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Foreword

In 2004, the Minister for Community Safety requested the Western Australian Planning Commission to prepare planning guidelines for designing out crime, adapting environmental design principles for crime prevention. The planning guidelines are one element of a wider government strategy and have been prepared jointly with the Office of Crime Prevention.

The planning and design of places, spaces and buildings can assist in reducing crime by the application of improvements to lighting, fencing, landscaping and surveillance of the area from buildings and land use. Peoples’ behaviour, particularly in terms of the possibility of offending, as well as an individual’s perception about their safety, can be influenced by the design of that environment. Good design can reduce opportunities for offending and improve feelings of safety.

A mix of uses, different building designs and the creation of vibrant and inviting town centres are all effective tools in the fight against crime. The guidelines are intended to provide local government, government agencies, town centre management, the development industry and planning and design practitioners with an understanding of the principles of designing out crime and approaches to address crime prevention in their local areas.

The Western Australian Planning Commission appreciates the help of the many groups and individuals who contributed to the guidelines. These included state government agencies, in particular the Office of Crime Prevention, local governments, planning consultants, professional, community and industry groups and research and academic institutions. We particularly thank those who made submissions and attended focus groups and information forums.
1 Introduction

1.1 Background to designing out crime

Crime and fear of crime are the result of complex social, environmental and physical factors. To prevent crime and reduce fear of crime in the community, the Western Australian Government is pursuing a multi-agency approach to crime prevention. The planning guidelines are one element of a wider government strategy described in section 3. It is important that any guidance for the planning and design of places, spaces and buildings is considered as an integral part of broader community-based initiatives and programs that combine to provide greater social cohesion and community pride.

In recent years much consideration has been given within the planning and design professions, to the concept that the proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime and an improvement in the quality of life. Crime prevention through environmental design is based on the idea that peoples’ behaviour within the urban environment, particularly in terms of the possibility of offending, as well as an individual’s perceptions about their safety, is influenced by the design of that environment. The design can reduce opportunities for offending and improve feelings of safety.

Crime prevention through environmental design involves the application of a range of design principles to an area or site to minimise the potential for that site to facilitate and support criminal behaviour. Today crime prevention through environmental design goes beyond physical and social factors and aims to reduce opportunities for crime by increasing the risks and efforts for offenders as well as reducing the rewards. Crime prevention through environmental design recognises that it has to be part of a holistic approach to crime prevention including community, social and environmental strategies.

In 2004, the Minister for Community Safety requested that the Western Australian Planning Commission (WAPC) prepare designing out crime planning guidelines, incorporating crime prevention through environmental design principles. The WAPC commissioned the preparation of the guidelines jointly with the Office of Crime Prevention.
1.2 Evidence for designing out crime

There is strong and compelling evidence for public investment in the designing out crime initiative (Cozens et al., 2005). In summary, this evidence supports the positive impact of improvements to lighting, fencing, surveillance, access control, territoriality or a sense of place, neighbourhood clean-ups and vehicular and non-vehicular movement networks.

There is a growing body of research on activity support and mixed use neighbourhoods where it is found that opportunities for crime are reduced by increasing the range of activities in public spaces, in other words, by putting ‘more eyes on the street’. Crime prevention and community development programs can work together to provide a greater capacity for community ownership of the public realm. Research also shows that crime prevention strategies work best when community participation and multi-agency input is optimised. In Ontario, Canada for instance, the application of crime prevention through environmental design techniques in certain areas have reportedly increased housing sales by as much as 33 per cent and decreased security problems by 50 per cent (Ontario Provincial Police, 2005). The Crime Prevention Resource Manual of New South Wales (Ellis and Associates, 1998) provides some compelling case studies of situations where the application of crime prevention through environmental design principles has reduced the incidence of particular types of crime.

It is important to note that crime cannot be completely designed out of an environment nor can all crime be addressed through environmental design. Crime and nuisance are very specific activities and are part of a wider dynamic of activities that take place in the environment. For example, design cannot address issues of irrational behaviour and negative socio-economic dynamics. The types of activities that can best be addressed by these guidelines include theft from and of automobiles, breaking and entering, robbery, specific types of assault and violence and specific nuisance activity such as mischief and inappropriate skateboarding and graffiti.

1.3 Purpose of the guidelines

The principal purpose of the guidelines is to provide local government, government agencies, town centre management, the public and private sector development industry and planning and design practitioners, with a context for understanding the principles of designing out crime and a toolbox of design criteria and approaches to address crime prevention in their local areas. The guidelines are intended to assist in the decision-making process. It is important that the relevant parts of the guidelines are incorporated in part or as a whole in local planning policies and state development control policies. Their application through this means will result in a better planning and design outcome for the community.

1.4 Process for developing the guidelines

The process for developing the guidelines involved:

- the collation of personal experience and knowledge by the consultant team including a comprehensive literature and internet search identifying examples of best practice guidelines for designing out crime in Australia, Europe and North America;
- assessment of the current national and state policy framework for designing out crime;
• consultation with the joint client reference group to ensure the draft guidelines meet the objectives and expectations of the study;
• workshops with key groups including local government and government agencies to establish key issues and to consider the scope, content and format of the draft guidelines;
• a 90-day public comment period to gain the benefit of community input including public forums in metropolitan and regional centres to explain the proposed content and potential implications of the planning guidelines to key groups including planners, police, insurance representatives, designers and developers from both public and private sector; and
• drafting a planning bulletin and finalising the associated guidelines.

In the near future it could include:
• integration of the guidelines within the WAPC framework of development control policies; and
• integration into a government web based information system.

1.5 Application of the guidelines

The guidelines are intended to be a readily useable, illustrated, reference document, which demonstrates ‘good’ and ‘bad’ examples of design in the urban environment from a crime prevention perspective.

The guidelines do not override current statutory policy but rather identify concepts and approaches to improve design. The WAPC will refer to the guidelines in making decisions on relevant aspects of planning and development, including its assessment of local planning strategies, town planning schemes, structure plans and subdivision applications and in the review of the development control policies.

Other government agencies should refer to the guidelines in the preparation of development proposals, consultants’ briefs and corporate objectives. The guidelines encourage balanced decision-making and provide a rationale for the resolution of issues and design conflicts including elements within Liveable Neighbourhoods, the Residential Design Codes (Draft Variation Number 1) and ecologically sustainable design. The guidelines take into account the variations between established and greenfield areas and metropolitan and regional urban settlement.

From a local government perspective, the guidelines are advisory only and do not override the provisions of an existing scheme or statutory policy. Accordingly it is important that the relevant parts of the guidelines can be applied at the strategic and detailed level, including:
• local planning strategy objectives;
• provisions within town planning scheme reviews and amendments;
• planning policies adopted under scheme provisions;
• structure planning;
• assessing of regeneration, rezoning and subdivision proposal; and
• determining development applications.
The guidelines may be adopted as a whole or in part by local government as a planning policy in accordance with relevant town planning scheme provisions. Alternatively, local government may adopt specific policies to address designing out crime matters. The key steps to preparing an appropriate policy are described in section 4 of the guidelines, including helpful hints on things to consider (4.3). Examples of local government policies are included in the reference list. In addition local governments are encouraged to lead by example in areas under their management and control.

From a private sector perspective, the guidelines should provide part of the context to good and proper planning along with other statutory and non-statutory planning policies. The private sector is encouraged to adopt some or all of the principles of the guidelines to design out crime if they have not already done so and to adopt a design strategy incorporating the principles, as described in sections 4 and 5. This approach may also be part of a marketing or branding initiative.

At the local community level, the guidelines will aim to provide some guidance on the value of community or neighbourhood building and information on the practical strategies that exist.

1.6 Structure of the guidelines

The planning guidelines are structured in sections. Section 2 sets out the key designing out crime objectives. Section 3 outlines the national, state and local context to the designing out crime guidelines. Section 4 provides the key steps for designing out crime including the principles, crime risk assessment process and the design considerations. Section 5 contains a toolbox of criteria and possible design approaches to generic and specific situations. Section 6 covers implementation with regard to state and local government. Section 7 contains contacts for further information, section 8 references and section 9 a glossary of terms.
2 Objectives of the Guidelines

The objectives of the guidelines are:

- to raise awareness of key community safety, security and crime prevention issues, designing out crime principles and solutions;
- to ensure that planning and detailed design for land use, development and redevelopment activity takes into consideration designing out crime principles;
- to aid the integration of safety and security concerns throughout the planning and development assessment process for public and private sector projects and in the management and maintenance of the public realm;
- to encourage the incorporation of designing out crime principles in operational aspects of community and neighbourhood management; and
- to identify public and private sector roles, responsibilities and opportunities for partnerships in the planning and design process in the interest of community safety.
3 Designing Out Crime Context in Western Australia

3.1 National strategic framework

The guidelines are prepared in the context of the draft national policy guidance for crime prevention. The Crime Prevention for the Built Environment Policy Framework, recently drafted by the Australian and New Zealand Crime Prevention Ministerial Forum includes:

- S1 – Model crime prevention through environmental design code;
- S2 – Model crime prevention through environmental design application guide;
- S3 – A crime prevention through environmental design checklist for assessing planning applications and public realm and facilities improvements; and
- S4 – A crime prevention through environmental design training program.

The national documents draw heavily upon the Safer Design Guidelines Victoria (Department of Sustainability and Environment, 2003) and the Australian Capital Territory Crime Prevention and Urban Design Resource Manual (2000), which have also provided an important resource in the preparation of these guidelines. These guidelines are leading interstate practice and are consistent with national policy.

3.2 Western Australian policy context

3.2.1 State government policy framework

In Western Australia, Preventing Crime, the State Community Safety and Crime Prevention Strategy starts with a clear vision: to make our community safer. The strategy has five key goals all of which are relevant to the planning guidelines:

- supporting families, children and young people;
- strengthening communities and revitalising neighbourhoods;
- targeting priority offences;
- reducing repeat offending; and
- designing out crime.

The strategy identifies a number of actions to assist in achieving these goals, which are relevant to the guidelines, including:

- collecting, analysing and mapping data with the assistance of tertiary institutions;
- developing a state designing out crime strategy that requires crime prevention to be considered in the planning of public and private buildings and spaces;
- progressively entering into partnerships with local governments to develop and implement local community safety and crime prevention plans; and
- supporting communities to build their capacity to plan and manage issues like community safety.
The draft state designing out crime strategy being prepared by the Office of Crime Prevention, seeks to embed designing out crime principles at all levels of the planning and development process through policy and project development. Policy development includes input into overarching policies such as the statements of planning policy and the State planning strategy. These guidelines are part of the project development aspect promoting designing out crime and working with local government and other agencies.

3.2.2 Local government context

The guidelines also sit within a framework of decision making and development activity at local government level. Options for local government include the ability to make provisions for designing out crime through:

- local planning strategies;
- town planning schemes;
- local government policies;
- structure plans, redevelopment plans and subdivision assessments; and
- development control policies and conditions.

Prioritising designing out crime in community safety and crime prevention plans is also an option for local government and one of the main ways in which the Office of Crime Prevention works in partnership with local government.

The Armadale Redevelopment Authority and a number of local governments including the City of Wanneroo, City of Perth, City of Fremantle and City of Gosnells have some form of specific crime prevention through environmental design guidance in place. Examples are given in the reference list. These examples make interesting reading and are a reference point for other local governments considering formulating local guidance. They vary in scope, content and production cost.

It will often be the case in an existing environment or within the prevailing planning system that a strategy will need to be implemented in stages. For example, in the City of Gosnells, an established area, the Safe City Urban Design Strategy fell into three broad steps:

- an establishment strategy, involving research into the nature of crime in Gosnells;
- a bridging strategy, incorporating short-term measures to address priorities; and
- a preventative strategy, including a long-term strategy to reduce crime.

The Gosnells strategy is a holistic approach which includes not only environmental redesign but also addresses issues such as job creation, the improvement of choice and a variety of other activities such as promotional programs.
4 Key Steps in Designing Out Crime

The guidelines establish a ten step process for developing designing out crime initiatives. The key steps are:

1. identifying principles
2. incorporating risk assessment
3. integrating planning and design considerations
4. applying the toolbox of design guidelines and criteria
5. preparing a design strategy
6. carrying out design assessment
7. management and maintenance
8. monitoring
9. preparing a security risk strategy
10. reviewing policy

Figure 1 illustrates how principles, policies and responses to the policies within the public and private sector, can be integrated within an overall approach to specific development situations. Once in place this system will require monitoring to ensure continuing effectiveness.

Step 1 is to ensure that designing out crime principles are identified and that the principles are reflected in planning policies and assessment practices. Before the principles can be applied in any specific location it will be necessary to undertake a crime risk assessment as described in step 2.

The crime risk assessment will help to determine the priority given to designing out crime principles in the mix of planning and design considerations. Ways to ensure local conditions and community or stakeholder input are used in balancing competing considerations are described in step 3. This process can be applied in all types of development including greenfield, brownfield, metropolitan and regional sites. It can also apply to any scale of proposed development from the macro (strategic/structure plan) to meso (subdivision) or micro (building design).

Step 4 is the practical application of the Designing Out Crime Planning Guidelines to specific proposals and policies. It shows how generic and site specific tools can be used in a variety of situations. The ‘tools’ are described in section 5 the designing out crime toolbox. This toolbox can be used to prepare a design strategy (step 5) or in step 6 the design assessment process.

Once a design or plan has been prepared and approved (and development completed) there is also a requirement for ongoing management and maintenance (step 7) to maintain safety. Ongoing monitoring (step 8) to show whether design elements are having the desired result and indicate any emerging problems is also required to ensure long-term sustainability. Step 9 is security risk management that can be applied to ensure existing and emerging issues are identified early, prioritised and addressed.

Finally, step 10 is to review designing out crime policy in the light of experience to update tools, guidelines and practices. This will ensure the ongoing relevance of designing out crime in planning, assessment and development processes.
Figure 1: Key steps for designing out crime

1. Identifying designing out crime principles
2. Incorporating crime risk assessment
3. Integrating planning and design Considerations
   - Macro – strategic infrastructure /structure plans
   - Meso – subdivision plans
   - Micro – building design
   - Greenfield
   - Redevelopment
   - Revitalisation
4. Applying the toolbox of design guidelines and criteria
   - Generic
   - Site-specific
5. Prepare a design strategy
6. Carrying out a design assessment
7. Management and maintenance
8. Monitoring
9. Security risk strategy
10. Policy review

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4.1 Step 1 – Identifying the need for designing out crime principles

There is no single prescriptive method for designing out crime; however, crime prevention through environmental design practitioners and educationalists in Australia, recognise a set of accepted principle headings which can be considered and developed at a local level. Designing out crime principles could be based on five design and usage concepts:

- surveillance;
- access control;
- territorial reinforcement;
- target hardening (security measures); and
- management and maintenance.

These concepts can be separated into macro, meso and micro principles:

- macro is represented in scale by structure plans and strategic infrastructure projects;
- meso by subdivision plans and precinct-scaled studies; and
- micro by detailed area plans and building design, building approvals and public space design (streetscapes, urban spaces and public open spaces).
Surveillance

Surveillance requires the location and use of design features and activities that create a perception of increased risk of detection for perpetrators of criminal activity and of increased safety and security for legitimate users. Criminals do not usually want to be seen. Placing physical features, activities and people in ways that maximise the ability to see what is happening discourages crime. A good example is the location of cafes and kiosks near parks. Strategies for crime prevention should contribute to vitality, accessibility and diversity. Barriers such as blank walls or building facades without windows can make it difficult to observe activity. A key thing to remember is to place less safe activities in safe areas and very safe activities in slightly less safe areas.

Surveillance principles

<table>
<thead>
<tr>
<th>Macro principles</th>
<th>Meso principles</th>
<th>Micro principles</th>
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<tbody>
<tr>
<td>• Land uses should be compatible with neighbouring uses.</td>
<td>• Lots should be located to ensure adequate surveillance of public realm spaces.</td>
<td>• Ensure clear sightlines to public realm spaces from adjacent buildings.</td>
</tr>
<tr>
<td>• Strategic footpaths and cycleways to be in view of adjacent land uses.</td>
<td>• Locate uses that can provide natural surveillance wherever possible.</td>
<td>• Light primary pedestrian routes.</td>
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<tr>
<td>• Avoid ‘seas of car parks’.</td>
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<td>• Ensure level changes do not obscure public places.</td>
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<td>• ‘Big box uses’ should be arranged to have no public access to the sides of buildings.</td>
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<td>• Front boundary fencing should be visually permeable.</td>
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<td>• Avoid over use of buffer &amp; security zones which push land uses apart to the point of isolation.</td>
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<td>• Avoid concave building envelopes.</td>
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<tr>
<td>• Illuminate unwanted congregation areas and entrapment spots.</td>
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mixed use activate streets
**Access control**

Access control involves the use of design features that deny offenders access to targets, reduce their escape opportunities and guide legitimate users through the environment. Natural access control involves the use of the environment to clearly mark borders and transitional zones to psychologically deter movement of illegitimate users into protected space. Human measures such as security guards can also be used. Further measures include security hardware, which is often referred to as target hardening.

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**Access control principles**

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<tr>
<th>Macro principles</th>
<th>Meso principles</th>
<th>Micro principles</th>
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<tbody>
<tr>
<td>• Management of traffic patterns in order to moderate car-related crime (car theft, hijacking, get away vehicles).</td>
<td>• Create places and streets that support legitimate uses in full view of the legitimate community.</td>
<td>• Secure access against offenders with gates and defining structures.</td>
</tr>
<tr>
<td>• Delineation and alignment of public access routes away from inappropriate environments.</td>
<td>• Avoid cul-de-sacs linked by pedestrian routes unless part of a wider open space connection with surveillance.</td>
<td>• Ramps and steps can create effective local access controls.</td>
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<td>• Avoid use of back lanes without guardian surveillance from properties.</td>
<td>• Changes of ground level delineate ownership or use changes.</td>
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<td></td>
<td>• Minimise multiple escape routes.</td>
<td>• Integrate security screens and bars as design elements not afterthoughts.</td>
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<td>• Careful consideration of scaleable fences and bollards which may inhibit pursuit of offenders.</td>
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Territorial reinforcement

Territorial reinforcement is the use of physical features designed to express ownership and control of the environment and delineate private and semi-private spaces reducing ambiguity of space ownership. People usually protect territory that they feel is their own and have a certain respect for the territory of others. Identifying intruders is much easier in well-defined space. An area that looks protected gives the impression that greater effort is required to commit a crime.

Territorial reinforcement principles

<table>
<thead>
<tr>
<th>Macro principles</th>
<th>Meso principles</th>
<th>Micro principles</th>
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<tbody>
<tr>
<td>• Define public and private land use areas and ownership boundaries clearly.</td>
<td>• Create sub-neighbourhoods to engender local character areas.</td>
<td>• Clearly define private ownership by structures and surface materials.</td>
</tr>
<tr>
<td>• Align major transport infrastructure to minimise land take.</td>
<td>• Plan and design communities with supporting facilities and land uses.</td>
<td>• Avoid ambiguity of ownership and responsibility.</td>
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<tr>
<td></td>
<td></td>
<td>• Appropriate signage.</td>
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</table>
Target hardening is the physical securing of buildings and places against access from offenders. Generally, the mechanisms and elements of target hardening are very detailed and relate only to the micro scale, affecting building design and detailing. The issues associated with target hardening include the potential for detailed target hardening responses to have an adverse effect on public safety. Measures such as enhanced locks, bars, closed circuit television, window shutters and security fencing all can contribute to reducing opportunities for criminal behaviour. However, the inclusion of such elements can conflict with other community-based activities and can also detract from the amenity of an area resulting in an increase in the perception or fear of crime. Although a valid and valued tactic, target hardening requires careful integration within an overall approach to designing out crime and crime risk assessment. All designing out crime measures should be exhausted before introducing target hardening.

Target hardening principles

<table>
<thead>
<tr>
<th>Macro principles</th>
<th>Meso principles</th>
<th>Micro principles</th>
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<tr>
<td>• No elements at the macro level other than the potential to address increased security through policy statements on land use mix, access arrangements, building design and site planning.</td>
<td>• Consider the installation of traffic management elements to discourage vehicle-enhanced break-ins to shops and commercial premises in streetscapes. • Ensure individual site security measures do not adversely affect local area security considerations.</td>
<td>• Should be based on and justified by individual need assessment. • Incorporate shuttering and window barring as integral design elements where openings are susceptible to break-in and concealed crime exit. • Ensure building parapets do not conceal unlawful access. • Install closed circuit television where natural surveillance is poor. • Where fencing is required for security it should be no less than two metres in height.</td>
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security grill doors

ineffective target hardening on windows
Management and maintenance

Active management and maintenance is required to ensure the continued use of the space for the purpose intended and increased feelings of safety for users. Areas that are run-down and the subject of graffiti and vandalism are generally more intimidating than areas which do not display such characteristics. The removal of indicators of crime and the use of positive maintenance with lighting, painting and vegetation management creates a cared-for environment that can reduce the fear of crime and induce legitimate behaviour.

Management and maintenance principles

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<thead>
<tr>
<th>Macro principles</th>
<th>Meso principles</th>
<th>Micro principles</th>
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<tbody>
<tr>
<td>• Establish training for public open space managers.</td>
<td>• Incorporate management conditions such as shopping trolley collection points where practical in planning approvals.</td>
<td>• Remove graffiti as soon as possible after occurrences.</td>
</tr>
<tr>
<td>• Consider durability, adaptive re-use and robustness of built form and open spaces in the design decision-making process.</td>
<td>• Ensure spatial management responsibility is clear between public and private sector organisations.</td>
<td>• Establish effective maintenance plans for public spaces.</td>
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<td>• Establish systems for reporting of problems and fixing them.</td>
<td>• Maintain plants to retain visibility where required.</td>
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<td>• Train maintenance staff to identify and report potential problems.</td>
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4.2 Step 2 – Incorporating a crime risk assessment process

Typically, crime risk assessments or crime profiles are conducted in co-operation with trained local police. Councils, developers and local police could consider identifying the types of development which will require a crime risk assessment and preparation of a consultation protocol. Consultation protocols are location-based. They need specific agreements, which outline the types of development that will be jointly assessed, how consultation will occur and timeframes for consultation. Working closely with the police, planners need to:

- identify crime risks present in specific locations;
- identify likely consequences of these crimes for the community, institutions, companies and individuals, especially vulnerable groups;
- assess or take advice on priorities for crime reduction and other considerations;
- establish the likely causes of crime in a given area; and
- work out how these causal factors can be tackled through the planning process. A town planning scheme provision may be required to enable this additional assessment process.

A crime risk assessment is recommended for any development that is likely to create a risk of crime. Examples of developments where this might be required include:

- industrial and commercial estates;
- a new or refurbished shopping centre or transport and transit interchange;
- a large scale residential development (20 or more dwellings); and
- the development or redevelopment of a shopping precinct or other public place, including the installation of new street furniture.

People have a natural fear of places that are isolated, unkempt and dark. The actual risk may not be high in these places. In open, brightly lit places people tend to have less fear even when there may be a higher risk factor. This presents a number of issues.

- It is fundamental that police, government agencies and tertiary institutions make current information accessible to practitioners and that it is correctly interpreted.
- In any risk assessment process it is important for assessors to understand the actual and perceived risk in the environment.
- In presenting development plans and proposals, design professionals need to demonstrate an understanding of how to reduce actual crime. In places with risk of violent crimes designers should try to reduce feelings of fear without creating designs that increase actual risk of crime.
In more detail the process for crime risk assessment starts with identifying the activity to be designed for, then considering the location in which it will occur. Typically, the process in an established redevelopment or revitalisation area includes a four-stage process including:

- a site visit, day and night survey and safety audit (residents’ perceptions);
- preliminary interviews and review with stakeholders including the local police;
- crime assessment and analysis of available statistics and local demographics (could include a geographic information system component in large projects); and
- design reviews including workshops and review of urban design, landscape and technical plans.

Some factors to consider in established areas include:

- Hot spots: areas where there is an existing high crime rate;
- Footpath surfaces, gradients, kerb and sign heights;
- Distance between car parks and entrances to facilities and shopping centres;
- Safe facilities for children including safe movement from edges to centres;
- Levels of illumination; and
- Access to public transport including ease of mobility, and other cultural, gender, age, disability and accessibility related issues.

Women’s and seniors’ safety in public places require particular attention. The assessment and audit process can improve understanding of how men and women experience their environment differently and provide decision makers with effective ways to improve community safety.

Displacement may be an issue in established areas. This occurs when crime activity moves in as a result of redevelopment or revitalisation, or when crime activity moves and occurs in a nearby place as a result of redevelopment and redesign. Sometimes this can be predicted and managed.

The process for greenfield sites will be similar, except that deliberations will focus on future plans in the context of the current environment. The design elements to be considered are summarised in the following points.

- Activity generators: places where people congregate for a particular purpose can carry a high risk but can also be used to reduce opportunities for crime.
- Edge effects: areas where different land uses should be designed with the aim of softening or minimising and in some cases enhancing, any effects of adjacent land uses and how they interact with the surrounding environment.
- Movement predictors: routes where there are no other alternatives like walled or fenced pedestrian access ways and where the potential for crime and the perceived risk is high.
- Conflicting use: areas where activities conflict can increase the perceived risk and should be avoided.
- Building elements: well-known problems with buildings such as blank walls and entrapment spots may be identified and minimised.
In addition, some local governments are considering the use of staged assessments and audits at the concept, final design and post construction stages of road design. These assessments would apply at macro, meso and micro levels and could be incorporated into discrete area plans, redevelopment programs or sections of the structure plan or masterplan.

The local crime risk assessment process may be formalised through a town planning scheme provision. The process may also involve a formal agreement on the protocol for targeted consultation with the local police on specific development proposals or in certain areas of high risk.

4.3 Step 3 – Integrating planning and design considerations

It is recommended that planning and design considerations should not contain absolute minimum standards or a finite checklist, as these may ignore the situational aspects of crime, local context and community and cultural issues. Any planning decision involves balancing competing objectives. The balance to be struck will depend upon the policies and specifics of each case. Designing out crime considerations should be given additional weight where the potential or actual risk is high and, or, the consequences for the community, vulnerable groups and individuals is serious.

There are two main ways to ensure designing out crime considerations are integrated and given appropriate weight:

- taking into account local conditions; and
- community and stakeholder input.

Taking into account local conditions

For infill and refurbishment areas it will be essential to consult local communities at the initial planning stage and during the design process. Social, recreational and service needs of residents should be considered, relating to shops, meeting rooms, footpaths and cycleways, public transport facilities, open space, play space and youth facilities. Police advice should also be considered and will be an important factor in discussions between the applicant and the relevant approval authority.

Therefore, local policy should include information on:

- the local situational aspects of crime;
- existing local, social and community characteristics including socio-economic and cultural profiles;
- the broad causal factors of crime in the locality such as employment opportunities, community development, facilities, programs and displacement factors; and
- local, environmental and climatic influences on public space use and design of buildings and site planning.
If a general policy is robust enough to apply to a full range of place and development types, additional policies should not be necessary. Some points to consider when writing a general local policy on designing out crime include:

- Does the policy reflect national and state guidance?
- Is the policy applicable to all development or does the policy specify possible solutions to particular problems and different land uses?
- Does the policy highlight conflicting priorities that designing out crime might encounter and encourage alternative responses?
- Does the policy contribute to wider urban design objectives?

Depending on the local characteristics and change envisaged it may be necessary to produce policies that require something specific and particular to prevent crime or disorder. Topic specific policies could be required to focus the planning response to particular aspects of crime such as street crime, or crime reduction measures such as lighting. Area or site-specific policies may be required to focus planning responses to particular locations including ‘hot spots’. Such policies may be supported by a detailed design guide. Where it is necessary to produce specific policies, points to consider might include:

- Does the policy genuinely respond to a specific issue?
- Does the policy complement general national, state and local policy?
- Does the policy require any supporting guidance?

### Community and stakeholder input

Policies for crime prevention must contribute to vitality, accessibility and diversity. This requires local governments and agencies involved in crime prevention to empower local communities with knowledge about their environment and engender a sense of ownership and stewardship. For example, programs exist in Canada where residents are made aware of and educated on the design strategies that have been implemented and their role in maximising the potential of these strategies. Active community participation can expand neighbourhood capacity, strengthen community culture and extend the opportunity for positive social activities.

The challenge for designers and local government will be to encourage acceptance of creative solutions and approaches that will be beneficial, including:

- using appropriate simple terminology rather than jargon;
- allowing free expression of community concerns and fears;
- creating links between the community, police, professional designers, local service providers and local government;
- building on collective ideas;
- accommodating the needs of multicultural, multi-age, multi-ability communities; and
- involving multidisciplinary professionals.

While the core principles are generally agreed, some diverging views exist regarding specific planning and design considerations. For example, initiatives to limit accessibility can also cut across initiatives to maximise activity and surveillance. Similarly, initiatives to define territorial spaces and harden potential targets (such as constructing fences and installing shutters) can also potentially diminish surveillance and community ownership. Various designers and
authors place different levels of emphasis on these criteria. A safe and secure environment is the prime objective of these guidelines. To achieve this objective, equal weight should be given to environmental design, surveillance, physical security, acoustic and visual privacy and building appearance.

4.4 Step 4 – Applying the designing out crime toolbox

There is no one generic solution to crime which will work every time. Instead the guidelines identify a tool box including an approach to designing out crime, key objectives, a design rationale, factors to consider and some performance criteria for a range of generic and site specific situations in section 5. It is important that the rationale for each element is understood, that the objectives are met and all relevant factors are taken into account. The guidelines place emphasis on site planning.

4.5 Step 5 – The design strategy

The design strategy is formulated by private and public sector developers in response to state and local government designing out crime principles, policies and guidance. In future, it is hoped that most development applications will take into account some, if not all of the recommendations in the guidelines and other recommended sources of information on crime prevention through environmental design. A macro proposal needs to be supported by sufficiently detailed plans and needs to demonstrate the application of the designing out crime principles. Meso and micro proposals also need to be supported by plans responding to the key principles and demonstrating an appropriate design approach for the specific location. The approach may involve the community, other government agencies and a medium to long-term commitment to the safety considerations of a project.

4.6 Step 6 – The design assessment

The design assessment made by WAPC or local government will vary in complexity and will respond to the scale of the proposal received and the statutory considerations. At a macro level a typical assessment may include a review of the existing site and detailed plans (and models if presented), to examine sightlines, movement predictors, entrapment areas and natural surveillance locations. At a meso and micro stage, assessment may consider issues such as lighting, target hardening, finishes and detailed landscape plans. Assessment may be a collaborative effort with multiple stakeholders involved, particularly in respect of macro or significant meso projects.

Training is an important aspect of the designing out crime initiative. The Office of Crime Prevention will be offering appropriate training packages to local government and government agencies. The training will give a better understanding of crime prevention through environmental design and designing out crime and how this approach can be applied.
4.7 Step 7 – Management and maintenance

Even well designed locations will not remain safe if they are not effectively maintained. Run-down facilities, vacant or badly managed properties, overgrown parks and public spaces may provide opportunities for crime.

Maintenance of public areas encourages people to use these areas because they are perceived as being attractive and make people feel safe. Management and maintenance activities include landscaping, tree lopping, grass mowing, rubbish collection, removal of graffiti and repairing vandalised property. Ensuring that lights are kept in good repair is particularly important. Management and maintenance needs to be routine, regular and ongoing.

4.8 Step 8 – Monitoring

Designing out crime initiatives should be monitored and evaluated to ensure that the process and outcomes are meeting objectives and achieving a reduction in the incidence of crime or nuisance and an improvement in actual and perceived safety. Indicators of success should be simple, easy to acquire and qualitative and should only measure what the policies, strategies or action plans are trying to change. Positive outcomes may take some time; timeframes should be realistic and actions should be persistent.

4.9 Step 9 – Security risk management

Risk management exercises can help to set priorities. The State Government has an established and successful process for assessing its large scale development proposals such as in the redevelopment areas of Midland, Armadale, East Perth and Subiaco, in partnership with Risk Cover, the state insurance agency.

Some local governments in Western Australia have assessed security and risk issues with private sector insurance companies. For example, the City of Fremantle has conducted a security risk management strategy which has identified a proactive program of improvements to many safety elements in the public realm including lighting levels, which may exceed the draft Australian Standard.
4.10 Step 10 – Policy review

A policy review should be initiated following a reasonable implementation period when the degree of influence, applicability and effectiveness of the policy can be satisfactorily assessed. The review process may involve internal organisational and external expertise and stakeholder input. This can be facilitated through targeted and professionally designed and facilitated questionnaires, focus groups, expert panels, case studies, site visits and through monitoring state and local performance indicators.

The information gleaned from this research and analysis can be used to review, modify and augment the relevant designing out crime policies and processes. The review process should be a constant method of ensuring that guidelines and policies at state and local level within the public and private sectors remain current and effective.
5 Designing Out Crime Toolbox

The guidelines will not provide a generic list of solutions and should be considered as part of a holistic approach to crime prevention, which supports broader crime prevention strategies in Western Australia. It is also important to note that while planners, designers and developers must have regard for this guidance, designing out crime is one of a number of design objectives which may apply at any one time.

Some of the following design examples, and specific text stating performance criteria and recommendations could be incorporated into local government guidelines.

5.1 Natural surveillance

Designing out crime objectives:

- to encourage surveillance of spaces from surrounding buildings and land uses; and
- to improve surveillance of spaces through increased legitimate uses.

Rationale

Using design, clear sightlines, effective lighting and landscaping to enhance opportunities for surveillance increases the risk of offenders being seen, heard, reported and potentially apprehended. It also includes the reduction of isolation, improvements to the mixture, intensity and use of space, elimination of entrapment spots and the intelligent use and placement of activity generators. People’s ability to see around and about themselves, particularly relating to what is ahead is also important. Surveillance needs to be balanced with privacy needs.

Factors to consider

- facilitating natural surveillance by windows overlooking the streets, public spaces (see figure 2), the siting and design of pathways (see figure 6), the selection of lighting and landscaping (see figures 11 and 13) and the encouragement of legitimate activity (figure 16)
- using plants and trees which allow for visibility through them and avoiding dense vegetation and shrubbery (see figures 2, 4, 6 and 13)
- using screens and fences which are low or semi-transparent to allow movement to be perceived beyond them (see figure 9)
- using formal surveillance options in the form of audio monitors, video cameras and security patrols, particularly in isolated or sensitive use areas at night, or crime hot spot locations
Figure 2: Surveillance

**Performance criteria**

**Blind corners and problem areas**
- Avoid blind corners in pathways, stairways, corridors, hallways, near toilets and car parks
- Avoid sudden changes of grade on pathways
- Ensure through visibility in tunnels and underpasses
- Consider the use of hardware such as mirrors to improve existing situations
- Avoid or minimise the effect of barriers on pathways

**Communal or public areas**
- Provide natural surveillance from activity land uses and activity rooms for communal and public areas
- Establish community focal points at locations where surveillance is essential
- Ensure public shelters do not impede surveillance
- Co-locate movement systems to encourage surveillance in public areas
- Encourage mixed uses to extend hours of surveillance, ensuring compatible uses and avoiding conflicting uses

**Entrances**
- Provide entries which are clearly visible.

**Fencing**
- Fence design should maximise natural surveillance from the street to the building, building to the street and minimise opportunities for intruders to hide.

**Landscaping**
- Avoid landscaping which obstructs surveillance, serves as a barrier to unimpeded views and allows intruders to hide.
An example of illustrations demonstrating ‘good’ and ‘bad’ design in residential environments, highlighting surveillance opportunities follows.

**Figure 3: Landscaping obscuring surveillance**

- Poor natural surveillance

**Figure 4: Landscaping enabling surveillance**

- Natural surveillance through permeable fence
  - Poor natural surveillance
  - Natural surveillance through permeable fence
5.2 Urban structure

Designing out crime objectives:

- to promote definition of use and ownership;
- to promote attractive, legible and well orientated development;
- to facilitate safe and efficient movement of vehicles, cyclists and pedestrians; and
- to facilitate safe and convenient locations for recreation, work and home.

Rationale

The essential qualities of urban structure related to crime prevention concern the human scale of development, overall layout, urban meeting places, communal areas and phasing of development. A well designed environment is one that fulfils all its intended functions. An attractive environment has evolved or has been successfully designed to meet the need of its legitimate users, providing safe and convenient means of access, opportunities for social interaction and recreational needs. The greater the legitimate use, the less the attraction for illegitimate users. A clearly defined environment is one in which there is no ambiguity as to private and public areas. There may be transitional zones or strong demarcation; however the critical point is that the responsibility for maintenance and what constitutes appropriate use are easily understood.

Factors to consider

- length of rear laneways
- length of cul-de-sacs
- location of public open space
- strategic multiple use paths
- legibility
- traffic management for crime prevention
- strategic positioning of public transport infrastructure

Figure 5: Poor urban structure

Figure 6: Good urban structure
### Local context
- Scale, siting, orientation and connections should take into account the local context of local topography, other land uses, actual and perceived crime risk and specific project requirements

### Street layout and land division
- Consider crime reduction measures in the early stages of design
- Define ownership and use of space
- Avoid ambiguous space and connections
- Promote legibility and orientation
- Buildings should be oriented towards the main street frontage and other areas of public realm
- Street furniture should facilitate surveillance and discourage inappropriate use
- Cul-de-sacs should be short and straight, allow visibility from one end to the other and not be joined by networks of footpaths that are irregularly used and likely to foster criminal activity
- Avoid the establishment of small, unusable pockets of land and open space as they are difficult to maintain and do not facilitate recreation

### Movement network
- Maximise surveillance of entry and exit points
- Base upon primary routes and shared spaces
- Minimise confusion about priorities of use on shared paths and access ways
- Minimise underused and unnecessarily segregated streets and footpaths
- Avoid routes which can become entrapment spots
- Provide direct and clearly signed pedestrian, cycle and vehicular links to nearby destinations
- Pathways and cycleways to facilitate surveillance
- Maximise legibility, sightlines and comfort to encourage use

### Location of land uses
- Minimise opportunities for conflict, especially in mixed use development
- Provide active frontages of overlooked streets
- Minimise blank walls and sides of buildings onto public open space and public realm

### Regeneration and remodelling
- Minimise dereliction, under utilised and under maintained spaces and places
- All open space should be well defined and purposeful
- Vulnerable public spaces should become more liveable or be removed from public ownership

### Performance criteria

<table>
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5.3 Land use mix

Designing out crime objectives:

- to create a mix of uses, which promote extended surveillance and which are compatible with adjacent uses.

Rationale

A balanced land use mix is important in terms of safety and the perception of safety. An appropriate land use mix can facilitate a mix of activities occurring in the environment at different times during the day and night, which increase and sustain legitimate and appropriate use.

Factors to consider

- compatibility of uses
- scale of uses
- range of uses
- balance of mix
- separation issues resulting in isolation
- interface/edge treatments between adjacent major land uses

Performance criteria

Land use layout

- Encourage mixes that promote activity, surveillance and legitimate contact between people
- Avoid strict separation of compatible land uses that may result in isolation of buildings or spaces
- Encourage mixes which are compatible in scale and neighbouring uses, particularly in isolated areas

Access

- Encourage pedestrian passage through or activity at ground level to promote surveillance

active streets
5.4 Activity generators

Designing out crime objectives:

- to promote surveillance;
- to promote a wide range of legitimate activities; and
- to promote community ownership and increased use of public spaces.

Rationale

Activity generators are facilities that attract people, create normal activities and increase casual surveillance within a space. The purpose of activity generators or visitor attractions is to add ‘eyes on the street’; to make places more secure by populating them. This reduces opportunities for criminal activities and increases the perception of safety. Examples include recreational activities, cafes, public seating areas and community facilities.

Factors to consider

- ground level activity
- complementary activity generators
- additional space for expansion
- time of day
- specific uses

Performance criteria

Land use layout

- Locate around active edges or fringes of space to create surveillance opportunities

Activity mix

- Balance activities which may be crime generators such as bars, night time uses, restaurants and entertainment venues in terms of scale, size and local context

Access

- Encourage movement networks which provide surveillance without creating barriers
5.5 Building design, including boundary definition

Building design is the largest subject in the field of crime prevention and it is not the intention of the guidelines to provide finite detail on aspects of building design and security measures. However, the guidelines will provide an insight into a sound design approach, basic criteria to assess design and identify other literature and web sources providing relevant detail.

Designing out crime objectives:

- to integrate public buildings into the wider public realm;
- to use buildings to support surveillance of the public realm and public spaces;
- to use construction materials which reduce temptations to vandalise and graffiti; and
- to reduce the risk of public buildings contributing to crime and safety problems.

Rationale

The design and use of buildings can contribute significantly to the security of the public realm, by reducing opportunities for entrapment, concealment and vandalism. Defining ownership indicates the purpose of the building or space and makes illegitimate use less likely. Defining ownership is good but must not undermine other safety considerations; for example, high solid fences can inhibit natural surveillance.

Factors to consider

- safe, observed entrances
- proximity of other entrances which may facilitate loitering
- rear and side access points
- natural ladders (see figure 7)
- opportunities for natural surveillance of public realm
- active frontages
- semi public and, or, semi private transitional space with identified and agreed management and maintenance regimes
- involving users of space in the decision-making process if possible
- defining ownership to clarify whether the space and boundaries between spaces are private, semi-public or public

Figure 7: Natural ladders

Figure 8: Solid fencing

Figure 9: Permeable fencing allowing surveillance
## Performance criteria

### Building entrances
- Ensure entrances are oriented to face open or active spaces
- Ensure entrances are clearly defined, distinguishable from public walkways, secure and well lit
- Design lobbies to be visible from the exterior so that entry and exits spaces can be seen
- Avoid creating entrapment spots or places where intruders may loiter or be concealed
- Avoid locating ramped and elevator entrances and lifts in isolated locations
- Secure non pedestrian entrances from illegal entry
- Ensure staff entrances are well lit and allow maximum surveillance and sightlines

### Building design
- Consider crime reduction measures in the early stages of design
- Minimise blank walls overlooking parks, car parks and other public areas
- Minimise features or structures that can be used as natural ladders to gain access to higher levels, windows or doors
- Optimise the variety of building design to create interesting built environments
- Provide windows to overlook public areas

### Materials and fixtures
- Avoid materials and exterior fixtures which might encourage crime
- Use transparent and materials in doors and walls at major entry points

### Storage areas
- Ensure surveillance and illumination of loading and storage areas
- Locate delivery hatches, bins and other service facilities in a manner which does not create natural ladders or entrapment spaces

### Retail commercial frontages
- Promote after hours uses in frontage locations where public buildings front public spaces

### Sightlines
- Provide clear sightlines

### Lighting
- Illuminate entries so that access and egress visibility is maximised
- Facilitate good interior to exterior surveillance through illumination

### Employee carparking
- Ensure safe and secure parking for employees near the building entry
- Provide surveillance of car parking

### Landscaping
- Ensure landscape design will not provide concealment or entrapment areas
- Optimise the variety of landscape to create interesting built environments

### Building security
- Secure all windows, particularly at street level but ensure that security devices do not create a “fortress like” appearance
5.6 Lighting

Designing out crime objectives:

- to promote legitimate activity by users of public spaces after dark;
- to encourage the use of appropriate lighting fixtures; and
- to ensure the appropriate placement of lighting.

Rationale

Sufficient lighting during the day and night is important so that people can see and be seen. On average around 40 per cent of night time street crime occurs when lighting is at 5 lux or below. The aim is to increase the real and perceived safety of the environment in areas where safe activity is encouraged. Traditionally, there has been a focus on traffic lighting. The emphasis should now include the needs of pedestrians and cyclists. Lighting design must carefully take into account the context, as it is possible to attract people into risk areas by lighting such areas at night.

Factors to consider

- lighting level
- spacing
- type
- sitting
- situation
- maintenance

Figure 10: Inappropriate lighting

Figure 11: Appropriate lighting

### Performance criteria

#### Situational lighting
- Ensure lighting is an early consideration in site planning and design
- Select lighting appropriate to local context
- Ensure inset spaces, access, egress and signage are well lit
- Provide adequate lighting for directional signage

#### Consistency of lighting
- Maximise opportunities for natural light penetration
- Provide consistent levels of lighting to reduce contrast and shadow
- Ensure lighting supports visibility
- Consider energy use

#### Placement of lighting
- Select and light safe routes and spaces
- Avoid placement in areas shielded by vegetation, awnings and other physical barriers
- Avoid unshielded lighting at eye level
- Consider light pollution
- Ensure lighting falls upon the subject matter
- Avoid lighting areas not intended for night time use
- Consider lighting in terms of vulnerable groups, elderly, people with disabilities, children, women, night staff
- Avoid creating natural ladders with lighting fixtures

#### Types of lighting
- Install vandal resistant lighting
- Avoid dependence on bollard lighting as the only light source
- Combine lighting along footpaths with entrance lighting wherever possible

#### Maintenance
- Ensure light fixtures are routinely and rapidly maintained
- Consider public notices regarding maintenance contact details
5.7 Landscape

Designing out crime objectives:

- to balance the needs of the environment with those of user groups;
- to support ease of maintenance; and
- to support and reinforce principles such as surveillance, sightlines, legibility and orientation through compatible selection and placement of appropriate species and materials.

Rationale

Landscape treatments are an essential element of urban spaces; parks, gardens and enhanced private spaces are a component of successful urban form. The ill-considered placing of plants and structures can cause and create environments that accommodate antisocial and criminal behaviour (see figure 12). The creation of quality environments contributes to community pride and can encourage use of public realm spaces providing enhanced security through natural surveillance and legitimate uses (see figure 16).

Factors to consider

- use of sharp or prickly plants to deter access
- placement of plants to prevent providing cover or access for criminal activity
- use of plants, level changes, structures and surfaces to define territoriality
- preventative detailing – to remove potential for inappropriate skateboarding and graffiti

Landscaping obscuring sightlines

Landscaping enabling sightlines
## Performance criteria

**Footpath planting**
- Should improve amenity
- Ensure shrubbery and planting is of low to medium level and does not impede sightlines, surveillance, security and way finding
- Non concealing trees for selected locations should not encourage climbing and should be placed to avoid clumping
- Avoid planting screening signage and lighting

**Wall planting**
- Grade planting with taller plants next to walls

**Entrance planting**
- Avoid planting screening doorways, entrances and windows

**Maintenance**
- Carefully locate climbing plants to deter graffiti and vandalism
- Specify high quality plants for long, low maintenance life

**Hard landscaping**
- Select low maintenance, long life materials appropriate to the local context, level and type of use
- Use details to identify public and private space and access ways for pedestrian, cycle and vehicular movement
5.8 Management and maintenance

Designing out crime objectives:

- to discourage graffiti and vandalism by reducing blank canvases.
- to facilitate prompt reporting of any damage;
- to ensure prompt maintenance and repairs; and
- to promote the perception of a well cared for area.

Rationale

Management and maintenance are closely linked to a sense of safety and security and pride in a place. Good management and maintenance of a place or property can make the difference between it seeming safe (see figure 13) or unsafe (see figure 12). The aim is to promote a perception that a space or property is cared for by its owner and those who use it. This in turn encourages greater use and reduces the likelihood of crime being committed.

Factors to consider

- long expanses of blank walls or fences
- landscape maintenance to prevent evolving entrapment spaces, hiding places and inappropriate visual screening
- graffiti and vandalism resistant paints and finishes
- other imaginative solutions to reduce vandalism, preferably involving local youth groups
- signage identifying contacts for reporting crime
- appropriate scale of landscape and long-term growth issues

vandalism

lack of routine maintenance
## Performance criteria

### Maintenance
- Identify emergency contacts for maintenance in public locations
- Promptly repair damage
- Consider preventative maintenance

### Materials
- Use secure and enclosed service points
- Specify materials that can withstand normal hard use and be easily replaced
- Provide protective heavy duty coatings in public areas and vulnerable hot spots
- Avoid the use of highly vulnerable and flimsy materials and fittings which can be easily vandalised or removed in open locations
- Avoid extensive and prolonged use of problem materials such as heavy duty mesh, cyclone fencing and grilles which may encourage wilful damage
- Avoid long expanses of non-permeable walls unless there is extensive public surveillance

### Security education and coordination
- Consider training programs and reporting systems in conjunction with the Police and Office of Crime Prevention
5.9 Sightlines and way finding

Designing out crime objectives:
- to provide unimpeded sightlines, particularly along pedestrian pathways.

**Rationale**
Design needs to facilitate good sightlines (see figure 13) so that the ability to see ahead and around the route is not compromised as shown in figure 12. This is known as ‘visual permeability’. Features that facilitate sightlines are low hedges and fences, gardens and benches. Way finding is the use of symbols, cues and signage to help navigate through areas, to guide appropriate use of this space and make inappropriate use obvious to others.

**Factors to consider**
- sharp blind corners
- gradient changes
- barriers, particularly along pedestrian routes
- landscape design and management which avoid the future impairment of sightlines
- hardware such as mirrors in areas difficult to retro fit
- importance of logical routes
## Performance criteria

### Sightlines
- Avoid the use of gradients or changes in direction which impede sightlines, especially on pathways, stairs or enclosed spaces
- Avoid landscape materials acting as a screen or barrier to unimpeded views of pathways
- Ensure that pedestrians have a clear view ahead
- Improve the sightlines in established areas through a reconsideration of routes, times of access and additional hardware such as appropriate security mirrors

### Way finding
- Signage should identify where assistance and key areas can be located such as taxi ranks, toilets, public transport and telephones
- Signage should be visible, concise and easily maintained
- Use environmental cues such as changes in footpath materials, levels of lighting and appropriate changes in grade or elevation
- Use appropriate physical barriers (permeable fences) and symbolic barriers (low vegetation) to define use and ownership

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**Figure 12: Landform obscuring sightlines**

![Image of a landform obstructing sightlines]

**Figure 13: Landform enabling surveillance**

![Image of a landform enabling surveillance]
5.10 Signage

Designing out crime objectives:

• to provide adequate, easily legible signage to assist all user groups, particularly young people, older people and people with disabilities to find their way safely; and
• to provide signage which indicates safe places and routes.

Rationale
Knowing where you are and which way to go contributes to a sense of security. Signage contributes to legibility, that is, the ability of the environment to create a sense of place and give messages of orientation, direction and desired behaviours.

Factors to consider

• strategic locations
• avoiding obstruction from vegetation
• maps in large public spaces
• after hours information

Performance criteria

Provision of signage

• Prepare a signage plan focussing on safe routes, destinations, facilities and amenities en route
• Ensure signage is easily legible at all hours
• Locate signage strategically, at crossing points, junctions, activity places and other common areas
• Indicate where to go for assistance
• Provide maps in large public open spaces and orientate maps to be consistent with the viewers direction

Maintenance

• Ensure key public signage is not obscured by mature landscape, awnings, poor lighting, too many commercial signs and vandalism
• Consider reporting contacts and the process for emergency maintenance
5.11 Predictable routes and spaces safe from entrapment

Designing out crime objectives:

- to reduce the risk of attack by hidden persons;
- to eliminate possible entrapment places; and
- to ensure the location and design of facilities such as telephones and automatic teller machines do not create entrapment spaces.

Rationale

Predictable routes enable attackers to easily identify the route taken by users where choice is limited, including pathways, stairwells, underpasses and corridors. This is particularly problematic where the route ends up close to an entrapment spot.

Entrapment spots are small confined areas adjacent to or near a pedestrian or cycle route that are shielded on three sides by a barrier such as a loading bay, recessed entrance, walls or gaps in tall shrubbery. They are often difficult to eliminate once created. They impair the sense of safety because they continue the sense of the unknown and provide easy concealment.

Factors to consider

- additional lighting
- avoiding locating automatic teller machines, public phones and public toilets in such locations
- avoiding locating movement routes in such locations
- choice of vegetation and maintenance regimes
- restricted access
- use of fencing
- locking off areas during times of low usage
### Performance criteria

**Entrapment spots adjacent to pedestrian and cycle routes**
- Avoid creating entrapment spots adjacent to a main pedestrian and or cycle route, a predictable and or unchangeable path or a private dead end alleyway
- In established areas consider additional facilities such as lighting, improved maintenance or uses such as a kiosk or vendors to make spaces safer
- Consider appropriate target hardening of storage areas, loading docks or other potential entrapment spots after hours in order to limit access
- Arrange for regular security or police patrols

**Location of facilities**
- Locate entrances to automatic teller machines and other facilities within direct view of pedestrian paths
- Locate car parking away from potential entrapment spaces
- Ensure signs do not create entrapment spots
5.12 Civic and town centres

Civic and town centres are very important contributors to community safety. The design and mix of uses in these centres should contribute to vitality and legitimate use. It is important to maintain safe access through areas for all users. Commercial centres have two lives, a day life and a night life. Initiatives which bring people into these areas in the evening and weekends can increase the safety of the centres. Active frontages can also have a positive impact on safety. A risk assessment which considers the context of new development sites and redevelopment or renewal sites, may help to determine appropriate locations for and the scale of various uses.

Designing out crime objectives:

- to ensure safe and easy movement between uses;
- to balance the mix of uses with selective night time uses in safe and accessible locations; and
- to encourage increased use and activity.

Factors to consider

| Street level activity          | Encourage commercial uses with extended trading hours to open onto the street |
|                               | Ensure outdoor public areas and parks are at street level, or encourage balconies |
| Entrapment spaces             | Ensure that alleyways and loading docks are well lit and secure after hours |
|                               | Ensure that building set backs do not introduce dead zones and entrapment spaces |
| Balancing land uses           | Ensure pedestrian access between residential and activity precincts is well lit at all times |
|                               | Encourage a range of activity times |
| Safe access routes            | Design safe access to activity zones, public transport and parking facilities |
|                               | Provide direct pedestrian access to buildings from the front street rather than the side or rear |
| Well located facilities       | Locate public telephones, toilets, public transport and automatic teller machines in locations with good surveillance |
| Maintenance                   | Ensure all outdoor public areas are well maintained |
5.13 Shopping, commercial, health and education centres

Shopping centres, schools, universities and recreation centres sometimes provide the main focus for neighbourhood, district and regional shopping, community, cultural, entertainment and recreational facilities. Legitimate activity in these locations confers a sense of safety. Associated active and vibrant community spaces can enhance safety as well as reduce vandalism and graffiti. Shopping malls and large enclosed developments do not generally provide surveillance of surrounding communal spaces. In redeveloping or refurbishing centres it may be possible to improve safety through encouraging a mix of uses and activities and active frontages. A risk assessment will assist in this process. It will help to identify activity patterns, potential risks and provide a strategic basis for developing safety strategies.

Designing out crime objectives:

- provide a safe and attractive environment for staff and users;
- provide range of uses suitable for all members of the community; and
- ensure safe and easy access in and around the centre.

<table>
<thead>
<tr>
<th>Factors to consider</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Design and use</td>
<td>• Provide incentives to encourage footpath activities</td>
</tr>
<tr>
<td></td>
<td>• Explore solutions which avoid the centre ‘turning its back’</td>
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<tr>
<td></td>
<td>• on the surrounding streets</td>
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<tr>
<td></td>
<td>• Encourage spaces for young people to legitimately congregate</td>
</tr>
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<td></td>
<td>• Encourage activities for diverse user groups</td>
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<tr>
<td></td>
<td>• Provide secure storage spaces</td>
</tr>
<tr>
<td>Car parking</td>
<td>• Design large car parks with good sightlines and clear signage</td>
</tr>
<tr>
<td></td>
<td>• Avoid creating car parks that are too large to adequately</td>
</tr>
<tr>
<td></td>
<td>• manage and keep secure</td>
</tr>
<tr>
<td>Public transport</td>
<td>• Locate bus and train stops at entrances of buildings rather</td>
</tr>
<tr>
<td></td>
<td>• than on edges of car parks</td>
</tr>
<tr>
<td>Landscape</td>
<td>• Consider using ‘green screens’ in areas with high potential</td>
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<tr>
<td></td>
<td>• for graffiti</td>
</tr>
<tr>
<td></td>
<td>• Avoid creating entrapment spaces</td>
</tr>
<tr>
<td>Maintenance</td>
<td>• Remove obsolete and superfluous street furniture</td>
</tr>
<tr>
<td></td>
<td>• Redevelop underused spaces</td>
</tr>
<tr>
<td>Community participation</td>
<td>• Involve the community in the design, construction, renewal</td>
</tr>
<tr>
<td></td>
<td>• and refurbishment of community facilities</td>
</tr>
</tbody>
</table>
5.14 Parks and public open space

The safety of public open space is directly related to the design of the spaces and their ability to provide surveillance, sightlines, legibility and protection from entrapment. In new areas a risk assessment may be of value and in established areas a safety audit could identify issues to be resolved in a renewal programme. It is also important to design public open space to be interesting and inviting to legitimate users.

**Designing out crime objectives:**
- to encourage legitimate use by a wide range of users;
- ensure the design does not create unsafe or dead environments; and
- ensure appropriate plan selection, materials and lighting to reduce opportunities for crime.

**Factors to consider**

| Design and use | • Locate where it can be surrounded by a mix of land use to generate activity over acceptable extended hours  
• Foster legibility, orientation and amenity  
• Consider water safety  
• Consider the relationship of users to adjacent private spaces for surveillance purposes and compatibility  
• Avoid over designing and limiting use and under designing and creating dead zones  
• Locate youth recreation areas so that they are visible and use access control measures as appropriate  
• Avoid below grade pathways  
• Ensure parks are visible from the street |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting</td>
<td>• Ensure adequate lighting of path ways, activity zones and signage</td>
</tr>
<tr>
<td>Maintenance</td>
<td>• Ensure regular maintenance</td>
</tr>
<tr>
<td>Community involvement</td>
<td>• Promote community use and ownership</td>
</tr>
</tbody>
</table>
5.15 Car parks, including grade and multi-storey

The planning and design of new car parks and the redevelopment of established parking precincts should take into account the designing out crime principles of surveillance, sightlines, lighting, landscape improvements and direct access by pedestrian pathways to destinations. Exterior and interior car parks require adequate levels of lighting that allow pedestrians to identify vehicles, objects and approaching people.

**Designing out crime objectives:**

- to encourage car park design which assists all users to easily identify their vehicles;
- to increase safety through optimising visibility and clear sightlines;
- to encourage surveillance from surrounding land uses; and
- to provide safe access to and from car parks.
| Factors to consider | • Should be as small a size as possible or divided into smaller sections  
| Car park size | • Avoid large expanses of car parking which may act as barriers and create surveillance issues  
| Design | • Integrate complementary and active land uses near car parks to prevent isolation  
| | • Clearly identify pedestrian routes in car parks  
| Surveillance | • Encourage surveillance of multi-storey or interior car parks through placement of windows and land uses to overlook  
| | • Exterior should be overlooked from the street  
| Access | • Access points should be visible from every car parking space  
| | • Ensure all paths to and from car parks have appropriate landscaping, lighting, signage and sightlines  
| | • Limit unauthorized entry points from the street  
| | • Ensure street level entry and exit points have maximum surveillance from adjacent uses during hours of operation  
| | • Where appropriate encourage on-street parking  
| Pedestrian routes | • Pedestrian routes should be integrated into a walkway system  
| | • Safe routes make illegitimate use more obvious  
| Sightlines | • Maximise sightlines  
| | • Limit support pillars which may obscure sightlines  
| | • Consider glazing and open design at access points, lifts and stairwells  
| | • Use vandal proof security mirrors as appropriate  
| Lighting | • Maximise consistent lighting for access, egress, orientation, surveillance and sightlines during all operational hours  
| | • Illuminate parking bays and circulation routes  
| Landscape | • Consider landscape which provides the widest possible views from the street of access and egress points  
| Signage | • Ensure adequate signage for orientation, emergency contacts and security  
| Facilities | • Locate facilities such as toilets, seating and telephones in safe locations where the opportunity to loiter is minimized  
| Management | • Consider regular security patrols or security personnel |
5.16 Transit stations, including bus stops and taxi ranks

Safety at public transport interchanges, connections and associated facilities is of paramount importance in a community which is encouraged through government policy to use alternatives to the domestic car and for the proportion of the community which uses public transport as the sole means of transport. Public transport in these guidelines includes the use of communal taxi ranks. Public transport is used by different groups of people at different times of the day. All travellers need to be taken into account. Safe use of public transport is of particular concern to vulnerable groups in our community. In addition, a parallel supporting community strategy which empowers user groups to report suspicious or inappropriate behaviour will be of value and could be publicised by relevant authorities.

Designing out crime objectives:

- to maximise the use of public transport by a wide range of people over extended operational hours;
- to encourage all users to feel safe by increasing safety provisions; and
- to promote surveillance.

Figure 16: Mixed use promoting safety
<table>
<thead>
<tr>
<th>Factors to consider</th>
<th>Details</th>
</tr>
</thead>
</table>
| **Location**        | • Avoid locating stations, interchanges and stops in isolated, derelict or underused locations including vacant land, carparks, alleys, wide set back zones and possible entrapment spots  
 • Avoid locating entries and stops at different levels from the main activity zone to avoid isolation and reduced surveillance  
 • Ensure short, safe routes to and from stations, interchanges and stops, especially near night time venues |
| **Access**          | • Ensure access to and from public transport and other modes of transport and destinations is as direct, safe and universally accessible as possible |
| **Surveillance**    | • Maximise surveillance opportunities  
 • Consider risk assessment in established problem areas  
 • Consider congestion as well as isolation factors |
| **Sightlines and visibility** | • Remove or ameliorate hard and soft structures which block sightlines or provide hiding places  
 • Design attractive landscape at stations, interchanges and stops of an appropriate scale and robust, low maintenance quality |
| **Entrapment**      | • Design and redevelop structures to reduce the risk of entrapment and to improve sightlines |
| **Signage**         | • Provide adequate, easy to find, vandal proof signage for all user groups to assist orientation  
 • Ensure signage provides up to date information including emergency contact details |
| **Design and maintenance** | • Ensure private, public and transition zones and uses are clearly understood  
 • Design with graffiti resistant, vandal resistant materials wherever possible  
 • Ensure well maintained public realm and facilities |
| **Lighting**        | • Ensure areas adjacent are appropriately illuminated (limit shadow and contrast) and protected from weather |
| **Other facilities**| • Ensure associated telephones, automatic teller machines, toilets and ticket machines are located near active frontages |
5.17 Public toilets

The design, siting and maintenance of public toilets can play an important role in ensuring safe and legitimate use of these facilities. The essential principle is to reduce the possibility of entrapment or inappropriate use.

Designing out crime objectives:

- to ensure safety for all people using public toilets;
- to maximise surveillance opportunities in the location of public facilities; and
- to ensure prompt and effective maintenance.

Factors to consider

| Location                                      | • Locate adjacent to high traffic and legitimate activity areas, rather than in isolation  
|                                              | • Avoid designing in loitering opportunities such as seating, telephones, automatic teller machines which are too close or entrapment spaces such as storage, utility recesses or underused access ways  
|                                              | • Consider relocating public toilets which are in established unsafe locations  
| Surveillance                                  | • Ensure approaches and entrances to all toilets in all locations are highly visible so that people cannot loiter or enter without being seen  
|                                              | • Ensure adequate lighting  
| Access                                        | • Ensure adequate signage  
|                                              | • Ensure doors/windows can be secured only by legitimate key holder to reduce the danger of entrapment  
| Maintenance                                   | • Ensure facilities are as vandal proof as possible, well maintained and promptly repaired  

poor visibility
5.18 Pedestrian routes, laneways, alleyways and access ways

The design and use of pedestrian routes including laneways, alleyways and other public access ways has a major impact on actual and perceived public safety. Risk assessment procedures could be used to address issues such as:

- considering the likely movement patterns, times, user groups;
- considering nearby land use influences;
- considering surveillance and sightlines; and
- considering the potential for entrapment.

Designing out crime objectives:

- design to maximise safe pedestrian and cyclist linkages, especially at night; and
- design to encourage legitimate activity.

areas of entrapment
## Factors to consider

| Location | • Locate to enhance other designing out crime initiatives  
|          | • Locate as part of a collector system  
|          | • Locate for views of activity as well as safety and security  |
| Design   | • Provide an attractive, convenient variety of options for diverse user groups  
|          | • Avoid designing in areas where little pedestrian traffic is expected  
|          | • Consider appropriate closure techniques and alternative uses to remove unsafe parts of an existing network  
|          | • Avoid dead ends  
|          | • Consider the needs of user groups sharing the movement network  |
| Surveillance | • Ensure routes do not violate privacy whilst providing surveillance  
|          | • Encourage appropriate surveillance especially in open space areas  |
| Sightlines | • Identify priorities for lighting  |
| Lighting  | • Align lighting and pathways  
|          | • Align lighting and landscape  |
| Access    | • Provide direct access routes to and from destinations  
|          | • Avoid designing in opportunities for short cuts  
|          | • Provide a visible exit point  
|          | • Provide secure cycle parking where appropriate  
|          | • Ensure barrier free access  
|          | • Provide clear edge definition  |
| Orientation | • Design to enhance recognition of movement network during hours of use  
|          | • Provide appropriate and vandal proof directional signage, maps and materials  |
| Maintenance | • Ensure private, public and transition zones and uses are clearly understood  
|           | • Design with graffiti resistant, vandal resistant materials wherever possible  
|           | • Ensure well maintained public areas and facilities  |
5.19 Pedestrian overpasses and underpasses

Overpasses and underpasses may contribute to road safety for pedestrians and cyclists. However they can also be the source of safety issues and therefore great care is needed where these elements exist or have been planned.

Designing out crime objectives:

• balance the needs of road safety with community safety needs; and
• ensure design of underpasses and overpasses reduce opportunities for crime.

Factors to consider

<table>
<thead>
<tr>
<th></th>
<th>Design</th>
<th>Access</th>
<th>Lighting</th>
<th>Maintenance</th>
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<tbody>
<tr>
<td>Design</td>
<td>Avoid predictable or unchangeable routes</td>
<td>Avoid access to places closed at night</td>
<td>Ensure adequate, vandal proof lighting</td>
<td>Ensure adequate drainage for maintenance</td>
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<td></td>
<td>Avoid designing in claustrophobic spaces</td>
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<td></td>
<td>Maintain a safe and clean environment</td>
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<td></td>
<td>Reduce opportunities for inappropriate activity</td>
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<td></td>
<td>Design for easy and affordable maintenance</td>
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<td></td>
<td>Maximise natural light and ventilation</td>
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<td></td>
<td>Ensure direct sightlines</td>
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<td></td>
<td>Avoid recesses</td>
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<td></td>
<td>Maximise width and passing spaces</td>
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*design inhibiting surveillance*

*design maximising surveillance*
6 Implementation

These guidelines are intended to provide a framework for policy development and implementation.

There are a number of direct or indirect implementation options available to local government.

- These guidelines establish the important criteria which will guide the WAPC in its consideration of subdivision applications. Local government is required to comment on subdivision proposals. The WAPC will be guided by the provisions of the prevailing town planning scheme and any policies made under the provisions of a scheme.
- Designing out crime policies may guide the location, siting and design of development. Land use and built form developments are considered by local government under the provisions and policies of their town planning scheme.
- Some local by-laws may influence the design and siting of specific built form elements such as fencing, walls and jetties.
- Action plans may be an appropriate tool in designing, constructing and managing the public realm.
- Local government may acquire, design and manage council owned and occupied properties, businesses and assets.
- These guidelines provide a framework for advocacy, education and advice, including influence on private development activity.

These guidelines may also influence the design and implementation strategies of the private and public land development sector, including:

- design and development briefs;
- development agreements;
- detailed area plans; and
- marketing and branding initiatives.

Partnerships between the community and private and public sectors provide implementation opportunities, such as:

- a definition of local responsibilities;
- safety audits; and
- community accords, including capacity for building partnerships and local decision-making, conflict resolution and interaction.
7 Further Information

Further information regarding this document should be directed to the Department for Planning and Infrastructure:

Project Manager
Designing Out Crime Planning Guidelines
Department for Planning and Infrastructure
469 Wellington Street
Perth WA 6000

Ph: (08) 9264 7777

General advice on designing out crime is also available from:

The Office of Crime Prevention
Level 5, 197 St Georges Terrace
Perth WA 6000

Ph: (08) 9222 9733
8 Reference List


International CPTED Association: www.cpted.net


Liveable Neighbourhoods, the Residential Design Codes, 2006, draft Variation no 1, Planning Bulletin 77, Western Australian Planning Commission


The City of Gosnells, 2004, Safe City Urban Design Strategy

## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td><strong>Active frontage</strong></td>
<td>Building frontage which contains uses that promote activity on the street.</td>
</tr>
<tr>
<td><strong>Activity generators</strong></td>
<td>Features and land uses that attract people, activity and surveillance opportunities, such as picnic areas, cafes, recreation facilities and public seating areas.</td>
</tr>
<tr>
<td><strong>Blind spots</strong></td>
<td>Areas where vision ahead or around is restricted.</td>
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<tr>
<td><strong>CCTV</strong></td>
<td>Closed Circuit Television.</td>
</tr>
<tr>
<td><strong>CPTED</strong></td>
<td>Crime Prevention Through Environmental Design.</td>
</tr>
<tr>
<td><strong>Diffusion</strong></td>
<td>Occurs when the benefits of crime prevention in one location spill over into neighbouring areas.</td>
</tr>
<tr>
<td><strong>Displacement</strong></td>
<td>Occurs where crime is moved away or drawn into new locations.</td>
</tr>
<tr>
<td><strong>Entrapment</strong></td>
<td>Places where there are no alternative exit/exits if confronted.</td>
</tr>
<tr>
<td><strong>Greenfield</strong></td>
<td>New land without previous urban development.</td>
</tr>
<tr>
<td><strong>Green screens</strong></td>
<td>The use of fauni shrubs such as Bouganvillia to reduce opportunities for climbing and graffiti.</td>
</tr>
<tr>
<td><strong>Guardian surveillance</strong></td>
<td>The ability for an individual or groups of individuals to see and act upon offending activities.</td>
</tr>
<tr>
<td><strong>Hotspots</strong></td>
<td>Locations where there is an existing high crime rate.</td>
</tr>
<tr>
<td><strong>Legibility</strong></td>
<td>The ability of people who are unfamiliar with an area to find their way.</td>
</tr>
<tr>
<td><strong>Legitimate use</strong></td>
<td>Any lawful and normally appropriate use of a building, facility or public space.</td>
</tr>
<tr>
<td><strong>Illegitimate use</strong></td>
<td>Use of space by those who may have a criminal intent.</td>
</tr>
<tr>
<td><strong>Macro, Meso and Micro</strong></td>
<td>Large, medium and small scale.</td>
</tr>
<tr>
<td><strong>Movement predictors</strong></td>
<td>Routes where there are no alternative choices, such as staircases and bridges.</td>
</tr>
<tr>
<td><strong>Natural ladders</strong></td>
<td>Access formed by a combination of features on buildings which create a climbing frame or ladder for illegitimate use.</td>
</tr>
<tr>
<td><strong>Natural surveillance/surveillance</strong></td>
<td>The ability to see and hear activities.</td>
</tr>
<tr>
<td><strong>Public realm</strong></td>
<td>Areas of common use, in local authority ownership, such as parks, playgrounds and streets.</td>
</tr>
<tr>
<td><strong>Sightlines</strong></td>
<td>The line of sight between the viewer and viewed.</td>
</tr>
<tr>
<td><strong>Target hardening</strong></td>
<td>Security measures.</td>
</tr>
<tr>
<td><strong>Territorial reinforcement</strong></td>
<td>Reinforcing spatial ownership.</td>
</tr>
<tr>
<td><strong>Territoriality</strong></td>
<td>Spatial ownership.</td>
</tr>
<tr>
<td><strong>Urban design</strong></td>
<td>A design based approach to shaping urban environments and optimising the performance and efficiency of neighbourhoods, towns and cities, paying particular attention to the way urban spaces work, interface between public and private realms and natural environment, cultural values, integrated movement systems and built form.</td>
</tr>
<tr>
<td><strong>Visibility</strong></td>
<td>The ability of users of a space to see and be seen, ensuring surveillance by the maximum number of people.</td>
</tr>
<tr>
<td><strong>Vulnerable groups/people</strong></td>
<td>Individuals, or groups of people who are likely to perceive themselves or be perceived as being unsafe or insecure or at risk of violence in the community</td>
</tr>
</tbody>
</table>