S H A P I N G O U R C O M M U N I T Y

Livingstone SHIRE COUNCIL

PLANNING SCHEME

Information sheet

Incorporating community safety principles into design

This information sheet provides basic design principles to assist in the incorporation of physical design concepts to assist in the prevention of crime, to enhance community safety and improve liveability.

The principles are highly applicable to the design of publicly accessible places, activity centres, mixed use developments, parks and open space, community facilities, sport and entertainment areas and the like.

It is acknowledged that the design principles may conflict with other design objectives supported by the Livingstone Planning Scheme e.g., noise attenuation and privacy. In such cases, discretion should be used to determine the most appropriate outcome for the situation.

The objectives of this information sheet are to:

- raise awareness of key community safety, security and crime prevention issues;
- increase awareness of the relationship between community safety and design;
- assist in the adoption of best practice design principles relating to community safety and crime prevention in all private and public projects in the planning and detailed design stages;
- to aid the integration of safety and security concerns in the management and maintenance of the public realm.

What is CPTED?

Crime Prevention Through Environmental Design (CPTED) is based on the recognition that design and use of the environment directly affects human behaviour. This influences a person's perception of crime, impacts the opportunities for crime, and affects quality of life.

In effect, the basis of CPTED is that good design and an intelligent layout and use of the built environment can reduce both the fear and occurrence of crime. This subsequently improves quality of life. CPTED principles generally do not compromise the normal use of a space.

Key elements of CPTED are:

- Passive surveillance;
- Natural access control;
- Territorial reinforcement;
- Maintenance; and
- Legibility.

Elements of CPTED

Passive Surveillance

Passive surveillance (also termed natural surveillance) refers to an environment where people can see and be seen through casual observation. Observers may include other users of an area, passers-by or people in nearby properties.

Passive surveillance is achieved through maximising visibility through creation of clear sight lines, effective lighting, creating active edges of developments, elimination of entrapment spots, and the like. These are fundamental design elements in building siting, building design and siting and design of public spaces and

facilities which are explored further below.

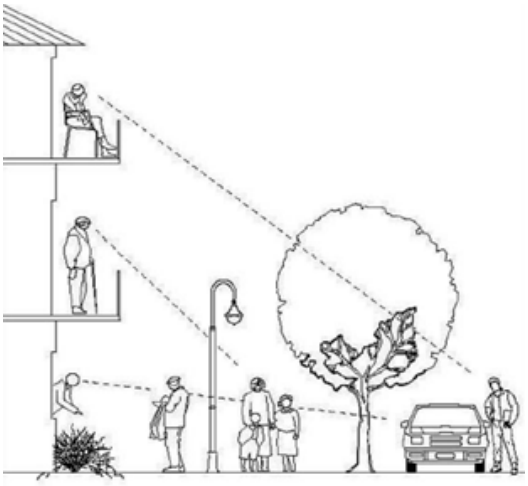

Figure 1: Clear sight lines to maximise opportunities for passive surveillance. *(Source: Designing Out Crime Planning Guidelines Outline, Western Australia Planning Commission, 2005.)*

Natural Access Control

Natural Access Control relates to controlling access to a building or place by means of doors, locks, shrubs, fences and other physical elements to either encourage access by authorised users or keep unauthorised persons out of a particular place if they do not have a legitimate reason for being there. Access points need to be clearly defined to assist in way finding.

Visual (and other) markers can be used to guide people to or away from places. Lighting, fencing, signage, textured or coloured pavers, placement of entrances and exits are physical markers commonly used to maintain access control.

Access points to places should be designed to maximise visibility for both people entering or exiting the area. Not only does this help to maintain access control but also to enhance passive surveillance.

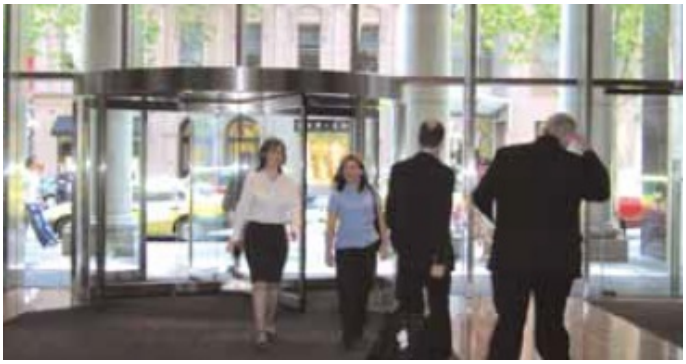

Figure 2: The design maximises visibility so that users have clear view lines to the street when exiting the building. *(Source: Safer Design Guides for Victoria, Department of Sustainability and Environment, 2005)*

Territorial Reinforcement

Territorial Reinforcement refers to the clear distinction between public and private space (it is also referred to as Boundary Definition). Clear boundaries between public and private areas can be achieved through the use of physical elements such as fences, pavement treatments, signage, art, signs, walkways, landscaping, lights, bollards and good maintenance. These elements can provide a degree of privacy but also informs as to the intended function of an area. Identifying unauthorised users is much easier in a well-defined space.

Figure 3: Fences are common boundaries between private and public space but should allow passive surveillance. *(Source: Urban and Environmental Design and Safety Guide - 'Designing out Crime, Designing in People', Launceston City Council.)*

Maintenance

Maintenance of an area helps support territoriality and defines ownership of a space. A well maintained area suggests that the area is cared for and helps to portray an image that crime will not be accepted. It clearly shows that the owners take pride in the space. Degraded and neglected areas are more likely to be targeted by crime.

Maintenance includes gardening, removal of litter, prompt removal of graffiti, attending to wear and tear. Maintenance of vegetation is also important in maintaining view lines and encouraging passive surveillance.

Maintenance of an area can collectively generate a sense of pride and community. In so doing, it can help create an attractive area to spend time and therefore activate an area. Maintenance should be considered at the planning and design stage of development, as the selection of materials and finishes will impact on the maintenance requirements and longevity of the product. Typically details of materials and colours should accompany any development application.

Figure 4: A well maintained area can help portray an image that crime will not be accepted. *(Source: Urban and Environmental Design and Safety Guide - 'Designing out Crime, Designing in People', Launceston City Council.)*

These four principles are the premise of the design principles detailed below. The design principles have been broken into specific design elements such as lighting, landscaping and public facilities, to assist in planning and design stages on projects.

Legibility

Legibility relates to how the urban environment is designed to enable people to easily know where they are, easily know how to get to where they are going, and easily understand the surroundings. Legibility is about 'way-finding' and creating confidence. This is important for people travelling whether it is by motor vehicle, bicycle, walking or other means. The aim is to put the individual in control and to help others find the individual when they are in need (e.g., emergency vehicles).

General principles:

- Built environments should be designed, detailed and managed to make them legible for users, especially pedestrians and cyclists, without losing the capacity for variety and interest.
- Legibility should be promoted in both the overall structure and form of the environments and in appropriate detail within them.
- Design neighbourhoods, centres and other urban environments to make them easy to understand and navigate within.
- Locate taxi or bus stops in places that are visible and logical.
- Design neighbourhoods and places to take advantage of existing (or set out to create new) man-made (e.g., public squares, civic buildings, public art, monuments) or natural features (like rivers, hills, sea-fronts) both to create landmarks to aid legibility and to make environments of special quality.
- Encourage appropriate variety within the architectural and landscape design of buildings and spaces that create more legible urban environments.
- Support way finding with sufficient and suitably located and suitably designed signage and maps to identify streets, places, directions to services or help, and building names and numbers.

Design Principles

Outlined below are the CPTED design principles which should be adopted in the design of private and public space relating to:

- Building Design
- Lighting
- Landscaping
- Fencing
- Car parks
- Signage
- Public Facilities
- Parks
- Walkways and pathways
- Land use mix and activity generators.

These are explored in more detail below.

Building Design

Buildings should be sited so that they address the street to create an active edge. This applies to both commercial and residential buildings. The siting of buildings and design of frontages plays an important role in the opportunities for passive surveillance.

General principles:

- Orient buildings and entrances (except for emergency egress points) to address the street, or both streets if located on a corner block.
- Position rooms with the highest level of activity (e.g., habitable rooms in dwellings) at the front of properties.
- Garages or car ports should not dominate the building frontage.
- Aim to achieve a common building setback to avoid the creation of recesses.
- Recesses in ground floor walls should be less than 0.3 metres deep to prevent them becoming places to hide or entrap.
- Avoid long blank walls at street level.
- Design the building access points to be clearly identifiable and visible (e.g., verandah, lighting, signage, etc.).
- Entrances/exits should be designed to ensure people

can easily see in/out to the space they are entering.

- Avoid the use of vegetation at the building access point which could obscure view lines.

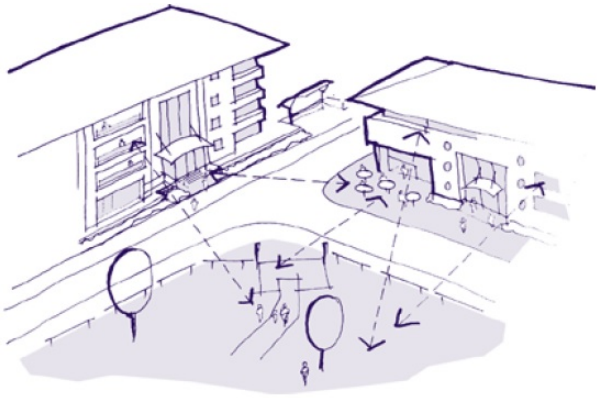

Figure 5: Buildings should be sited to maximise opportunities for passive surveillance of public spaces *(Source: Crime Prevention Through Environmental Design - Development Control Plan, Penrith City Council, 2003.)*

Figure 6: Clearly identifiable building entrance *(SOurce: Crime Prevention Through Environmental Design - Development Contral Plan, Penrith City Council, 2003.)*

Lighting

Lighting is a key CPTED principles as it can help people see and be seen, defines a space and appropriate lighting can highlight features/obstructions e.g., pedestrian crossings, building entrances. A well-lit area portrays an increased perception of safety.

General principles:

- All areas intended to be used at night should be appropriately lit.
- Natural light penetration into spaces should be maximised.
- Lights should be placed to avoid light spill into adjacent areas (e.g., residential properties).
- Lighting at eye height should be avoided or shielded so that it does not dazzle pedestrians.
- Multiple lights with a wide beam of illumination should be used as it provides more consistent levels of lighting and reduces the contrast between light and shadow.
- Lighting should clearly illuminate the face of path users at a reasonable distance (for example, 15 metres).
- Lighting should be used to highlight features, obstructions and facilities such as seats, pedestrian crossings, public toilets, doorways, bollards, pathway intersections.
- Light-coloured finishes of internal spaces (e.g., enclosed walkways) can maximise the effect of lighting.
- Streetlight illumination coverage should include pedestrian pathways.
- Recessed areas, access and egress routes should be well lit.
- Ensure all signage is well lit.
- Areas not intended for use at night time should not be lit, restrict lighting to safe routes.
- Ensure that vegetation does not obscure lighting or create shadows.
- Lighting should be designed and located to resist vandalism.
- All lighting should be maintained to ensure it is in the best possible operating condition.
- Use energy efficient, long-life lamps/fittings/switches.

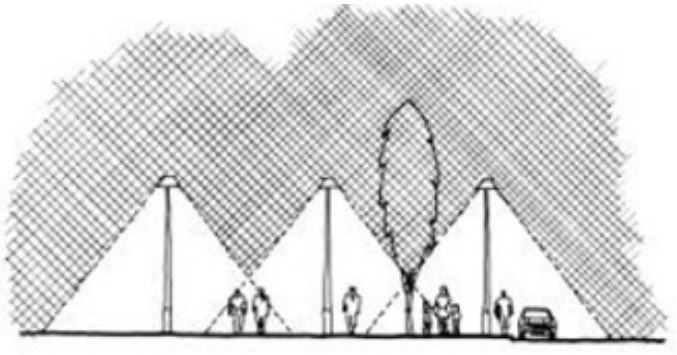

Figure 7: Multiple lights with a wide beam of illumination provides continuous lighting *(Source: Brisbane City Plan 2000, CPTED Planning Scheme Policy, Brisbane City Council.)*

Figure 8: Public facilities such as toilets should be well lit *(Source: Brisbane City Plan 2000, CPTED Planning Scheme Policy, Brisbane City Council.)*

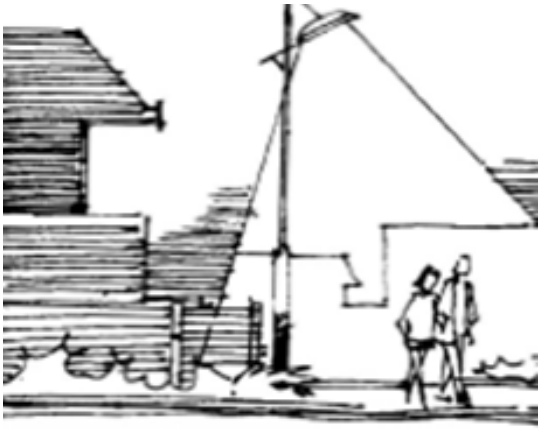

Figure 9: Lighting is deflected away from neighbouring properties *(Source: Crime Prevention Through Environmental Design - Development Control Plan, Penrith City Council, 2993)*

Landscaping

Landscaping is generally encouraged in public places to improve the amenity and visual quality of an area, provide shade and soften harsh man-made environments. Vegetation such as trees and shrubs which are inappropriately located can obscure sight lines, create shadows at night and create entrapment spots and places to hide.

Good design of areas, including landscaping, helps to create active spaces where people can interact. Key elements in landscaping relating to CPTED include plant selection, siting and maintenance.

General Principles:

- Landscaping should aim to maximise passive surveillance.
- Ensure that vegetation does not obscure lighting and create shadows.
- Trees or vegetation planted in public places or adjacent to pathways should not obscure the field of vision between 1.0 metre and 1.8 metres above ground level. Trees may need to be clear-stemmed to a height of 1.8 metres.
- Groundcover is attractive and can be a more appropriate form of landscaping in high use areas such as car parks.
- Dense vegetation should not be located around building access points.
- Plants, grassed areas, open spaces and facilities should be well maintained to promote local pride and facilitate an atmosphere of care.
- Avoid vegetation screening building entrances and public facilities such as toilets.

Figure 10: Landscaping along the pathway allows for clear signt lines to adjacent areas. *(Source: Designing out Crime - Design solutions for safer neighbourhoods, Planning SA, 2004.)*

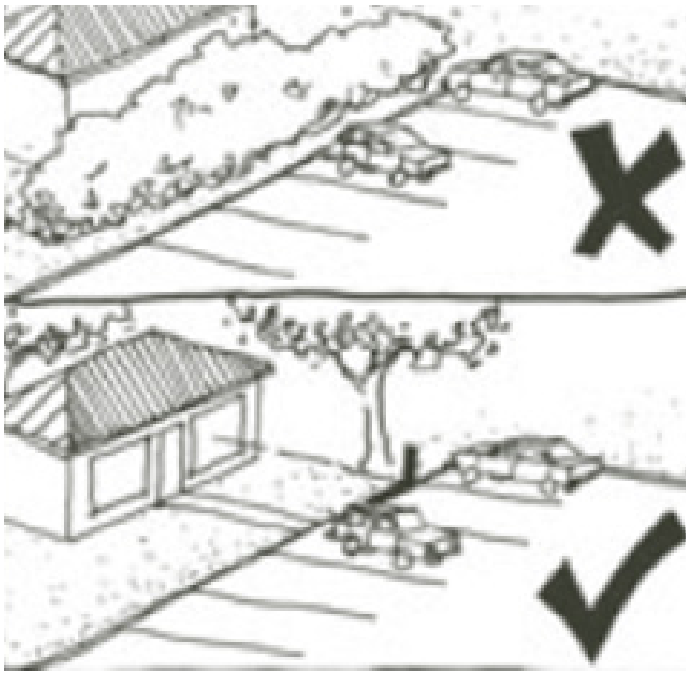

Figure 11: Landscaping should not prevent surveillance of public areas *(Source: Crime Prevention Through Environmental Design - Development Control Plan, Penrtih City Council, 2003.)*

Fencing

Fencing is important in distinguishing between private and public space. It can also help improve privacy. Inappropriate fencing can restrict passive surveillance, help create entrapment spots and can be a target for graffiti.

General Principles:

- To ensure good street visibility, front boundaries such as walls, fences, hedges or railings should be less than 1.2 metre high (to allow views over and through).

- Front fences higher than 1.2 metre should only be considered where they are semi-transparent (e.g., spaced wickets, wrought iron, etc.). Aim to achieve 50% visibility.
- Front gates should be on, or close to, the front boundary or the front of the building to reduce areas for hiding. They should also be visible from front windows.
- Avoid creating entrapment spots in fence design.
- Use vandal resistant surface treatment (e.g., paint and stain resistant finishes).
- Double glazing should be considered as an alternative to a high solid fence to achieve noise insulation.

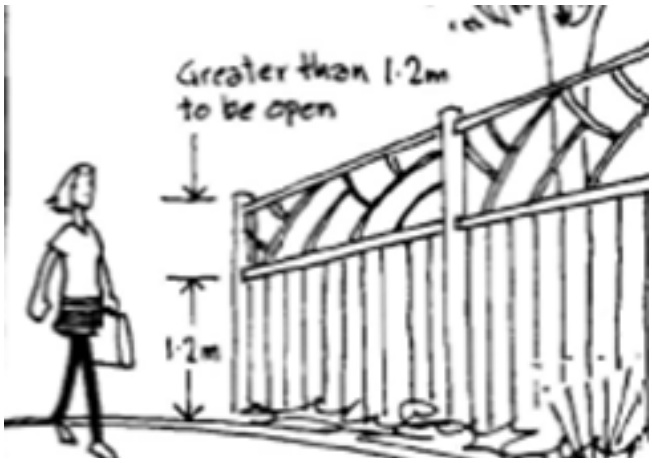

Figure 12: Over 1.2 metre in height, front fences should be semi-transparent *(Source: Crime Prevention Through Environmental Design - Development Control Plan, Penrith City Council, 2003)*

Figure 13: Front fences should achieve at least 50% visibility above a height of 1.2 metre

Car parks

Lighting, signage, siting and landscaping can all affect the perception of safety in car parks.

General Principles:

- Parking areas should generally be provided at the rear of single-storey residential and commercial properties but opportunities for passive surveillance should be maximised.
- Sightlines within and into car parks should be maximised by avoiding mid-level dense vegetation, solid fences, signage or unnecessary structures/ obstructions that may impair sightlines.
- Stairwells should be located on car park perimeters to be open or transparent to assist informal surveillance from external public areas.
- Ensure lighting is adequate to allow pedestrians to see into the interior of cars and that shadows between cars are eliminated.
- Ensure paths to and from car parks provide appropriate lighting, signage, landscaping and clear sightlines to improve way finding.
- Use of light coloured paint on vertical surfaces and ceilings helps to maximise light distribution in enclosed car park structures.
- Where possible, larger car parks should be located below ground and under buildings to enable other active uses, such as shops or residential units at street level. This helps to improve passive surveillance opportunities.
- Car parks and pathways should be consistently lit.
- Where adequate levels of passive surveillance cannot be achieved, consider measures such as surveillance cameras or security guards.

Signage

Signage has a vital role in way finding and enhancing the legibility of routes.

General Principles:

- Ensure that signage is easily legible - use strong colours, clear contrasts, standard symbols and simple graphics on signage so that they can be easily understood by all.
- Signs of high contrast, with light lettering on dark background with non-reflective surfaces are most effective.
- Locate signs strategically at entrances and near activity nodes.
- Provide signage directional signage to telephones, taxis, bus stops, public toilets and other public facilities.
- Clearly indicate closing hours at entrances to public areas which are closed off at night.

Figure 14: Locate signs at activity nodes *(Source: Safer Design Guides for Victoria, Department for Sustainability and Environment, 2005.)*

Figure 15: Signage should indicate closing time of a public space *(Source: Designing Out Crime - Design solutions for safer neighbourhoods, Planning SA, 2004)*

Public facilities

The design, siting and management of public facilities which includes public toilets, public telephones and automated teller machines (ATMs) needs to be carefully considered in planning and detailed design. Inappropriate design or lighting can lead to users a sense of vulnerability.

General principles:

- Locate public facilities in highly visible and highly accessible locations.
- Avoid positioning public facilities where they cannot be viewed from the street or other highly trafficked areas.
- Do not position seats and public telephones next to toilets as this legitimises loitering.
- Ensure facilities are well maintained and graffiti promptly removed to promote a perception of safety.

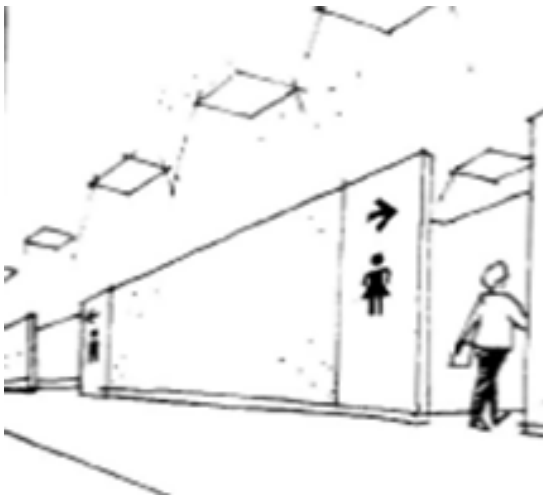

Figure 16: Seating should not be located outside public toilets *(Source: Crime Prevention Through Environmental Design - Development Control Plan, Penrith City Council, 2003.)*

Parks

Parks should be designed to facilitate passive and active recreation but in a way which maximises opportunities for passive surveillance.

General Principles:

- Ensure that parks, public open spaces or play areas are visible from neighbouring streets, houses, schools and other buildings.
- Locate buildings with active frontages close to parks (aim for active frontages (e.g., streets or active buildings) where passive surveillance is possible on at least three sides).
- Avoid creating unusable “dead” spaces or isolated pockets within parklands.
- In the design of new subdivisions, avoid rear fences backing onto parkland.
- Locate children’s play areas where they are clearly visible from surrounding properties and streets.
- Provide at least one ‘safe’ route through parks (i.e., a pathway that is well lit and has good view lines).

Walkways and pathways

The greater the use and activity on a pathway, the safer the pathway becomes (or is perceived). Walkways/ pathways should be designed and located to support a high level of use and passive surveillance.

General Principles:

- Pathways should follow desire lines.
- Provide pedestrian crossings across busy streets in convenient locations.
- Paths should be a minimum of 1.2 metres wide to allow pedestrians to walk two abreast and to accommodate most wheelchairs.

- Avoid blind corners and sharp curves. Changes in direction of greater than 75 degrees should not be avoided.
- Avoid the creation of entrapment locations along pathways such as recesses or concealed openings.
- Pathways should be located in wide reservations with permeable barriers such as bollards.
- Physically integrate pedestrian/cycle paths and crossings into surrounding areas to avoid predictability of movement, fixed paths or routes that offer no choice to pedestrians.
- Clear sight lines should be achieved along the pathway through avoiding dense vegetation at eye height.
- Pathways intended for use at night should be well lit.
- In subdivision design, avoid rear fences backing onto pathways to create confined areas.
- Design buildings with active edges to pathways.
- Design landscape to minimise the concealment of people and associated activity.
- Clear signage should be provided to assist with way finding.
- Provide adequate lighting at seats, bubblers, etc.

Figure 17: Avoid narrow pathway reservations with impermeable barriers *(Source: Crime Prevention Through Environmental Design - Development Control Plan, Pentrith City Council, 2003.)*

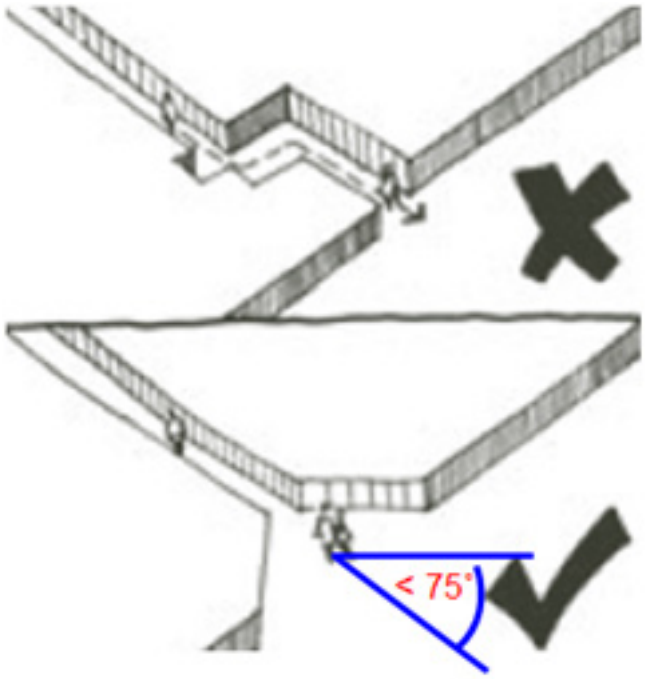

Figure 18: Change in direction should be less than 75 degrees *(Source: Urban and Environmental Design and Safety Guide - 'Designing out Crime, Designing in People', Launceston City Council.)*

Land use mix and activity generators

A mix of land use is important to avoid the creation of inactive areas at night. Ideally land uses which attract people at night such as cinemas and restaurants should be located where the benefits of the passive surveillance can be greatest e.g., car parks and public transport termini. These land uses need to be designed with active edges to achieve maximum benefit.

Disclaimer: The content of this information sheet is a summary and has been prepared to assist the reader to understand the Planning Scheme. This advice given does not bind or fetter the Council in any way in exercising its statutory responsibilities in assessing any development application which might be made to the Council. Please refer to the full Livingstone Planning Scheme 2018 document on Council's website for further detail.