traditional grid pattern road layouts to designs based on culs-de-sac and loop roads.

Pedestrian access ways are also often used to locate public infrastructure such as water, sewer and gas pipes or electrical cables.

2.2 Types of pedestrian access ways

Pedestrian access ways are extremely diverse in terms of their location, design, geometry, purposes and uses. They can, however, be grouped by similarity of roles. The four classic pedestrian access way types that can be identified are:

- coastal pedestrian access ways;
- pedestrian access ways in suburbs with road layouts based on culs-de-sac and loop roads;
- pedestrian access ways providing occasional access for major events;
- pedestrian access ways that are a pedestrian connection to a retail services area.

These pedestrian access way types often form part of multiple networks of paths that are used by individuals for walking, cycling and running.

2.2.1 Coastal pedestrian access ways

Coastal pedestrian access ways form a distinct class whose function is to provide pedestrians and cyclists from inland suburbs with access to the beachfront. They have three roles:

- They provide access to the beach for residents living in the suburbs immediately behind the beach.
- They facilitate use of the beach by visitors with cars by encouraging distribution of parking away from the beachfront and enabling easy pedestrian access from the backstreets.
- They have a strong health role as a component of a larger pedestrian and cycling path network to the beach from inland suburbs.

The use of coastal pedestrian access ways is likely to be seasonal, and the types of users are likely to vary depending on time of day, and day of week. In crime prevention terms, designing out crime strategies that are likely to be most effective, and least intrusive on pedestrian access way use, are those which target specific seasons, times of day, pedestrian access way users, and pedestrian access way behaviours.



Figure 1: Coastal pedestrian access way in recently developed coastal suburb



Figure 2: Coastal pedestrian access way in long established coastal suburb

2.2.2 Pedestrian access ways in suburbs with road layouts based on culs-de-sac and loop roads

Pedestrian access ways in suburbs with road layouts based on culs-de-sac and loop roads are essential parts of the pedestrian and cycling access network. With an increased government emphasis on health and exercise, the importance of these pedestrian access ways has increased significantly and this trend is likely to continue.

These types of pedestrian access ways have several key characteristics:

- Individual pedestrian access ways typically have a different balance of uses at different times of day (exercise, school, shopping, bus access, tavern access etc.).

- They provide various essential routes for the community including:
 - bus access
 - train access
 - retail access
 - access to public open space and other natural amenities (bush, lakes, national parks etc)
 - longer-distance pedestrian and cycle access from, and to, nearby suburbs.

These pedestrian access ways are often poorly designed in designing out crime terms. Typically they are narrow paths located between property boundaries (eg garden fences). Crime and anti-social behaviour is typically linked to specific users, times of day and days of week. Some have high traffic, particularly where they are the only pedestrian link to amenities. And some have inappropriate and problematic high territoriality and sense of ownership by abutting residents which can act to reduce their functionality, and increase social tensions.

The characteristics of pedestrian access ways in these suburbs combine to produce an associated pattern of difficult problems. Any attempt to improve crime and anti-social behaviour outcomes in a problematic pedestrian access way needs to take into account:

- The generally poor walkability of these suburbs.
- The high use of some of these pedestrian access ways with naturally proportionally higher crime and anti-social behaviour potential associated with:
 - number of users;
 - poor crime prevention through environmental design of pedestrian access ways and properties;
 - high levels of territoriality of residents abutting pedestrian access ways;
 - high social tensions;
 - use by non-local walkers and cyclists;
 - different patterns of use at different times of day;
 - different crime risks and vulnerability at different times of day.

Examples of typical pedestrian access ways in these suburbs are shown in figures 3 and 4.



Figure 3: Pedestrian access way providing crucial pedestrian access from interior of a suburb with road layouts based on culs-de-sac to bus access on a perimeter road



Figure 4: Pedestrian access way that is part of a longer route providing essential pedestrian access for schoolchildren from interior of a suburb with road layouts based on culs-de-sac to rail station at the edge of the suburb

2.2.3 Pedestrian access ways providing occasional access for major events

Some pedestrian access ways have an important sporadic role in providing pedestrian access to large public events. This leads them to having a double life in crime prevention terms. At the times of public events, these pedestrian access ways are often heavily used by visiting members of the public. This is a situation in which crime and anti-social behaviour would be expected to increase. At other times, they typically provide access for much lower numbers of users, many of whom are local. The double life of these pedestrian access ways suggests the need to use two separate and distinctly different strategies for developing designing out crime interventions. It is important that the interventions aimed at the time of public events do not impact adversely on the functioning of the pedestrian access way during normal use.

Interestingly, and from a crime prevention point of view, in longer term multi-day events event-goers often establish a mild form of protective ownership of “their” pathways to the event. These can act as a protective mechanism against problem behaviours. Electronic surveillance and policing on the days of events may be appropriate on pedestrian access ways to some venues. Other designing out crime approaches are likely to be conventional for both of the pedestrian access way’s roles.

2.2.4 Pedestrian access ways that are a pedestrian connection to a retail services area

Many pedestrian routes terminate at a pedestrian access way adjacent to a shopping centre - typically privately-owned, pseudo-public space. These pedestrian access ways have a variety of possible roles. Some are nodes of the pedestrian access way network that carry the pedestrian and cycle traffic from multiple routes. Others provide pedestrian access between parts of shopping complexes and from car parks, bus stops and rail stations.

These pedestrian access ways are typically high use, high importance and high risk for anti-social behaviour and crime. The situation is complicated by the patchwork of ownership and management responsibilities. A key characteristic of this situation is that it involves multiple stakeholders, constituencies and user groups with different interests and spheres of action. It also can involve multiple security organisations with different priorities and specialist expertise (shopping centre security, rail security, police, youth workers, council rangers etc). Successful designing out crime strategies are those that build on the strengths of the groups involved using a multi-agency approach. Where young people are involved, youth services agencies provide a powerful designing out crime resource. Experiences in shopping centres in Western Australia have shown that involvement of youth service agencies can result in changes over short periods of time that can significantly reduce crime and anti-social behaviour issues.

3 Situational crime prevention assessment for pedestrian access ways

The situational crime prevention assessment described here comprises a suite of tools for assessing and reducing crime risk in pedestrian access ways.

These tools are:

- designing out crime pedestrian access way assessment
- socio-economic vulnerability assessment
- contextual crime assessment
- decision tree.

The situational crime prevention assessment has been developed in response to the lack of crime data for pedestrian access ways that is both time and location specific. The tools set out in the situational crime prevention assessment do not replace the need for accurate crime data. But they do offer a relatively coarse means of assessing crime risk based on surrogates identified in the criminological literature as being associated with crime risk. Users of these crime risk assessment tools should apply them with this in mind, and be aware that the surrogates may operate differently in different circumstances.



Figure 5: Node pedestrian access ways close to a shopping centre carrying traffic from multiple pedestrian access ways within a suburb.

3.1 Designing out crime pedestrian access way assessment

The designing out crime pedestrian access way assessment provides decision-makers with a simple snapshot of the potential vulnerability of a pedestrian access way to crime in terms of use, design and crime problems. It does this by comparing a specific pedestrian access way with the key attributes of one designed to best practice designing out crime and crime prevention through environmental design standards.

A low designing out crime pedestrian access way assessment score indicates that the pedestrian access way, *in purely physical design terms*, has characteristics associated with opportunities for crime and may require implementation of appropriate designing out crime solutions. Indeed, the statements/questions themselves suggest, in part, what might be appropriate solutions.

A high designing out crime pedestrian access way assessment score indicates that the pedestrian access way, *in purely physical design terms*, has characteristics associated with low opportunities for crime. However, crime problems are related to more than just design and a pedestrian access way with a high designing out crime pedestrian access way assessment score of, say, 14 and a corresponding low crime risk can still suffer from crime problems. The designing out crime pedestrian access way assessment should, therefore, be considered together with the detailed contextual information identified in the other parts of the situational crime prevention assessment.

Table 1: Designing out crime pedestrian access way assessment

Risk criteria	Yes	No
1. The pedestrian access way is overlooked (visual surveillance) at either of its ingress/egress points.		
2. The pedestrian access way is overlooked (visual surveillance) along its route.		
3. Does the pedestrian access way have adequate lighting (eg facial recognition at 10 m distance)?		
4. On entering the pedestrian access way, can you see the exit?		
5. There are no entrapment spots or hiding places along the length of the pedestrian access way.		
6. The pedestrian access way is appropriately maintained.		
7. The boundaries between public space and private space are clearly defined.		
8. The boundaries between public space and private space are robustly fenced.		
9. Does the pedestrian access way have signs indicating acceptable behaviour?		
10. The pedestrian access way is wide enough to allow pedestrians to pass each other easily.		
11. The pedestrian access way is not adjacent to vacant land or property.		
12. The pedestrian access way is not close to a supplier of alcohol (eg liquor store, hotel, tavern, bottle shop).		
13. The pedestrian access way is not a path to a school.		
14. The pedestrian access way is not close to an ATM, public telephone box or public toilet.		
Totals		

Designing out crime pedestrian access way assessment (number of yes answers)

High designing out crime pedestrian access way assessment (low vulnerability pedestrian access way):	10-14
Medium designing out crime pedestrian access way assessment (medium vulnerability pedestrian access way):	5-9
Low designing out crime pedestrian access way assessment (high vulnerability pedestrian access way):	0-4

3.2 Socio-economic vulnerability assessment

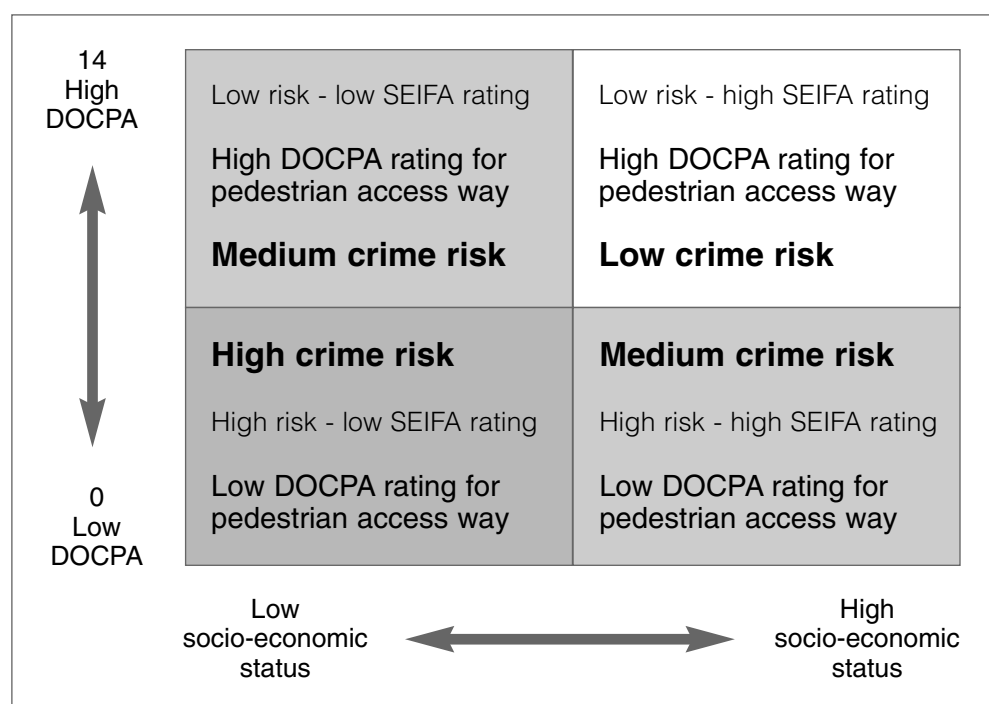
A key issue in understanding the crime risk of an individual pedestrian access way is the combination of the relative physical vulnerability of a pedestrian access way, and the relative socio-economic index of the users.

The Australian Bureau of Statistics' socio-economic index for areas offers a surrogate for socio-economic risks for crime and antisocial behaviour. The index provides a means for assessing the relative socio-economic advantage of different areas based on information derived from Census data.

The index can be used alongside the physical analysis undertaken in the designing out crime pedestrian access way assessment to provide an assessment of potential vulnerability that is weighted by socio-economic factors. Assessment of pedestrian access way risk can be represented in terms of a four-quadrant chart like the one depicted in table 2 to identify whether a pedestrian access way is likely to be of high or low crime risk due to the socio-economic context.

The focus of the socio-economic vulnerability assessment is on the users of a pedestrian access way. In the case where users live abutting the pedestrian access way, the address of the pedestrian access way provides the basis for the socio-economic index for areas rating. However, it needs to be remembered that for many pedestrian access ways, some or all user groups are likely to come from outside the immediate location. Care is also needed in applying this tool to avoid ethical and practical problems. Areas of low socio-economic status are often associated with increased levels of crime. That is to say, they are statistically associated with increased crime risks. That does not imply, however, that individuals who live in socio-economically disadvantaged areas are prone to criminal or anti-social behaviour.

Table 2: Socio-economic vulnerability assessment



DOCPA: designing out crime pedestrian access way assessment
 SEIFA: socio-economic index for areas

3.3 Contextual crime assessment

Reliable information about actual and perceived levels of crime associated with a pedestrian access way is a crucial backdrop to decision-making about interventions aimed at reducing crime and anti-social behaviour. It is uneconomic to commit resources to crime prevention or improving the security of a pedestrian access way which does not have a crime problem. Table 3 indicates information that should be gathered.

Table 3: Gathering information about actual crime and fear of crime from users of the pedestrian access way and those living or working nearby

Gather information about *actual* crime activities associated with the pedestrian access way.

- 1. Collect data on recorded crimes against users of the pedestrian access way.**
- 2. Collect data on recorded crimes involving damage of the pedestrian access way.**
- 3. Collect data on recorded crimes against properties on or near to the pedestrian access way.**

Survey a fully representative sample of pedestrian access way users (including user groups from a different PAW location) and those living and working near to the pedestrian access way about their *fear* of crime. If necessary, use professional data collection services for this.

- 1. Collect data on the fear of crime of pedestrian access way users (from different user groups).**
- 2. Collect data on the fear of crime of those living and working near to the pedestrian access way.**

3.4 Decision tree

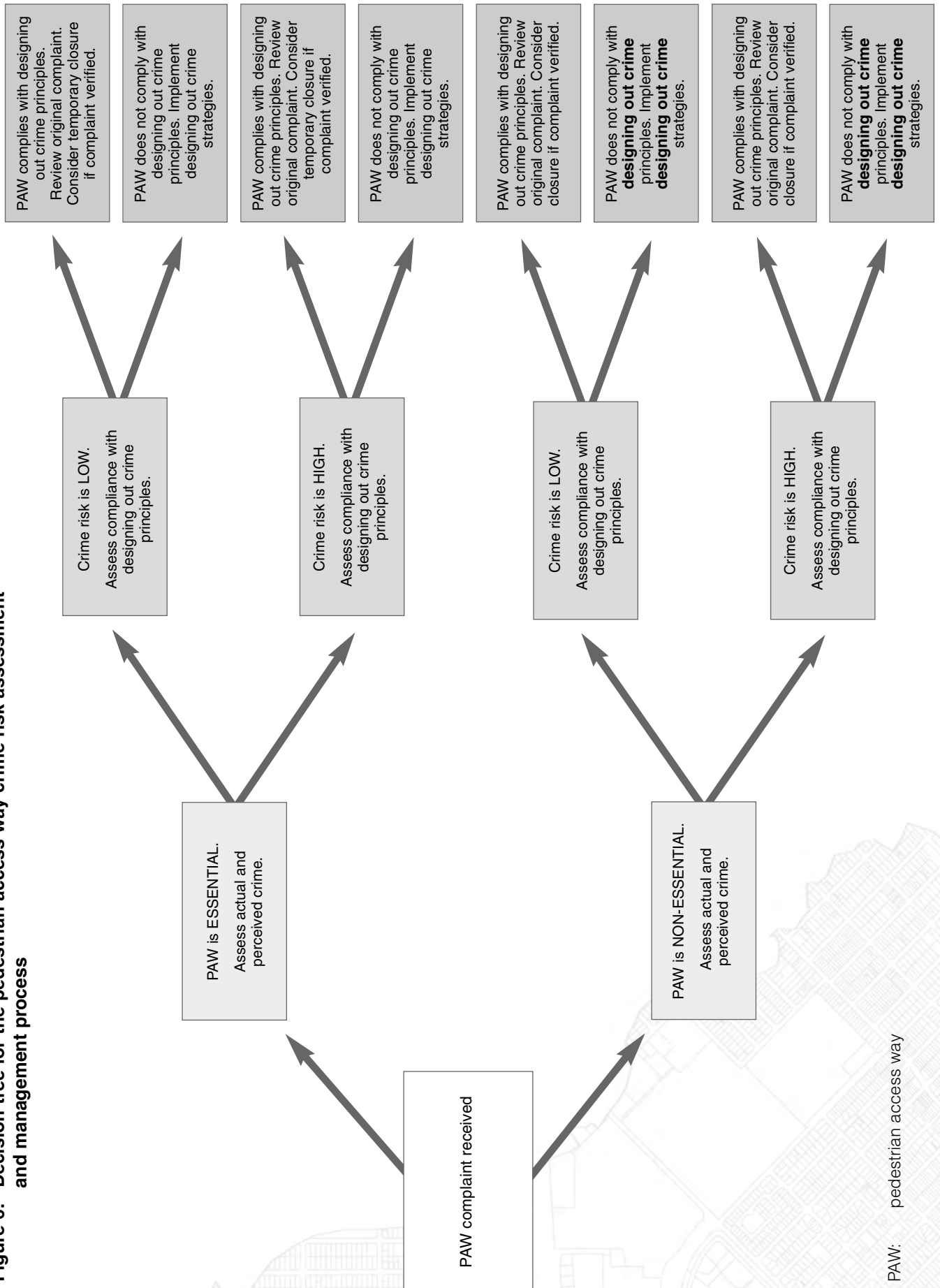
The decision tree depicted in figure 6 provides a useful framework for determining whether or not a particular pedestrian access way should be closed or whether management is a more appropriate option to address crime risk. The decision tree follows a four stage process:

- complaint received
- assess actual and perceived crime
- assess crime risk and compliance with designing out crime principles
- implement designing out crime strategies and other strategies (ie temporary or permanent closure) as necessary.

There are two criteria recommended for the classification of pedestrian access ways:

Essential: the pedestrian access way *should be retained and kept open* because it plays an essential role in the local movement network.

Figure 6: Decision tree for the pedestrian access way crime risk assessment and management process



Non-essential: the pedestrian access way *could be closed without causing significant disadvantage to local residents* because it is not essential to the local movement network.

The initial focus of the decision tree is on how essential the pedestrian access way is.

A pedestrian access way that is essential should not be considered for permanent closure. Instead, the suite of designing out crime strategies set out in part 4 of these guidelines should be used to address actual or perceived crime or anti-social behaviour associated with the pedestrian access way. However, if these strategies fail temporary closure is an option of last resort.

If the pedestrian access way is designated as non-essential, the suite of designing out crime strategies referred to part 4 should still be employed to address actual or perceived crime or anti-social behaviour associated with the pedestrian access way. If these strategies fail, however, either temporary or permanent closure is an option.

4 Designing out crime guidance

4.1 Introduction

Planning Bulletin 79 Designing Out Crime and the associated *Designing Out Crime Planning Guidelines* provide valuable generic advice on applying designing out crime principles to a broad range of environments, including pedestrian access ways.

The following designing out crime strategies can be applied specifically to pedestrian access ways to define ownership, improve surveillance, control access, set rules, define activities, and harden targets for potential offenders.

4.1.1 Designing out crime strategies to clearly define the ownership and use of the pedestrian access way

- Rapidly remove graffiti to remove the rewards for offenders and send the message that the pedestrian access way is being managed as public space and that such behaviour is not acceptable. This approach may reduce the potential for further graffiti.
- Clean up and make repairs quickly following vandalism to remove the rewards for offenders and send the message that such behaviour is not acceptable. This approach reduces the potential for more vandalism and removes materials that could potentially be used for crime (eg starting fires or throwing missiles).
- Ensure walking surfaces are even and well-maintained to signal that the pedestrian access way is managed.

4.1.2 Designing out crime strategies to improve surveillance

- Improve lighting to enhance visibility at both ends and along the length of the pedestrian access way.

- Install safety mirrors to improve visibility where pedestrian access ways are not straight or direct.
- Clear shrubs to improve sightlines throughout the pedestrian access way.
- Install permeable fencing where appropriate (ie where the pedestrian access way abuts public rather than private space) to improve sightlines.
- Increase opportunities for passive surveillance through overlooking where possible.
- Consider using movement-sensored lighting where appropriate.
- Consider deploying mobile CCTV to record incidents at problematic pedestrian access way locations.
- Consider the use of electronic surveillance in high use pedestrian access ways close to commercial areas.

4.1.3 Designing out crime strategies to set rules and define activities

- Install signage that prohibits graffiti, vandalism and the dumping of rubbish.
- Use signage to clearly indicate where the pedestrian access way leads to. Clear way-finding is linked to perceptions of personal safety.
- Install “positive” signage where appropriate (eg indicating that the pedestrian access way is part of a well-used pedestrian and cycle network).

4.1.4 Designing out crime strategies for target hardening properties abutting the pedestrian access way

- Consider using density matting, climbing plants on blank walls to reduce opportunities for graffiti and to hinder attempts to illegally access properties.
- Remove physical objects that could potentially assist offenders in gaining illegal access to properties or which could be used to commit criminal damage or vandalism (eg posts or palings from poorly maintained or damaged fencing).

4.1.5 Designing out crime strategies for access control to laneway pedestrian access ways

- Consider installing bollards to prevent access to vehicles.
- Consider installing barriers to manage cycling travel speeds.
- Consider closing access to the pedestrian access way at vulnerable times (eg sunset to sunrise).

4.1.6 Designing out crime strategies for pedestrian access ways with significant crime problems

- Consider monitoring the pedestrian access way using mobile CCTV (covert or overt).
- Use signage to inform the public that overt CCTV is being used.
- Establish police or security patrols to provide routine and regular surveillance of the pedestrian access way at times designated to be the most problematic.

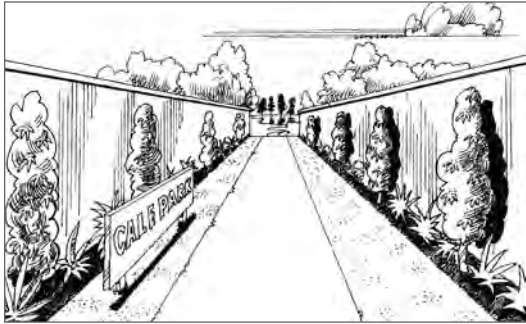
4.1.7 Other generic designing out crime issues/solutions

- The potential for entrapment presents a problem with many pedestrian access ways where they are bounded by fencing or walls and form a predictable route. Narrow pedestrian access ways are a particular problem because potential offenders can get legitimately close to a victim. Designing out crime solutions should maximise the potential for surveillance and provide adequate lighting. Where possible, improvements can be gained by widening the walking space of a pedestrian access way and shortening its constricted length in a way that is consistent with other relevant policies (eg Liveable Neighbourhoods). Potential entrapment areas should be treated by removal or by redesign to provide multiple exit paths.
- Of particular concern are intersections in narrow pedestrian access ways where pedestrians cannot see whether there is anyone hiding in the other pathway. High levels of uniform lighting and well-placed safety mirrors can improve the sense of safety and reduce crime in these circumstances.
- Singapore crime prevention through environmental design guidance utilises robust see-through fencing -- sometimes of tunnel form (with a roof) - with good visibility from all sides for isolated routes between places of safety.
- Where there are alternative and safe routes in a pedestrian access way and public space network, signage or signals using street furniture and lighting cues can help pedestrians choose safer routes, particularly at night.
- Where appropriate, electronic or procedural approaches such as movement-sensitive lighting, electronic surveillance, help telephones, and security escorts can reduce security risks.
- Lighting and electronic security devices should be protected from vandalism.
- Activity generators close to pedestrian access ways can act as a source of surveillance and guardianship, or as a source of potential crime and anti-social behaviour. This depends on users, purposes, time of day and the location of a pedestrian access way.

4.2 “Good” and “bad” pedestrian access way design features

This section includes a selection of illustrations for “good” and “bad” design features in pedestrian access ways.

Maintenance / management

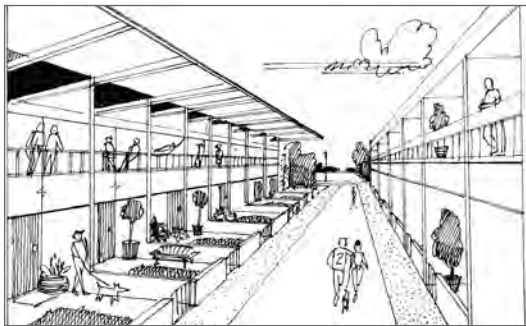


A "good" example



A "bad" example

Overlooking activities

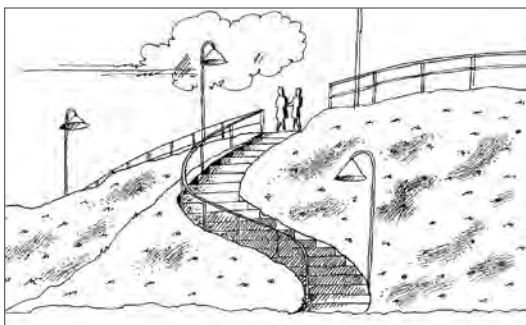


A "good" example

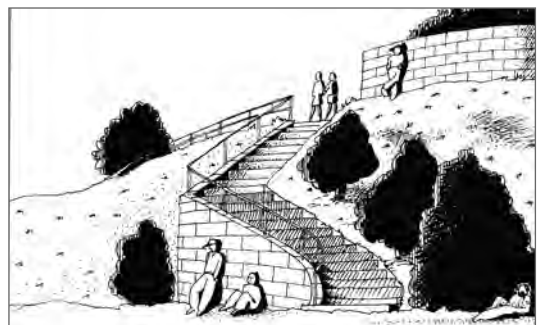


A "bad" example

Entrapment spots (1)



A "good" example



A "bad" example

Entrapment spots (2)

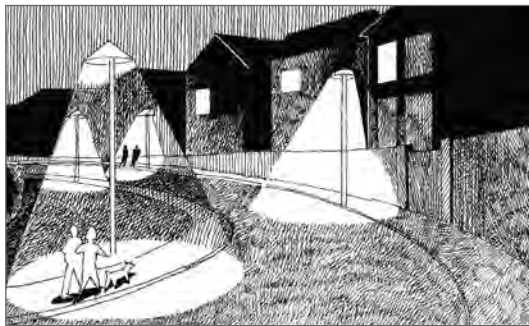


A "good" example

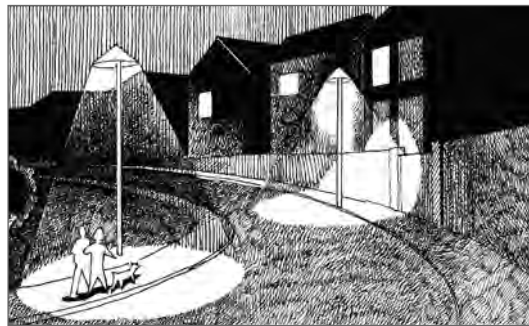


A "bad" example

Lighting

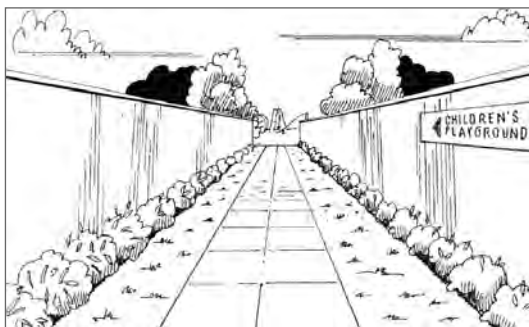


A "good" example

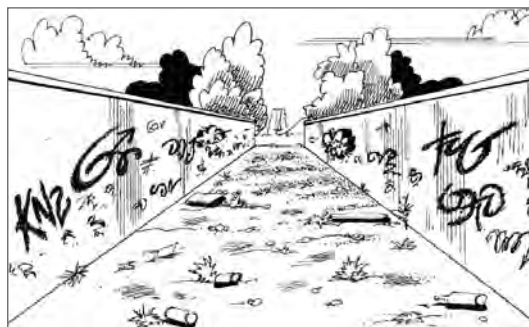


A "bad" example

Definition and maintenance



A "good" example



A "bad" example