Crime Prevention Through Environmental Design

Guidelines for Queensland

Queensland Government

The purpose of these Guidelines

The *CPTED Guidelines for Queensland* (Guidelines) seek to promote the incorporation of Crime Prevention Through Environmental Design (CPTED) principles into the planning, design and management of the built environment in Queensland.

They aim to:

- guide and encourage public and private developers to design with CPTED in mind
- guide and encourage local councils to incorporate CPTED principles in the preparation, review and implementation of planning schemes and policies
- inform and encourage the community to participate in creating and maintaining safe environments.

The Guidelines outline the purpose of CPTED and the seven key principles and supporting practices to implement. They are offered to all in the community with an interest in and responsibility for the environments we create.

Who should be involved in CPTED?

The *Guidelines* are intended for:

- planners and designers working for local councils and state agencies
- police and others involved in crime prevention activity
- architects, urban designers, engineers, landscape architects, community development managers, social planners, building managers and others involved in planning, designing and managing our built environment and especially publicly accessible places
- members of the community who support a safe and socially sustainable environment.

The CPTED principles outlined in these Guidelines are not rules or universal solutions for every situation. Instead, they focus attention on key issues to consider relating to the needs of each local setting.

About these Guidelines

The Guidelines are in summary form and are current when first published. While every care has been taken in the preparation of these Guidelines, the Queensland Police Service cannot accept responsibility for any errors, including those caused by negligence, in the material. The Queensland Police Service does not guarantee, and accepts no legal responsibility whatsoever arising from or in connection to the accuracy, reliability, currency, correctness or completeness of the information contained in these Guidelines. If you are seeking specific advice about your particular CPTED requirements, you should contact a suitability qualified provider.

The Guidelines may include third party content. The distribution of this material should in no way be construed as granting any licence or right for you to use that third-party content for your own purposes. Before using any of this content, you should make your own enquiries with the authors of this content.

Contents

Foreword 1

Overview 2

Chapter 1
What is CPTED? 4

Concepts behind CPTED 5

Chapter 2
CPTED – The past, present and future 7

The past 7
The present 8
The future 8

Chapter 3
CPTED principles and practices 10

1. Activation 11
2. Surveillance 12
3. Ownership 13
4. Stakeholder management 14
5. Legibility 15
6. Territoriality 16
7. Vulnerability 17

Chapter 4
CPTED – Changes, challenges and opportunities 20

Changes in the nature of our society 20

Chapter 5
CPTED – Evolving design ideas 24

Chapter 6
Applying CPTED principles to urban settings 29

1. The design of buildings 29
2. The design of precincts and neighbourhoods 31
3. The design of public space 32
4. The design of centres 34
5. The design of pedestrian and cyclist systems 35
6. Redevelopment and renewal 37

Chapter 7
CPTED considerations for residential neighbourhoods 38

Chapter 8
Applying CPTED to vulnerable areas 44

1. Automatic Teller Machines (ATMs) 45
2. Service stations 45
3. Night-time entertainment areas 45
4. Public toilets 45
5. Skate park facilities 45
6. Car parks 45
7. Transport infrastructure 46
8. Lighting design and signage 46
9. Other domains 46

Conclusion 48

Definitions 50

References and further resources 51

Acknowledgements 52

Use of third-party images 52

Foreword

The Queensland Government is committed to ensuring the safety of Queenslanders. This commitment is met through the support of a suite of preventative actions and early interventions that address the causes of personal and property crime.

The Government recognises that Crime Prevention Through Environmental Design (CPTED) is a well-researched crime prevention method that has been shown to reduce the fear of, and incidence of, crime. CPTED enhances community safety by encouraging organisations, businesses and communities to incorporate crime prevention strategies into the planning, design and management of public spaces in our local communities.

The *CPTED Guidelines for Queensland* were originally developed in 2007 in consultation with relevant stakeholders across Queensland including local government, the planning and building industry, police and our communities.

In meeting its commitment to reduce crime, the Government continues to acknowledge the importance of forming and maintaining partnerships with stakeholders across our State. All Queenslanders, whether in government, business, industry or the community have a responsibility to support the development and maintenance of safe communities.

To address the changing needs of our communities and to ensure they remain relevant to the contemporary work of councils, professions and the development industry the Guidelines have been reviewed to provide contemporary and practical CPTED solutions applicable to the unique needs of communities across Queensland.

We present the renewed Guidelines to local councils, urban planners and designers, businesses, police, community groups and others interested in the sustainability and prosperity of our towns and cities as the basis for a continuing partnership. Together, through collaboration and the use of best practice urban design and planning techniques, we can build safer communities for the benefit of all Queenslanders.

Steven Miles MP

Deputy Premier and
Minister for State Development, Infrastructure, Local Government and Planning

Mark Ryan MP

Minister for Police and Corrective Services and
Minister for Fire and Emergency Services

Mick de Brenni MP

Minister for Energy, Renewables and Hydrogen and
Minister for Public Works and Procurement

Leeanne Enoch MP

Minister for Communities and Housing,
Minister for Digital Economy and
Minister for the Arts

Stirling Hinchliffe MP

Minister for Tourism Industry Development and Innovation and
Minister for Sport

Mark Bailey MP

Minister for Transport and Main Roads

Overview

Our built environment should be designed to enhance our lifestyles by meeting the physical, social and economic needs of the local community as well as providing a safe and secure place to live, work and play. This can be achieved by adopting the principles that underpin Crime Prevention Through Environmental Design (CPTED).

Chapter One

What is CPTED?

Introduces the role that planning, design and urban management of our towns and cities can play in making our community safe through the implementation of CPTED principles and practices.

This chapter introduces concepts behind CPTED including:

- crimes against people and property are less likely to occur if other people are around
- the importance of people in adjoining buildings and spaces can see what is happening and encouraged to respond and help
- the importance to give people safe choices about where to be and how to anticipate, and respond to, problems.

Chapter Two

CPTED – The past, present and future

Examines the history of CPTED and highlights options for good CPTED outcomes in the future. These include:

- accepting there may be a variety of solutions to a built environment challenge
- recognising best CPTED outcomes involve understanding and applying all relevant CPTED principles and practices, rather than an ad-hoc approach
- acknowledging that there are agreed standards and regulations from other disciplines that may also need to be considered
- that CPTED thinking applies at widely different scales.

Further, as the design of our towns and cities involves a wide range of design-related professional disciplines, all parties must bring their specialist expertise to CPTED objectives.

This chapter also outlines why CPTED is a whole of community matter.

Chapter Three

CPTED principles and practices

Explores the seven CPTED principles and supporting practices including:

- activation
- passive surveillance
- personal and community 'ownership' of the outcomes
- supportive management
- legibility in the environment
- territorial clarity
- limiting vulnerable places.

Chapter Four

CPTED – Changes, challenges and opportunities

Looks briefly at CPTED implications that may arise with the changing nature of the Queensland community and the evolving challenges and opportunities we face.

Chapter Five

CPTED – Evolving design ideas

Examines how best to design environments to suit the function and needs of the community and the application of CPTED principles and practices to enhance community safety.

Chapter Six

Applying CPTED principles to urban settings

Applies the seven principles and supporting practices (introduced in Chapter Three) to the design of the following urban settings:

- buildings
- precincts and neighbourhoods
- public places
- centres
- pedestrian and cyclist systems
- redevelopment and renewal.

Chapter Seven

CPTED considerations for residential neighbourhoods

Looks at changes in the way we have designed parts of our towns and cities and raises considerations for future developments.

Chapter Eight

Applying CPTED to vulnerable areas

Examines a variety of places that may be more vulnerable to antisocial activities. These areas include automatic teller machines (ATMs), service stations, night-time activity areas, public toilets, car parks and bus stops.

Also considered are CPTED issues relating to development environments including:

- age-friendly urban design
- universities
- hospitals
- industrial areas.

Chapter One

What is CPTED?

Crimes against people and property often occur within the urban environments of cities and towns.

The fundamental theory of CPTED is that it is possible to use knowledge and creativity to design built environments in ways that lessen or prevent the incidence of such crime.

In response to preventing crime, particularly personal violence and property offences, we could make buildings impregnable and lock everything and everyone away behind security options including fences, security cameras and guards. While this may afford some protection, it will not keep us safe when we are in, or moving to, public places. At what cost would this be and how would it change the character of our community. While there may be circumstances where this could be necessary, surely with better planning there are alternatives.

So how do we improve our safety in public areas?

Our built environments should, by design, support our treasured lifestyle (especially outdoors) while contributing to greater social, economic and physical sustainability.

Enjoying our outdoor lifestyle

The built environment should provide us with safe, secure, vital and attractive places in which to live, work, meet, celebrate, reflect, shop, play and educate without having to resort to extensive technological hardware or guards.

The application of CPTED principles to the built environment and public spaces will greatly enhance the safety and security of our community.

In recent decades in Australia, state housing authorities and local governments have increasingly adopted CPTED principles into their plans for our community.

The design of our towns and cities has a central role to play in the way they deliver and support the interconnecting public space. CPTED can help ensure people can move easily, feel safe, navigate, and participate in desirable activities by incorporating design features that discourage unwanted and anti-social activities or behaviours.

It should be noted the focus of CPTED is about preventing crimes against people and property. In these Guidelines, the words 'safety' and 'security' will be used in the sense of 'safety from personal violence' and 'security of property' respectively. This definition of 'safety' is not intended to detract from the importance of environmental design that minimises accidental injury.

Concepts behind CPTED

Three important concepts support the implementation of CPTED principles. The first concept is **'crime against people and property is less likely to occur if other people are around'** (direct presence).

The direct presence of people provides an opportunity to:

- deter or prevent a crime
- intervene in a crime that is occurring and limit its extent
- summon help
- assist police in the apprehension of the offender
- report the crime and act as a witness.

The second concept is **'the importance that people in adjoining buildings and spaces can play in seeing what is happening'** (indirect presence). Even if they are too far away to intervene directly, they can respond with other help.

Street cafes: seeing and being seen

The direct or indirect presence of people, especially larger gatherings, discourages offending behaviour and increases the perception of safety. This, in turn encourages more people to use the public space.

Direct presence and indirect presence combine to constitute 'passive surveillance'. Passive surveillance takes place incidentally by members of the community as they go about their daily lives. Passive surveillance can be differentiated from 'active surveillance' that is provided by security guards and monitored CCTV systems.

Passive surveillance is improved through the 'activation' of a public place. Activation of a place occurs through encouraging more people to be in and moving around a public space. More people in a given area increases the likelihood that antisocial activity will be observed by members of the community.

The third concept, relating specifically to personal safety, is **'the importance of providing safe choices about where to be and how to anticipate and respond to problems'.** This allows a person to perceive a potential problem and appropriately respond such as changing route if needed.

All three concepts should influence the design of our towns and cities.

Adopting CPTED principles allows us to design and manage built environments that:

- encourage the legitimate use of public areas by more community members
- support passive surveillance in and around public places and provide 'open' spaces that make people feel safe
- encourage those observing unsafe behaviours to care and to act.

People enjoying open places – during the day and night

The application of CPTED principles and practices are explored in Chapter 3.

Chapter Two

CPTED – The past, present and future

The past

Making the connection that the design of built environments could impact the incidence of crime began to appear in research and policy work as early as 1961. In her book, *The Death and Life of Great American Cities*, Jane Jacobs argued that a mix of land uses, consistent building setbacks, short block lengths and other characteristics resulted in twenty-four hour activity and 'eyes on the street' which contributed to safer environments.

In 1971, C Ray Jeffrey's *Crime Prevention Through Environmental Design* introduced a new era in criminological thought, centred on the environment surrounding a crime rather than the criminal. He is credited with first using the term 'CPTED'.

The following year, architect Oscar Newman with his book *Defensible Space: Crime Prevention Through Urban Design* highlighted the physical design ingredients of territoriality and surveillance as contributing to a secure environment, both internally and externally.

In the 1950s and 1960s, in many cities across the world, large housing estates were conceived, developed and espoused as best practice by designers and policy makers. Later these estates proved to be significantly troubled as they became locations of social distress, crime and community unrest. Although these estates were very different from the places Jacobs had envisaged, they became the catalyst for evolving CPTED research (and the subject of film and television dramas). Increasingly, the role of design was accepted as significant and, in some cities, previously award-winning and relatively new estates were subsequently redeveloped or demolished outright.

Many researchers, practitioners and designers have contributed to CPTED discussions in recent decades. For example, Timothy D Crowe's *Crime Prevention Through Environmental Design* in 1990, is considered to have been influential.

In 2007, the Queensland Government released the first version of these Guidelines. These Guidelines have been influential in building a partnership between criminology practitioners, stakeholders and the city-making professions involved in the development and management of urban environments.

CPTED is clearly a developing body of knowledge which will continue to learn from and be shaped by real world experiences.

The present

There is a growing acceptance that the creation of safer cities, towns and communities is a whole of community goal. A principal focus of CPTED, is public spaces, and the buildings and neighbourhoods associated with them so that all people can access safe, inclusive areas that support independence, health, dignity, equality, community engagement and social cohesion.

Good environmental design will encourage community connection, increased participation, local interest and pride. It contributes to community safety by enabling access to services, transport and movement, social contact, and the transition between public and private spaces.

It is expected that government is responsible for managing the day-to-day functions of the State including keeping the community safe, now and into the future however, this responsibility does not operate in a vacuum. The whole community is involved and responsible for contributing to community safety.

The future

These Guidelines aim to influence and inform decisions about designing and managing the built environment, so our communities, towns and cities are safer, more secure and are supported with sustainable solutions into the future.

Planning for safer public spaces can be a challenging prospect and requires a balance between analytical and creative thinking to design an environment that is safe, liveable and aesthetically pleasing. A sound understanding and practical application of CPTED principles is critical to success however it is equally important to be innovative and creative when considering and applying any solutions, so the space remains relevant for years to come.

Queensland is a vast state with a wide range of natural and built environments situated within different climates. As built environments and climates change, CPTED solutions are also expected to be flexible and adaptable to local needs and relevant to the changing local context.

Whether planning an upgrade to a space or starting from scratch, each CPTED principle should not be considered and applied in isolation. It is crucial that all solutions complement each other and support the overall CPTED goal of community safety.

Possibility one of the biggest challenges in planning and designing a built environment is managing the competing interests or objectives of government, corporate, private and community stakeholders. Recognising key stakeholders, consulting and engaging through genuine dialogue is often the key to achieving a balanced solution with the best outcomes.

One such balance is between privacy and security; between the desire of a household for visual and acoustic privacy and the benefits of passive surveillance both for the householder and the adjoining public space. Residential streets lined with high fences or blank walls, for example, are not desirable CPTED solutions as they compromise the principle of surveillance and visibility.

This residential high fence does not contribute to passive surveillance

Another version of that privacy/security balance is between good surveillance in public parks, squares and places and the legitimate community need for a range of secluded places for quiet contemplation and connection with nature. Such places are valuable community assets if the right privacy/security balance is achieved.

Additional considerations in delivering liveable, well-designed and sustainable communities are available through QDesign the Queensland Government's guiding urban design document that supports the delivery of quality spaces across Queensland's towns and cities.

Blending the new with the old

The making of our towns and cities relies upon the knowledge of the many different development and design-related professional disciplines. The achievement of good CPTED outcomes will only be possible when the contributions of architects, landscape architects, engineers, urban designers and planners, financiers, asset managers, social planners and other professional stakeholders are properly considered and integrated in the design/development and maintenance process.

In addition to the CPTED principles explained in these Guidelines, there are State and Local Government standards and regulatory requirements that often apply to specific places and which developers must comply. This may include physical accessibility, lighting, signage, percentages of natural habitat or greenspace.

The successful implementation of CPTED principles in a development requires designing at different scales, from the overall broad design through to the documentation of finer detail. Stakeholder engagement, at all levels, is critical during this process.

Thoughtful 'CPTED master-planning' should be considered at the beginning of a new development. This is easier where one developer undertakes most of the development. However, urban environments are usually collections of separate developments by many different stakeholders over time. These spaces are then linked together by streets, plazas and parks.

Designing and building a good piece of a city or town, whether a building, a public space or street, is just the start. It is equally important to regularly review a space to ensure it continues to deliver effective outcomes. This requires the coordination of the activities of various community agencies and private groups.

Where many developers are involved, and as towns and cities grow and change, it usually becomes the responsibility of state and local governments and/or community stakeholders to ensure CPTED principles are incorporated into the management of the development, just as they introduce them to existing suburbs, towns and cities. It is also critical that landowners support implementation of CPTED by making appropriate amendments or retrofitting their existing property, as required.

CPTED is one part of the pursuit of a sustainable Queensland through smart urban environments. CPTED is a sound investment. Research suggests the long-term benefits of CPTED considerably outweigh its costs. Safe towns and cities support good communities and deliver long-term social and economic benefits.

Good surveillance in public areas

Chapter Three

CPTED principles and practices

In this Chapter, we will consider seven principles of CPTED.

The seven principles of CPTED are designed to inform the approach to different built environments to reduce or remove the incidents of crime. The seven CPTED principles are:

1. Activation
2. Surveillance
3. Ownership
4. Stakeholder management
5. Legibility
6. Territoriality
7. Vulnerability

People gathering together promotes activation and surveillance

1. Activation

Activation is about increasing the number of actual and potential interactions people make with public spaces, streets and buildings. When considering how to make these spaces more active, thought must be given to a combination of:

- the type of space being assessed, whether neighbourhood, street, plaza or park
- how people enter, leave and move around a public space
- the attractiveness of the space for legitimate activities
- the design of the buildings that define or adjoin that public space and how this design physically limits people from interacting with the environment
- the land uses and activities in the space or adjoining areas and whether they permit people to be 'available' to respond.

An active street environment enhancing safety

Some of these considerations are addressed in greater detail in sections of Chapter Six including; (1) The design of buildings; (2) The design of precincts and neighbourhoods, and (3) The design of public space.

Activation principle

Public space and surrounding structures should be designed and managed to encourage people to be in the area.

Practices

The following practices support the application of the **Activation principle:**

1.1 Design with activation in mind.

1.2 Manage with activation in mind.

1.3 Require a compatible mix of uses in buildings and spaces (for example, activity generators such as restaurants, offices, shops, community or recreation facilities and urban housing) that:

- attract lots of people from the community
- deliver people for long hours night and day, and/or
- encourage pedestrian movement between uses.

1.4 Emphasise building design and uses *at the level of the public space* (for example, the shop fronts or entry levels to buildings) where movements back and forth must occur.

1.5 Locate active public and private uses thoughtfully within the surrounding precinct to maximise the contribution they can make to the activation of important places. For example, at corners or adjoining squares and parks or along important pedestrian routes.

1.6 Locate potentially 'difficult' uses (which may cause issues due to their nature or hours of operation, such as some bars or night clubs) with other less challenging and preferably compatible activities to ensure there are a range of people in the area.

1.7 Design public spaces to facilitate and encourage legitimate community and individual activities.

1.8 Design people-friendly places within the public space with unimpeded sightlines to key places and then manage to maintain those sightlines (for example, maintaining view corridors *over* low bushes or walls and *under* the canopy of trees or shade structures).

1.9 Design to avoid 'blind spots' where there is a reduced opportunity to see and be seen (as discussed further in principle 7: Vulnerability).

1.10 Design and manage in ways that acknowledge differences in night and day usage, attitudes, accessibility and capacities for surveillance.

1.11 Design lighting to support surveillance and minimise shadows or glare which might put people at risk (as discussed further in principle 7: Vulnerability and in Chapter Eight).

2. Surveillance

Indirect and direct surveillance combines to make 'passive' or 'natural' surveillance.

Activated areas promote passive surveillance

Surveillance is about creating opportunities for people in public spaces and adjoining buildings to see into the space and casually or actively observe activities. Observers are then able to respond to any unwanted or anti-social activities occurring.

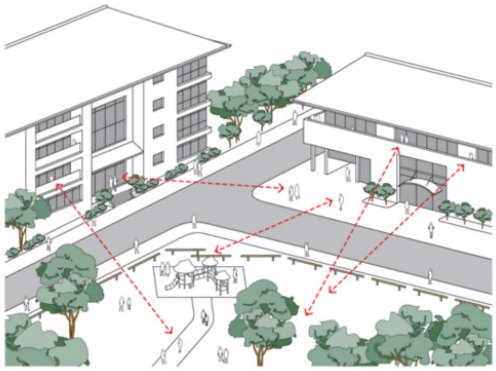
Surveillance is facilitated by:

- designing lower levels of buildings in ways that allow adjoining public spaces or streets to be observed
- designing the interface between adjoining streets and public spaces to permit views from passing traffic
- managing landscaping in the public space
- activating spaces to increase the number of people 'available' to observe
- specifying speed limits in adjoining streets to allow road users to observe the adjacent pedestrian public space.

This traditional building provides natural surveillance from upstairs and downstairs

Surveillance principle

Buildings adjoining a public space should maximise the potential for passive surveillance into that public space.



Buildings and public areas are positioned to maximise passive surveillance

Practices

The following practices support the application of the **Surveillance principle:**

2.1 Design the lower levels of buildings to facilitate surveillance.

2.2 Manage the use and occupation of buildings (and the public space) to deliver surveillance.

2.3 Require a compatible mix of uses in buildings (for example, restaurants, offices, community or recreation facilities and urban housing) that:

- provides potential observers into public space from the first four or five storeys
- encourages activity for long hours, night and day.

Design allowing surveillance through trees

2.4 Consider buildings as the surveillance opportunities in streetscapes. Buildings that do not observe public spaces may be better placed in areas where surveillance is not necessary.

2.5 Design and manage in ways that acknowledge differences in night and day usage, attitudes, accessibility and capacities for surveillance, including the location of night-time uses.

2.6 Design the interface between urban streets that edge pedestrian spaces such as plazas to permit surveillance from passing traffic.

Surveillance opportunities from and to pedestrian spaces

3. Ownership

Activation and *Surveillance* principles encourage people to use and casually observe public space. They contribute to a sense of belonging and connection to the space. This sense of *ownership* of the space and other parts of the built environment is crucial to the safety and sustainability of that community.

It is important that members of the community care about their space, how the space is used and what happens in it. Desirable activities in an area will increase the use of the space, which, in turn, generates more opportunities for surveillance and a greater perception of safety.

Community development programs and other initiatives that facilitate community spirit, including involvement in the planning or renewal of places, can encourage people to feel safe and to be out and about in *their* environment.

Conversely, deserted spaces that few want to use can create the potential for crime. A strong connection of community with the place is important as a safe space relies upon the strength of that connection.

Community pride

Ownership principle

A feeling of individual and community ownership of the public space and the associated built environment should be promoted to encourage a level of shared responsibility for its security.

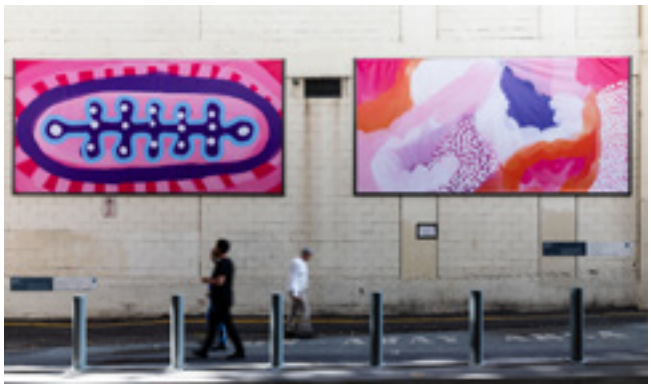
Practices

The following practices support the application of the **Ownership principle:**

3.1 Actively 'place manage' to encourage and/or deliver a wide array of legitimate activities and uses into the community's places.

3.2 Design and manage to promote a sense of pride in the community's public assets.

3.3 Design and manage to create opportunities for social contact and community expression.



Community involvement in public art

3.4 Build relationships between agencies and key stakeholders responsible for the public space or precincts that promote community ownership and safety strategies (for example, between the local council and shop owners in the main shopping street and managers of recreational areas).

3.5 Recognise the needs of all groups within the community in the design and management of the built environment, such as older people, women, cultural groups, youth, people with disabilities and others.

Recognising the needs of diverse groups in our community

3.6 Develop safety strategies that celebrate cultural and heritage strengths and signification community landmarks.

A safety strategy promoting diversity

3.7 Involve the community in enhancements (including new public art) and changes to their urban environments, particularly those in which a great deal of pride and use is present.

3.8 Engage and establish links with neighbourhoods that adjoin key community places to foster connection and support.

3.9 Encourage media reporting that promotes community activities and spirit and, where appropriate, discourage reporting that might negatively influence the use and safety of public places.

4. Stakeholder management

Place management of the built environment is important for *ownership*, pride and safety. *Management* includes basic maintenance and management of the physical assets.

This space does not encourage active legitimate use

Public places that are managed, maintained, clean, and immediately repaired when needed encourage active legitimate use.

Public spaces often need routine maintenance and regular care to maintain important CPTED practices, such as landscaping, signage, lighting, equipment and assets.

Maintenance strategies for the environment should be considered at the initial brief and design stages, and integrated systems of both routine and emergency maintenance should be instituted early and continue to operate during the life of the place.

Stakeholder Management principles

4A Places should be designed and purpose built to be resilient to damage and the need for undue maintenance, while maintaining the aesthetic and functional qualities that make the places attractive to the community in the first place.

4B Systems of both regular and reactive maintenance and repair should be implemented to maintain the quality of the places.

4C A regular auditing system of CPTED principles and practices in the built environment should be implemented.

Practices

The following practices support the application of the **Stakeholder Management principles**:

4.1 Design places with attractive, user-friendly sturdy materials and fittings that are not removable.

4.2 Employ regular rubbish removal and maintenance of lighting, signage, landscaping, equipment and other elements of the public space.

4.3 Encourage and facilitate the rapid reporting of safety risks, anti-social behaviour, or damage in the space. For example, by having signage with up-to-date contact details.

4.4 Implement a rapid response to cleaning, repair or replacement of infrastructure that is damaged.

4.5 Use vandal and graffiti resistant finishes. Engage in dialogue regarding alternative outlets for art and creativity.

4.6 Engage community, business and professional groups (for example, the traders in the main street) in alliances for cooperative action to maintain the quality of the built environment.

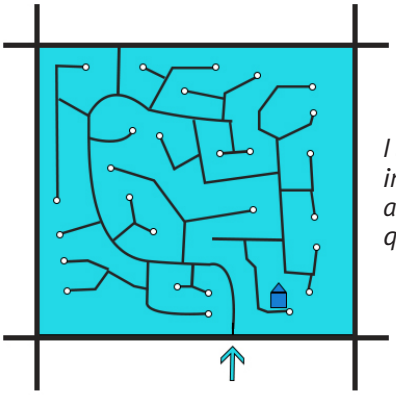
4.7 Require the owners/occupiers of significant buildings (particularly those which provide landmarks, provide surveillance or define major public spaces) to maintain their buildings appropriately.

4.8 Regularly review the circumstances of crime to identify change, and the effectiveness of applied CPTED principles and management systems in operation and opportunities for improvements.

5. Legibility

Legibility applies to all urban environments and is increasingly important in urban design and CPTED.

Legibility is about *way-finding* and helping people to confidently move through the area. An urban environment is legible if it allows people in public spaces to know where they are and how to get to where they are going. In other words, it is not confusing and does not cause people to get lost or confused.



I think they live in a nice house at the end of a quiet cul-de-sac

Neighbourhood design for legible way-finding... or not

A person who is confident in their environment is more likely to be observant and interact with other people in the area.

Legibility is important for those travelling in vehicles and is a particularly important CPTED principle for pedestrians and cyclists.

An awareness of the environment supports:

- people knowing where they are
- people finding important or direct routes to take
- finding services or desirable places frequented by others
- identifying exit points, facilities and transportation
- increased control over decision-making
- knowing where and how to find help, if required
- increased confidence which improves personal safety strategies.

As each environment is unique, environmental cues and legibility should support the space, clearly identify the use of the space, and clearly identify its surrounds. Messaging and images should be easy to interpret and allow everyone, including regular users and visitors, to easily navigate through an area.

Good signage provides confidence in surroundings

Legibility principles

5A **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.**

5B **Legibility should be promoted in both the overall structure and form of the environments and in appropriate detail within them.**

Practices

The following practices support the application of the **Legibility principles**:

5.1 Design environments to make them easy to understand and navigate within.

5.2 Locate important service places like bus or taxi stops in places that are both visible and logical.

5.3 Design neighbourhoods and places to take advantage of existing, or set out to create new, manufactured or natural features (like rivers, hills, sea-fronts, public squares, important civic buildings or public art) both to create landmarks to aid legibility and to make environments of special quality and the focus of pride.

Highlighting natural landmarks in design

5.4 Encourage variety within the architectural and landscape design of buildings and spaces to help create more legible urban environments.

5.5 Support way-finding with enough signage, maps and technological devices that identifies important elements in the environment such as streets, places, information, services, facilities, help, and building names and numbers.

5.6 Use integrated signage to aid legibility in a way that is not so excessive or obtrusive that it would undermine the very qualities that attract people to the place in the first instance (unless the character of the place is essentially and intentionally dominated by signage and displays).

5.7 Locate signage in logical places. For example, near building entries, at transport stops and at street intersections and other useful points.

5.8 Ensure signage is itself legible, including well-lit, of appropriate materials, using strong contrasts and colours, sufficiently large or reflective to be read at an appropriate distance at different times of the day and by people with disability.

Signage for legibility in the public space

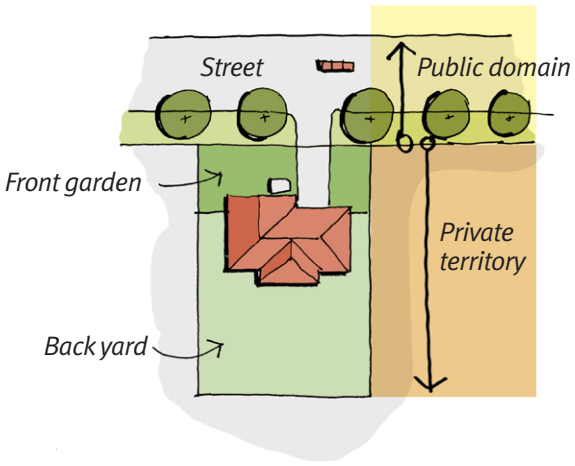
5.9 Signage should recognise cultural differences by using internationally recognised symbols and the languages of culturally prominent communities in the area.

6. Territoriality

The importance of *territoriality* in human environments is now better understood.

It is significant for people's sense of control that others not transgress or trespass on their territory without invitation. Equally, most people would prefer to avoid trespassing on other people's property by accident.

Both situations are helped by a sense of clarity or lack of ambiguity in the line between public and private ground or *territory*. *Territorial boundaries* help determine how spaces will be used and what represents appropriate behaviour within them. Additionally, clear territorial boundaries minimise misunderstanding and enhances the security and defensibility of the property.



Recognising and defining territorial boundaries

Territory can vary between different communities. In Australia, for example, private territory is often defined by the front fence that marks the boundary between what is public and what is private territory.

The concept of *territoriality* still applies even where housing types become more varied and complex. However, more deliberate consideration is needed to ensure good CPTED outcomes particularly in determining what is public or shared private or individual private space. Considerate design of territory should balance the need for privacy with the advantage of *passive surveillance*.

Territoriality principles

6A Security should be supported by designing and managing spaces and buildings to define clearly legitimate boundaries between private, semi-private, community-group and public space.

6B Territoriality should be delivered while maintaining surveillance of the public space.

Practices

The following practices support the application of the **Territoriality principles**:

6.1 Buildings and spaces should be designed and managed to define ownership boundaries without resorting to formal features like high fences, walls, 'keep out' signs, locks and security guards.

6.2 Creatively use built and landscaping features like plants, changes of surface material and texture, changes of level, artwork, signage, low walls, seating and the like to define movement areas and delineate borders.

6.3 Ensure the design of territorial features is balanced with the need for surveillance, into and out of private or shared spaces.

6.4 Clearly distinguish access from public space into private space.

Territories are clearly defined at this shopping centre

7. Vulnerability

Some situations and places make people and property more vulnerable to harm than others.

Spaces and places that were not designed with CPTED principles in mind can contribute to a perception of *vulnerability* or the fear of crime. Spaces that are isolated, devoid of people, not maintained and containing areas of concealment or entrapment are less likely to be used. Hidden places provide opportunities for unforeseen crime. These areas may be hard to avoid and may make it difficult for others to provide help.

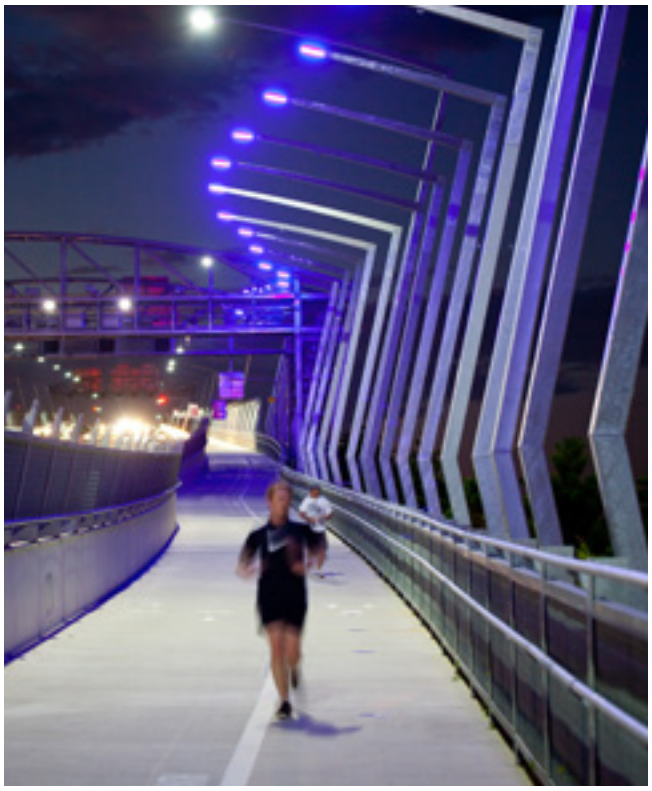
Hidden places provide opportunities for concealment

Transparent materials increase visibility

The degree of risk can vary from day to night and from weekday to weekend.

Some people in our community may be more susceptible than others, while some places may be more vulnerable because they promise greater possible rewards for an offender, for example, at ATMs.

The design and management of the built environment should identify and respond to areas that represent a greater degree of vulnerability or risk.



Reducing vulnerability with lighting

Vulnerability principles

7A **The built environment should be designed and managed to reduce or limit the risk or perceived risk to users by incorporating relevant CPTED principles such as minimising areas of concealment or entrapment. Issues in existing space may be addressed with alternative methods of observation for users (mirrors, lighting, maintenance).**

7B **Pedestrian/cyclist travel routes in the public space should be designed to support the intended purpose of the place.**

7C **The design and management of places should provide a variety of routes to the destination and ways to avoid potential or actual problems. Consideration should be given to limiting the use of those corridors and paths that would allow an offender to predict the route a person may take.**

7D **Safety should be delivered in ways that are consistent with the purpose of the place.**

Practices

The following practices support the application of the **Vulnerability principles:**

7.1 Identify and address risks associated with vulnerable places such as ATMs, 24-hour shops and service stations, geographically or temporally (time of day) isolated services (such as bus stops), institutions where shifts end predictably (especially early in the morning), carparks, the service parts of night-time entertainment areas, large park settings or separate pedestrian/cyclist networks.

Isolated services made less vulnerable with good visibility

Reducing vulnerability through lighting and technical surveillance

7.2 Pay attention to lighting and visibility particularly where the activities and movements of people are easily predicted.

7.3 Design landscaping, walls, fences, buildings, passages, bridges, tunnels and street furniture that maximises visibility for users and observers of the space.

7.4 Ensure lighting supports surveillance without creating strong shadows that produce dark places or is so excessive that it interferes with vision or the appropriate amenity of neighbours.

7.5 Ensure pedestrian/cyclist tunnels, bridges or other movement predictors (especially closed ones) are appropriately designed and maintained as to not limit surveillance and response options.

Underpasses may create vulnerable places

7.6 Be prepared to limit access to vulnerable places if measures such as proper design, activation, target hardening, or active guarding cannot make them sufficiently safe. For example, locking up botanical gardens or some shopping arcades after hours.

7.7 In particularly vulnerable places, be prepared to support CPTED principles with mechanical and organised professional surveillance (such as CCTV, duress points or security guards).

Monitored help points reduce vulnerability

Chapter Eight contains examples of more detailed CPTED practices to vulnerable places.

Chapter Four

CPTED – Changes, challenges and opportunities

People are central to CPTED.

Who we are, how and where we live, work and play, all shape how we act and what we think of our communities.

CPTED in Queensland must reflect the nature and culture of our society. For CPTED to deliver good outcomes, it must be adaptable and respond to changes and challenges emerging from within or outside our community.

Changes to CPTED principles may arise through professionals finding better ways to design our environments. Alternatively, CPTED principles may need to evolve to meet new trends, challenges and opportunities in our environments.

Additional societal changes and challenges that may affect the way we design our towns and cities to be safe and sustainable places include:

- who is home during varying times of the day?
- who is travelling and by what means?
- who is in the streets and centres? and
- who is working and where?

Changes in the nature of our society

Urban growth and its impact on our sense of community

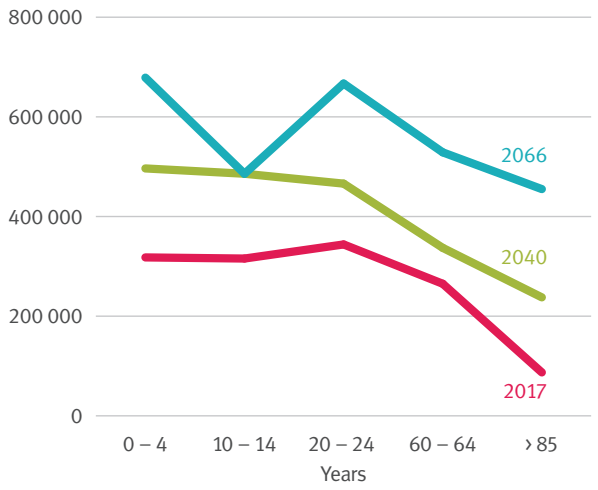
The continued growth in some of Queensland's urban areas has challenged the traditional notion of *community*. While some growth is through urban densification, much is by the more traditional low-density expansion of the urban edge. This sprawl causes urban perimeters to shift, placing a strain on public transport, social infrastructure, and hubs of educational, retail, and recreational activity.

Hubs of activity may become more widely dispersed, causing people to lose their sense of *ownership* for their local community and therefore for its safety. A comprehensive understanding of CPTED principles and the needs of the users of these areas is needed to address this issue.

An ageing population

In most Queensland communities, we have more older people (in numbers and their proportion of the community) and *relatively* fewer children. This is projected to continue to where there will be as many Queenslanders aged 65 and over as there are children up to 14 years. While many older people might look for secured and isolated group housing, many may seek more integrated housing opportunities. It is likely, and desirable that a high proportion of the older people will seek to participate in the life of our communities. This makes the safety of our public areas a critical issue. Consideration should be given to the increasing numbers of this cohort 'on the streets and in the town' particularly at certain times. Additionally, older people may have widely varying abilities and could be more vulnerable than others and less capable to intervene to stop anti-social activities.

Population projections for Queensland



People with disabilities

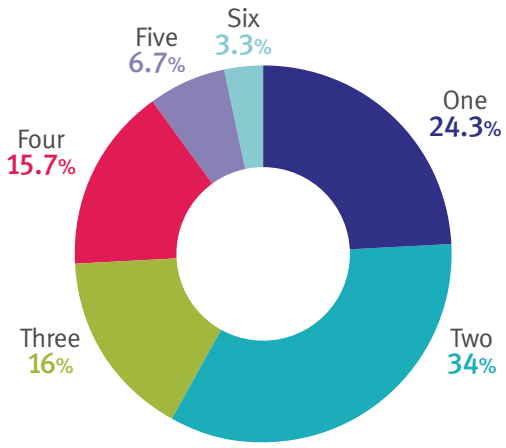
Australian governments have recognised the importance of every person participating in and being part of our society through the provision of systematic support that enhances the needs and lifestyles of those with a variety of physical and other disabilities. Ensuring that people with disabilities can access and engage with public spaces is a crucial consideration for CPTED practitioners.

The changing nature of households

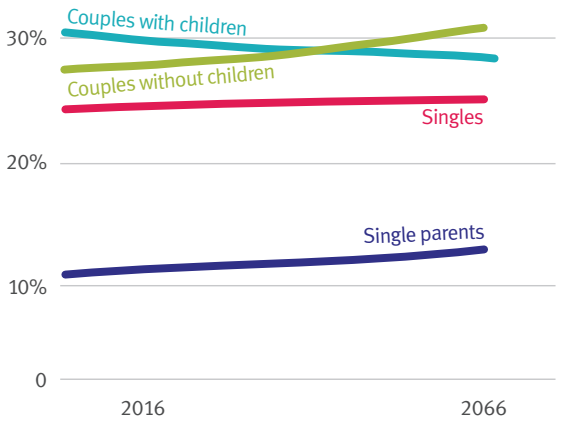
Queensland has changed significantly since the post-war years. People live longer, have fewer children and are more geographically mobile. Queensland households have fewer people in them than ever before.

In 2020, the number of 'couples with children' households exceed the 'couples without children' households. However, by 2066, 'couples only' families are projected to become the most common family type in Queensland.

Proportion of 1–6 person households in Queensland



Proportion of 1–6 person households in Queensland



This changing demographic will likely impact upon the type of surveillance that we can expect as compared to the more traditional family suburbia of the 1950s, 60s and 70s.

The changing form of housing

Changing demographics and lifestyles influence housing choices. More Queenslanders now live in medium or high-density housing, rather than traditional family-oriented detached houses with a front and back yard. Further, medium and high-rise residential developments are commonly managed like gated communities. It is important to understand the impact of high-density properties on neighbouring public space, and any impact the neighbouring space has on high-density property.

High-rise city living and apartments in suburbs are on the increase

Backyards and the public space

Not only are there more medium-density apartment developments, there is also a dramatic increase in small lot housing. While this may suit those who do not want to maintain a backyard, it does limit the activities that traditionally occurred there such as gardening, socialising and recreation. This may lead to the increased use of other communal areas.

Townhouses with little to no backyards are popular in the suburbs

The changing institutional provision of housing

Some major institutions like hospitals and universities have greatly reduced or abandoned the provision of onsite housing for workers or students. Student accommodation has shifted to hubs of high-density living in inner-city and suburban areas. As a result, the movement of staff and students in and around the institutions as visitors rather than residents, will impact on some design features and use of space.

City centre housing

High-density living and hubs of activity tend to include the mixed use of space, residential, retail, commercial and even institutions. Design for the mixed use of space needs to consider the coordination and harmonisation of increased movement, population, and overlap of activities with a creative incorporation of CPTED principles.

The changing nature of the workforce and jobs

Queensland continues to see several trends in employment and work which have implications for CPTED. For example, an increasingly high proportion of jobs have flexible hours and allow employees to work from home. This may impact on how areas are populated and how this population can provide surveillance or develop a sense of ownership of an area.

The changing demand and use in mixed-use space

In some local areas there is a requirement for new developments to incorporate retail space on the street level. This is intended to activate the streetscape around the building. However, a lack of use of these areas can result in empty space and the loss of the CPTED principle of activation. Design that does not consider the surrounding environment and needs of the community may not achieve its intended purpose and may lead to unwanted consequences.

The changing nature of technology, communications and lifestyles

Technology advances have powerful implications for economic and social interactions: the way we work, shop, handle money, recreate, learn or socialise. The use of technology in public space may increase the level of engagement with local amenities or public space (access to immediate contact, connection etc.) But some technology may result in people disengaging from their immediate environment, for example by wearing headphones or by focussing on their phones. The advantages and disadvantages of changes in technology and its application to the environment should be assessed to ensure good CPTED outcomes.

The changing nature of communication

Active armed offenders

Active armed offender attacks on crowded places continue to be a common tactic employed by terrorists and other criminals around the world and are a possible threat to our own communities and industries. Our challenge is to respond to the threat of an active armed offender in a balanced and proportionate manner. We need to maintain the sustainability of our communities, towns and cities, while strengthening our ability to deter, detect, delay and respond to an active armed offender attack. Public safety is paramount, but in achieving this, we do not want to create unattractive, unwelcoming or dysfunctional public spaces that turn people away or significantly detract from our lifestyle.

Building and sustaining resilience to the risks posed by an active armed offender requires partnership between the community, owners and operators of crowded places and infrastructure, and government. Owners and operators of crowded places and infrastructure assets have the primary responsibility for protecting their sites, including a duty of care to take steps to protect people that work, use or visit their site from a range of foreseeable threats, including the threat of an active armed offender attack.

Governments and law enforcement agencies can support owners and operators with specialist advice and expertise that may not be available in the private sector. Developers, planners, and authorities involved in approving or managing public spaces need to discuss and seek advice from specialist agencies, both initially and on an on-going basis.

Each situation needs to be considered in its own physical and social context, which is consistent with CPTED and urban design. Protecting against active armed offenders does not necessarily require dramatic changes to the design of our environments. Where a risk has been identified, comprehensive examination of the location (including its design and purpose), must be undertaken to pinpoint vulnerabilities and effective strategies. In some cases, design can support escalating strategies depending on the fluctuating use and function of the space.

As a tool, CPTED principles are highly relevant in the deterrence, prevention or detection of suspicious activity. CPTED can strengthen a community's ability to protect its citizens while still allowing for an urban environment that is attractive, functional and sustainable.

Chapter Five

CPTED – Evolving design ideas

Queensland towns and cities continue to change.

Consideration should be applied on how best to design environments to suit the function, needs and use of the community and apply CPTED principles to facilitate the safety of the community.

The design of neighbourhoods, precincts, city centres, public places and buildings has changed in response to:

- changes in design best practice
- an evolving community
- new challenges and opportunities
- our changing and future needs.

The mixing of land uses, housing and household types in precincts and neighbourhoods

Post-war urban design favoured allocating separate areas for different types of housing. In particular, detached dwellings were separated from other forms of housing. Neighbourhood design now incorporates a wide range of land use, housing and household types. There is a more complex social mix, with a focus towards a more socially sustainable community that allows people to stay in a neighbourhood as their housing needs change over time.

A mixture of housing types caters for families, younger or older couples and singles and more. The types of housing required to cater for all groups includes apartments, small-lot courtyard or duplex houses, conventional detached dwellings, sets of units, terrace houses in groups or on individual lots.

The sharing of a street by different housing and household types

One of the most dramatic changes has been the extensive development of high-rise residential towers in some inner urban areas.

This has implications for:

- who lives in the neighbourhood and the strength of their sense of belonging and ownership of community safety
- opportunities for passive surveillance
- changing lifestyles within the local area, local centres or further afield
- the nature of local social interactions and the sense of local community and commitment to security.

There are benefits in mixing a variety of compatible land uses in the one area. Such mixes include high-density housing mixed with street cafes, local retail and services, office, transport, educational and entertainment uses. Examples are seen throughout Queensland in existing and new precincts. These mixes may be a consequence of the changing nature of employment, the low impact of many shops and workplaces on their neighbours and lifestyle changes.

The mixing of apartments and shops, offices and education in lively mixed-use precincts

This change has strong implications for:

- the local community demographic
- who is on the streets and in public places and when
- who is around to watch the streets and public places and when
- who is using public transport and when
- how legible and territorially-defined are these places
- the sense of local identity and ownership
- issues of management and maintenance.

The importance of connectivity

One of the most significant changes in recent times has been the recognition of connectivity as a key strategy for many sustainable outcomes, including CPTED.

Connectivity is the extent to which different parts of the neighbourhood are 'connected' by our streets and pathways. A highly connected place allows people to move freely, whether on foot, or otherwise by being easy, legible, reasonably direct and appropriately flexible. By encouraging movement, highly connected places deliver better CPTED outcomes because more people are out and about in the neighbourhood and able to provide surveillance.

The importance of the public space

The increase of people accessing public areas, particularly on foot, has placed a greater focus on the quality of our streets, footpaths, parks, plazas and other public areas.

There is a community expectation that a public space will be attractive, safe, accessible, varied, sufficient in size and extent, interconnected and equipped. There is a growing consensus that achieving this type of public space is an essential part of making successful and sustainable towns and cities for Queensland. Our public areas should not only act as a movement network but should also support individual and community health and well-being.

A main street with active edges and good visibility from buildings, people and vehicles

Good CPTED outcomes can impact upon the quality of our landscapes by promoting greater enjoyment and use of public places especially by pedestrians and cyclists.

Attractive design in the public space with good visibility

The approach to cars and people: mixing it

Until recently, neighbourhood and precinct planning for the safety of pedestrians focussed on:

- reducing the number of vehicles in an area
- limiting the speed of motor vehicles
- in some instances, physically separating pedestrians from streets.

This planning assumed that if pedestrians avoided being involved in a car crash, their experience of the environment would be more pleasant.

Current approaches manage traffic directly at a detailed level by integrating landscaping, streetscaping, and local area traffic management, rather than indirectly through the overall layout of an area.

This approach fosters many important social benefits, including better CPTED outcomes through the increase in the potential *surveillance* by people in cars and greater *legibility*, *territoriality* and *ownership*.

The importance of public transport

There is a renewed community commitment to enhancing public transport systems in significant areas. Patronage is increasing in various places and greater increases are both needed and forecast. For example, the South East Queensland Regional Plan places an emphasis on strategies that coordinate and link transport nodes with surrounding land uses likely to support increased patronage.

An increased use of public transport has implications for CPTED principles including:

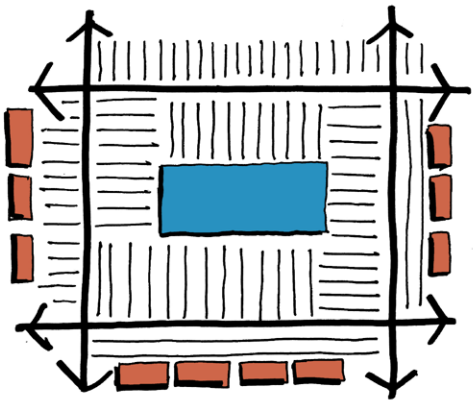
- who is travelling and when
- how safe are the areas at each end of the trip, and between
- how does the surrounding area support the use of public transport
- how closely can transport be provided safely to neighbourhoods or major places and should any new areas be developed without requiring and ensuring a safe connection to transport
- what is the sense of community of those who regularly use such transport
- how secure is the transport itself.

The application of CPTED principles to transport services is an integral part of increasing their usage and promoting a sustainable Queensland.

Increasing public transport patronage promotes activity

The urban design of centres and major places

From the 1960s, large enclosed shopping centres surrounded by large carparks were developed. In the 70s, to meet the marketing challenge posed by these complexes, existing streets were closed to create pedestrian malls.



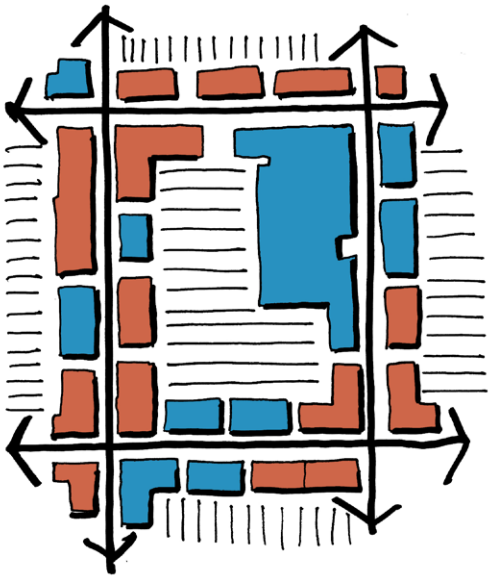
A shopping centre surrounded by carparks

Recently, we have witnessed a change in thinking about the optimum design for our centres and major places. There has been a return to the traditional main street-based centres found in most 19th century and many 20th century Queensland towns and cities. This design encourages a pattern of interconnected streets and footpaths and creates a range of sites for a variety of buildings, uses and civic places.

A traditional main street with mix, character, activity and surveillance

Shopping centres with large blank external walls are inwardly-focussed. Care must be taken to ensure there is no loss in connection with outside amenities, there is a good integration with public transport and no discouragement of walk-in customers.

In comparison, the more connected 'grid' street-based centres may offer many long-term advantages, including an ability to integrate the controlled private environment of large centres into the activated street network.

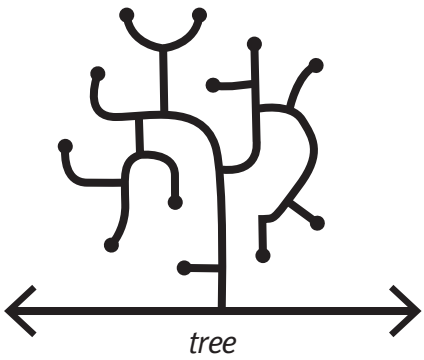


Modern integrated shopping centres

This shift in approach has been partially influenced by the CPTED-relevant learnings about *surveillance, legibility, territoriality, management, vulnerability, connectivity* and sense of community *ownership*. While many enclosed centres continue to exist and attract considerable use, they will continue to pose CPTED issues that need to be addressed.

The urban design of neighbourhoods: grids and trees

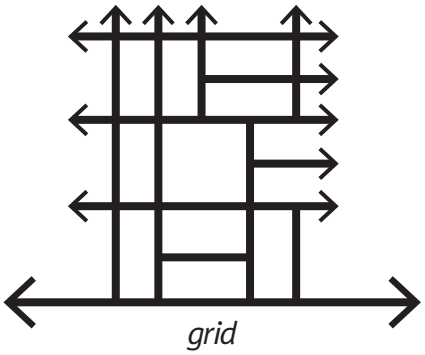
The 1970s and 1980s saw an increase in neighbourhoods designed in 'tree systems'.



These tree systems incorporate many separated cul-de-sacs and in many instances one tree system will not be connected with the next, except by a main road. The aim of these tree systems was to produce more pleasant residential streets by reducing the traffic flow past people's homes.

Changing ideas about connectivity, cars, people and mixes of land uses have provoked a shift in the best design practices for neighbourhoods, especially those with a significant residential component.

There has been a shift back to the traditional interconnected grid neighbourhoods with streets connecting in relatively simple lattice layouts. The essential feature is a high level of street *connectedness*.



This change has been supported by experience and research that suggests well *connected* neighbourhoods:

- encourage walking and cycling
- provide choices and flexibility of route
- provide for a desirable range of local street environments including opportunities for different characters, uses and functions
- allow traffic to be managed to suit the existing circumstances and surroundings
- often allow better public transport access
- provide better accessibility for emergency services vehicles and personnel
- often facilitate the inclusion of a range of housing types and land uses
- are likely to be more legible, and
- seem better able to accommodate desirable change over time.

This change has significant CPTED implications. For example, in a tree system, public transport may need to operate from large main roads as it may be difficult to navigate the series of cul-de-sacs. This may result in people having to walk longer and potentially unsafe routes to bus stops or other public transport leading to a decrease in their use. In comparison, a connected lattice of streets allows for various routes, perhaps going past local shops or overseen by houses. This may encourage use of public areas and promote a sense of ownership.

Chapter Six

Applying CPTED principles to urban settings

Chapter Three outlined the seven key CPTED principles and practices.

It is important to have a good understanding of what they mean and how they might impact on design. This chapter helps make the transition from CPTED principles and practices to application in six urban contexts.

1. The design of buildings

Buildings are fundamental to cities and towns and their design is central to community safety.

The principles underpinning CPTED can promote safety both inside and outside a building. CPTED can be employed in interior design particularly where the built environment is very large and complex, and involves differing degrees of public accessibility, such as a shopping centre complex.

Importantly, a building design and its use contributes to the safety of the surrounding neighbourhood.

This applies to all buildings, from dense urban precincts to individual homes.

Applying CPTED principles

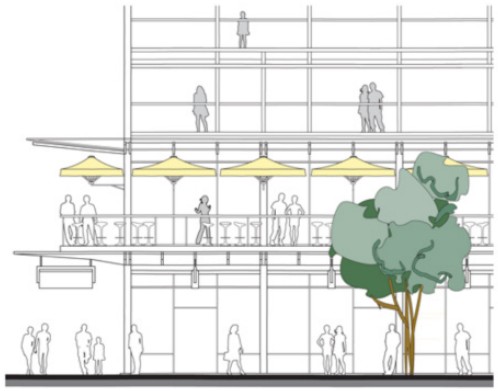
1A Buildings should be designed, used and managed to promote both appropriate *activation* and passive *surveillance* of the adjoining public space.

1B Buildings should be designed to enhance neighbourhood *legibility*, *territoriality* and promote community *ownership* and pride in the area.

1C Buildings and their sites should be designed to be defensible without lessening their proper character and function or their supportive relationship with adjoining public space.

Application

1.1 Design buildings and their sites to maximise the *surveillance* of the adjacent or nearby public space from at least the first four storeys. Consider balconies or decks with transparent balustrades and viewing angles on the lower levels that encourage passive *surveillance* to external space.



This building features active uses at street level and provides surveillance from upper levels

1.2 Ensure uses and activities on the ground floor appropriately *activate* the adjoining streets or spaces by including, where possible, inside/outside activities. Examples may include cafés and restaurants in centres or actively used garden spaces in housing.

Activating streets by incorporating cafes into the street level

1.3 Where buildings are on public corner sites, such as street/street or street/park corners, ensure they provide *surveillance* and *activation* to both streets or both the street and park.

1.4 Minimise 'dead' elements such as car-park entries, locked lobby spaces, rubbish enclosures and service lockers on main street frontages.

1.5 Design and landscape the ground level between a building and the street or civic space in ways that define *territory*, and do not interfere with *surveillance*. For example, residential front fences should be no more than 1.2 metres high or 1.8 metres high if at least 50 per cent of the fence is transparent.

1.6 Design lower storeys to minimise undesirable solar access that might cause passive surveillance to be reduced through users pulling down blinds or drawing curtains etc.

1.7 Ensure above-ground podium car-parking is combined with *active* uses such as office, residential, entertainment or retail uses on the lower levels on significant frontages to public space. Alternatively, consider including car-parking on higher levels (above level 4).

This carpark has good surveillance as well as attractive design

1.8 Clearly define the building entry on the main street frontage to be:

- visible from the street
- well identified with legible signage (day and night)
- well-lit internally and externally
- without physical or lighting concealment spots adjacent to the public space
- with its lobby visible from outside
- with external spaces visible from its lobby.

1.9 Design separate staff entrances to be:

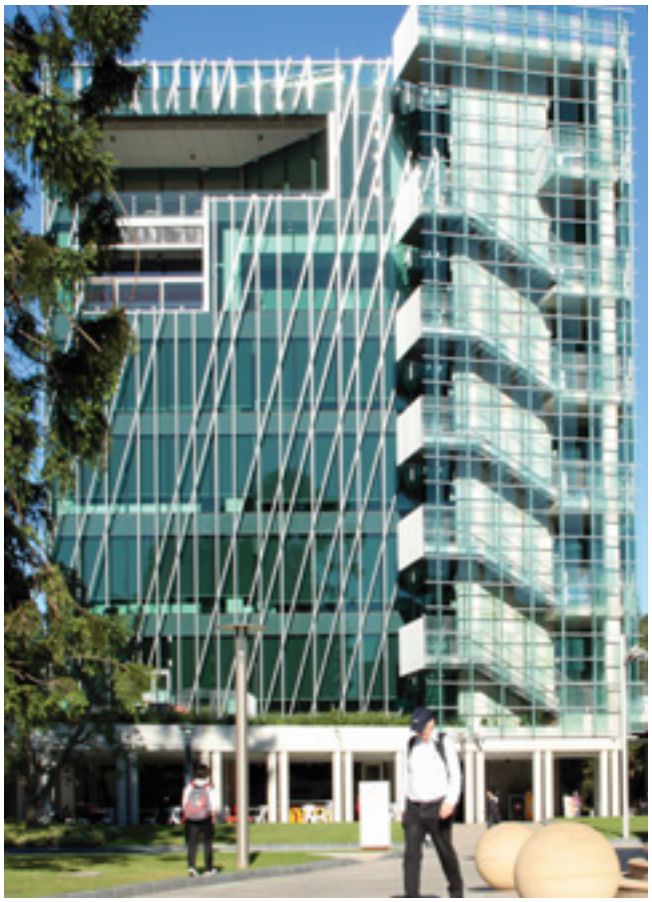
- well-lit
- preferably on main street frontages
- visible from within the building and if possible, also from the public space
- with a well-lit route to car parking or the public space.

1.10 Creatively manage the balance between security hardware at ground level (such as grilles, solid shutters, locks and other security responses) and the ability to observe the external space.

1.11 Consider placement of required building functions and utilities (hydrant boosters, generators) that do not facilitate climbing or provide concealment to offenders.

1.12 Ensure essential services (public toilets and parking for people with disability, seniors, etc.) and confined circulation systems (ramps, lifts, escalators and stairs) are in secure accessible areas or protected by *activity* or *surveillance*.

1.13 Thoughtfully manage the balance between a building's functional management of climate extremes (such as cross ventilation for tropical environments) and the impact this may have on site lines and security features.



Good design maximises functionality with visibility

1.14 Ensure green walls and art works do not obscure the potential for *surveillance*.

1.15 Locate areas of little or infrequent use, such as loading docks, service bays or storage areas after hours, in non-critical places and prevent illegitimate access by securing/locking them.

2. The design of precincts and neighbourhoods

The design of an area, such as the integration of its streets, public spaces and development sites will determine the CPTED issues that arise.

There are other sources of more comprehensive advice on neighbourhood design, however using CPTED with best practice urban design can improve safety in existing and future development.

Applying CPTED principles

2A Neighbourhoods should be designed and developed to promote *surveillance* and *ownership* of public space.

2B Neighbourhoods should be designed to facilitate walking, cycling and use of public transport.

2C Design should facilitate and promote an appropriate mix of uses, users and spaces that support social, economic and environmental sustainability.

Application

2.1 Design neighbourhoods with high levels of physical connectivity for pedestrians, cyclists and vehicles, both within and to adjacent neighbourhoods.

2.2 Use tree system layouts only in the most topographically constrained or directed locations.

2.3 Where practical, co-locate pedestrians, cyclists and vehicles in streets, and design street environments to deliver high pedestrian amenity and safety by using traffic management devices tailored to the circumstances and surroundings.

Suburban streets with vehicles, cyclists and pedestrians

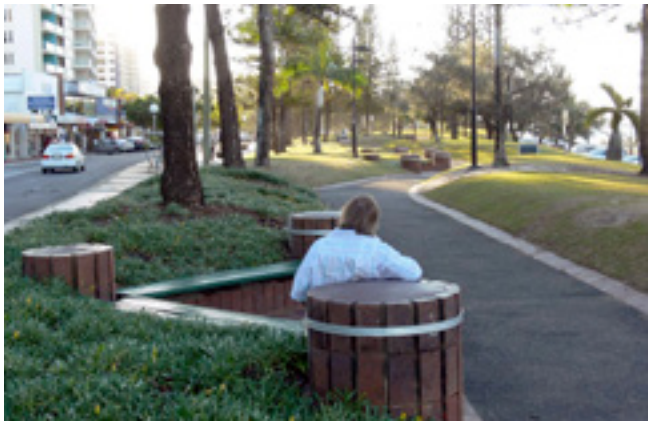
2.4 Ensure public streets are visible from buildings and residences.

2.5 Ensure public spaces and streets with a strong pedestrian role are fronted by developments that support *surveillance* and *activation*.

Public parks overlooked by apartments supports surveillance

2.6 Provide gathering places within the neighbourhood for stopping, sitting, resting, looking and interacting to encourage community ownership and the creation of shared social capital.

2.7 To promote accessibility, ensure community spaces are defined by public streets on at least half its sides (or esplanade edges to rivers, parks, foreshores and the like).



Public park edged by an esplanade promotes accessibility

2.8 Promote a variety of housing types in the neighbourhood to enhance passive *surveillance* at a wide range of times during the day and to encourage a more enduring sense of community.

2.9 Design neighbourhoods with a variety of compatible land uses that encourages local access and *surveillance*. For example, by including local shopping, office and community uses.

2.10 Design approaches that enhance *legibility* and way-finding through easily-understood street layouts and by creating vistas of important natural features and buildings.

2.11 Promote legibility and territoriality through using a variety of landscape and architectural design approaches.

2.12 Provide transport stops and routes that are legible and attractive for all users and apply CPTED principles to enhance safety.

2.13 Avoid narrow pedestrian pathways between or behind development such as at cul-de-sac heads.

2.14 Where narrow walkways are unavoidable, ensure they are faced by adjoining development and with appropriate boundaries offering surveillance, safety and amenity for pedestrians whilst maintaining security for residents.

2.15 Use battle-axe blocks and/or rear service lanes only with significant attention to CPTED principles.

2.16 Where rear lanes and associated car-parking are used to strengthen residential street frontages, consider introducing further small dwellings adjacent to the lanes which can deliver surveillance and activation.

2.17 Include and integrate institutions (retirement villages, childcare centres or schools) to enhance activation and surveillance and support local infrastructure.

2.18 Integrate neighbourhoods and nearby centres rather than separating them into defined areas for housing and shopping and strongly support pedestrian/cyclist movement within the more combined precinct.

3. The design of public space

Public space (civic spaces, parks, plazas, footpaths, urban streets and other shared community spaces) is critical to the success and safety of the community. It connects all elements of a community: young and old, rich and poor, energetic and quiet.

It is vital that it is a safe place.

Applying CPTED principles

3A Public space should be designed and managed in ways that encourage *legitimate* use and safety.

3B The interface of the public space with the buildings that define and adjoin it should promote *activation*, use and *surveillance*.

Active areas with good surveillance

Application

3.1 Design, develop and manage a range of public spaces that cater for the different needs of groups within the community, to promote community activity and *ownership* and support safety.

3.2 Design and maintain parts of the public space in ways that both makes obvious and encourages the range of legitimate community or individual uses.

3.3 Design and manage the natural and other landscape features to provide an appropriate level of surveillance, within the space and from outside, including areas designed as quiet spaces where a degree of privacy may be offered rather than complete isolation.

Quiet spaces that balance visibility and amenity in parks

3.4 Design and manage the public space in ways that respond to different times. For example, day/night or weekday/weekend contexts or seasonal differences.

3.5 Design pedestrian and cyclist (and slow-moving vehicle) movement *through* or along the edges of community spaces in ways that do not interfere with the activities of others in the space.

3.6 Design and manage spaces to enhance *legibility*, including public artwork, other landmarks, signage, views within and out of the area and visibility to passing traffic.

3.7 Ensure appropriate signage is provided in logical places to assist way-finding, using symbols and clear graphics with maps.

Good signage helps in way-finding

3.8 Engage community groups in the design and management process to acknowledge heritage and other cultural issues and to build community ownership (see principle 3: Ownership in Chapter Three).

Cultural contribution to design

3.9 Ensure buildings bordering or overlooking public space are supportive of the public space in their design and use (see Section 1: The design of buildings of this Chapter).

3.10 Carefully consider, when placing actively used areas (such as cafés and playgrounds) in public places, the advantages of locating these areas deep within a public place or at its edge.

Well placed actively used area in a public space

3.11 Ensure appropriate CPTED principles are applied to public access precincts that are privately owned.

4. The design of centres

Centres are dominant features of the urban environment contributing to the social and economic vitality and environmental sustainability of the community. They have traditionally been dominated by retail uses but now accommodate a variety of other urban uses.

Existing centres range from local neighbourhood places to very large complexes or precincts.

Applying CPTED principles

4A Significant activity centres should be designed and managed to promote *activation* and *surveillance* of the public space and promote a shared sense of *ownership* of community safety.

4B Centres should be designed and managed to facilitate access to and movement within them by walking, cycling and public transport, supported by appropriate private vehicle usage.

4C Centres should be designed and promoted to accommodate a range of appropriate uses connected by a public space that facilitates *activation* and *surveillance* over long periods.

Application

4.1 Promote surveillance with design layout and structure of centres that provides and encourages high connectivity for pedestrian activity, cyclists, public transport services and slow-moving vehicles (for example, by adopting lattice/grid and main street approaches).

A shopping centre promoting connectivity via pedestrian and cyclist access

This bus facility promotes surveillance and encourages high connectivity

4.2 Provide a public space as a central part of the layout that is attractive and easily accessible by pedestrians and is not broken frequently by 'dead areas', like carparks.

4.3 Promote accessibility, *surveillance* and *legibility* through shared use between pedestrians, cyclists and vehicles. For example, by traditional urban streets with generous, high amenity footpaths.

4.4 Ensure continuing commitment and practice of CPTED principles.

4.5 Design mixed-use and activities to encourage legitimate usage for extended periods.

4.6 Promote the inclusion of urban housing in centres to enhance *surveillance*, street activity and *ownership* of outcomes.

4.7 Encourage the growth and expansion of centres in ways that add facilities and space while minimising gaps and vacancies. Design and maintain connection between centres, transport options and neighbourhoods that apply consistent CPTED principles.

4.8 Locate and design landmark buildings and civic spaces in ways that enhance community legibility and pride.

Landmark buildings as key parts of our communities

4.9 Design buildings in main streets to facilitate *active* uses at street level (cafes, restaurants and other long-hour retail uses), especially those that populate footpath areas.

4.10 Integrate major private and public institutions (universities, hospitals, schools, shopping malls, indoor recreation and cultural facilities) into mixed-use centres to support pedestrian, cyclist and public transport activity, over long hours.

4.11 Locate transport stops and hubs in places (main streets, retail entries, close to important civic spaces, areas used at night or intersections) that are logical, *legible*, made safe by activity and accessible, and design them to be comfortable (well-lit and weather protected).

Embedding transport nodes in active mixed-use areas

4.12 Locate and design car parking to facilitate continuity of the centre. Provide safe access routes from the active areas of the centre to the car parking areas.

4.13 Design multi-storey car parks capable of being converted to active urban uses.

5. The design of pedestrian and cyclist systems

Active movement such as walking, and cycling should be encouraged for their many benefits ranging from improvements to an individual's health to adding vitality and surveillance to our streets.

The planning of cycling and walking systems should consider the potential for conflict between moving vehicles, cyclists and pedestrians. Care should be taken to ensure the safety of users particularly on isolated 'off-road' areas.

Applying CPTED principles

5A Surveillance may be maximised by safely designing and managing the integration of pedestrian, cyclist and vehicle movement in close and supportive relationships.

5B Where separate pedestrian and cyclist systems are proposed, such as through parkland for recreational purposes, supportive CPTED principles should be introduced.

Application

5.1 Adopt neighbourhood and centre urban design layouts, streets and paths that integrate pedestrian/cyclist routes and are of sufficient width and quality to meet all needs. This may include providing separate travel routes if warranted through high volumes of bicycle or motor vehicle traffic.

Promoting cyclist safety through dedicated bike lanes

5.2 Design cyclist/pedestrian paths (especially separated systems) to avoid entrapment spots where pedestrians cannot see the whole route from within or before entering, and where potential observers are also minimised. Failing to consider CPTED principles during the planning and design phases of cyclist/pedestrian paths can lead to long tubes, corridors, blind corners, tight spaces and underpasses becoming potential entrapment spots.

This tunnel provides a clear sightline to avoid entrapment

5.3 Manage intersections between pedestrians/cyclists and vehicle traffic without resorting to underpasses or overpasses unless they are appropriately planned and designed to safely achieve its intended purpose. For example, an underpass or overpass may be the preferred option to allow a pedestrian to safely cross a highway. Appropriate underpass and overpass design should incorporate relevant CPTED principles including whether it is supported by both the urban topography and active edges of adjoining and defining buildings and uses.

5.4 Avoid creating narrow pedestrian/cyclist paths that are hidden from view behind side or rear fencing or buildings.

Bike paths with minimal surveillance from adjoining housing

5.5 Use landscaping and built features, including signage and artwork, to enhance legibility.

Good signage for way-finding

5.6 Where CPTED principles cannot be sufficiently applied in the design of the environment, consider organised technological and human surveillance or special management regimes (for example, panic buttons or duress points).

CCTV surveillance promotes safety

6. Redevelopment and renewal

Our towns and cities are continually changing. This takes place all over the urban environment by:

- changes to the use of existing buildings
- altering of the built detail and operation of structures
- expanding buildings to accommodate different functions
- demolishing and replacing existing structures with new ones
- redeveloping inner urban sites to new urban precincts, facilities, streets and places
- adding transport infrastructure (such as pedestrian bridges and busways)
- redesigning public spaces.

Designers implementing growth and change in our communities should consider whether:

- the design features of the existing development contribute to a safe environment
- how the planned or proposed changes contribute to the use of the space and the safety of the environment.

Factoring CPTED principles into the renewal of an area involves weighing the priority of safety against other relevant objectives and practices. In doing so, CPTED principles and practices should be applied to the merits of each space and its relationship to its surroundings.

Various issues arise in a renewal or redevelopent context. Generally, changing **the use of a building** is easier than changing the structure of the building itself. It affords opportunity to clearly identify the purpose and use of the internal and external environment and employ CPTED principles to overlay and connect the spaces in a harmonious and supportive way.

Changing **the design of an existing precinct** is much more complicated. Having a comprehensive understanding of the current and future use of the space is critical so that the design and integration of CPTED principles support community needs and use, rather than attempting to force upon the community something it does not require. Examination of housing, movement, transport, street connectivity and links to all services and amenities should be undertaken prior to planning. This applies to residential neighbourhoods, campus communities, retail hubs, and new social infrastructure concepts (high-rise high schools) and other changes such as road systems that can dramatically and permanently sever neighbourhood communities or provide new bridging opportunities.

As CPTED continues to grow in application, it is strongly recommended that the planning, design and management of space continue to incorporate CPTED principles to facilitate the safe and effective use of space.

This redeveloped mall provides improved way-finding and easy vehicle access if required

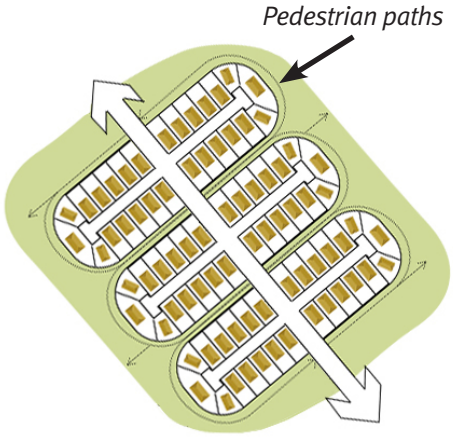
Chapter Seven

CPTED considerations for residential neighbourhoods

Different urban design and planning approaches to residential neighbourhoods and centres have varying strengths and weaknesses when it comes to 'designing out crime'. The general trends in design thinking outlined in this chapter are considered important for sustainable city-making.

Separate systems or 'Radburn' estates

Radburn estates are based upon the Radburn project developed in the United States of America in the late 1920s. These projects typically ran pedestrian paths broadly parallel to the streets but on the other side of the houses allowing each house to have two separate directions of entry and access. The design responded to concerns that cars would dominate residential environments making streets and neighbourhoods physically unsafe and pedestrian-only paths would enhance safe walkability.



Pedestrian paths running parallel to the streets

Although Radburn estates were developed in Australia, there are few, if any, projects now being proposed. The existing (mainly private) ones raise CPTED issues.

Urban design thinking has moved away from ideas of strongly separated pedestrian and traffic systems. Such estates have been found to create:

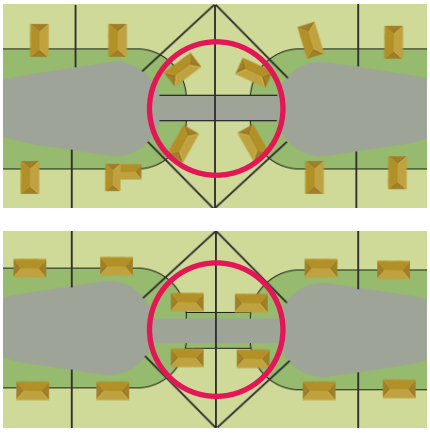
- territorial ambiguity (which is the front door and which the back, or are there two front doors?)
- reduced privacy and reduced security in the otherwise more defined and controlled backyards
- security issues if, in response to the reduced privacy and security, backyards have been high fenced creating largely hidden narrow back lanes
- illegibility (including for emergency services, have they driven into the wrong tree-system and must go back to the beginning?).

Such estates have been found to make it difficult to deliver a safe residential environment. In various Australian neighbourhoods, programs have in recent decades even set out to physically and legally close the back lanes.

Culs-de-sac and narrow paths

In some tree-system neighbourhoods, the reduced pedestrian connectivity between one tree and another, or from the tree to a nearby main road has often led to the development of pedestrian pathways at the cul-de-sac head, typically running past the side fences defining the backyards of adjacent house properties.

Such pathways have become challenged as they reduce the security, privacy and amenity of adjoining properties. Even when well-lit at night, they may provide concealment spaces which can reduce the amenity of the housing. This may be addressed by specifically designing the adjoining housing to face and overlook the side walkway. However, this may be at some cost to its layout and private garden area.



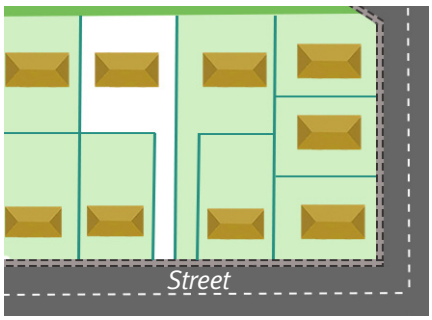
Turning houses to provide surveillance of paths

While there may be arguments to use some cul-de-sac in particular situations, they need to be carefully designed to avoid CPTED issues. Cul-de-sacs remain one of the most difficult characteristic of tree systems to manage acceptably.

Battle-axe or hammerhead lots: 'embedded'

The same issue occurs in part with development that tries to be cost 'efficient' by minimising expenditure on roads through using 'battle-axe lots' (named after the plan shape).

The up side is that house lots might seem to be 'hidden away from trouble' and add different types of housing to the area.



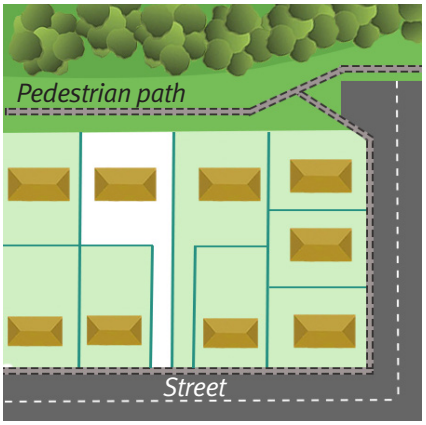
Battle-axe blocks have pros and cons

The down side is that such lots:

- contribute little if anything to passive surveillance of the street
- potentially create back of fence or 'side lane' problems of loss of privacy, amenity and perhaps security for the backyards of the other house lots
- potentially create problems of legibility ('Where is number 14?') and resident and visitor parking and manoeuvring.

Battle-axe blocks with a view

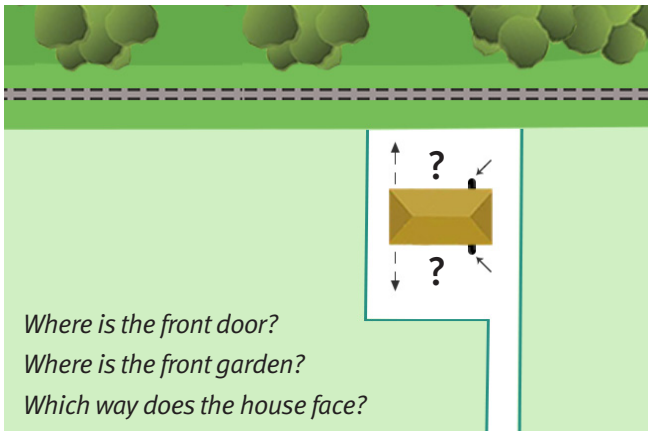
Sometimes, however, the battle-axe blocks have a view: onto a park, waterway, beach, fairway or other desirable community or group asset.



Battle-axe block with a view

That might, on balance, be a reasonable outcome if (besides the normal battle-axe issues) it delivers strong surveillance to the park or other community asset.

The design of the housing is not always easy, for where is the front door? Does it face the battle-axe driveway or the adjoining asset? How and where do visitors arrive? Do the residents arrive by a different route? Is there private outdoor space and does it permit you to see the beach, park or other public space?



Rear access blocks raising questions

One response has been to put a pedestrian path along the edge of the waterway or fairway for visitors and others in the area and to treat the driveway as nothing more than a service entry for the residents.

This raises CPTED issues that include:

- the safety of pedestrian visitors walking from their car parked further away
- the distance and terrain they must walk and whether all are physically able to do so
- the security of the now service only driveway – is it gated at the rear street?

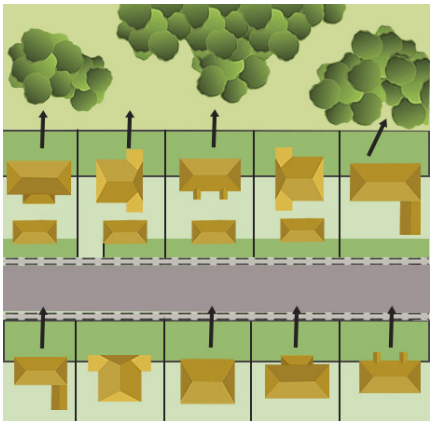
Battle-axe layouts might sometimes be good but the environment and usage details are critical.

Conventional house lots with views

Often, developments orientate towards a view with 'conventional' lots (not battle-axe ones).

It has been common practice in golf course and canal estates to line the green/blue asset with 'desirable' house lots with direct water/green space access. Canal lots almost always have no public pedestrian boardwalk interrupting their access although the golf course lots might see some community pedestrian link along the side of the fairway.

These solutions deliver potentially good surveillance and 'ownership' of the landscape. However, it would not be a good CPTED outcome if that 'ownership' were to be so strongly felt that residents tried to discourage others from legitimately enjoying the area.



A street where only some houses enjoy a view

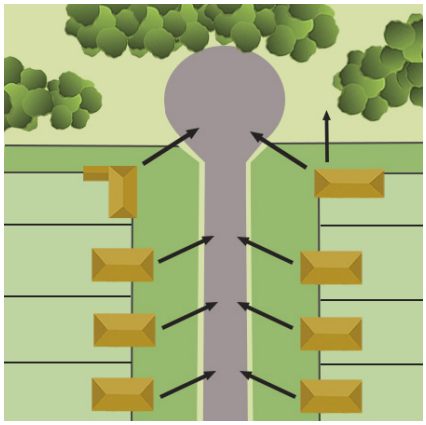
A worse CPTED outcome may arise if the houses enjoying the view are designed in ways that 'turn their backs' towards the supporting street. If they strongly face the view with most of their living spaces and present only garage doors, service areas and entries towards the street, they:

- fail in their community duty of surveillance of that public street
- in doing so, arguably send a symbolic message to their neighbours opposite that their sense of 'community ownership' might be directed away from the functionally shared street
- symbolically divorce those neighbours opposite from much sense of connection with the beautiful community asset ('who can tell if it's in their neighbourhood?')
- frequently visually divorce the landscape feature from the rest of the neighbourhood so that it no longer contributes to the legibility and walkable attractiveness of the area.

Those developing such estates may consider the private profit to be made from the houses with exclusive views more than compensates for the lower return on the other houses with none. However, the CPTED implications for the whole community should be considered in this calculation.

Houses with views and many others sharing the asset

Some argue that it is possible to have a win-win outcome where many may share a community asset such as a park, seafront or other landscape feature. One approach, for example, simply runs streets parallel to each other, all heading towards the green/blue asset (rather than running a street along the asset's edge).



Streets promoting views, ownership of, and access to the local parkland

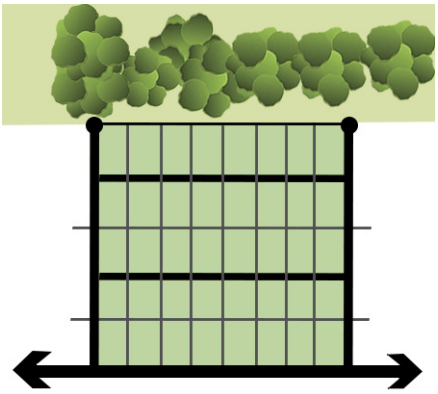
Such approaches arguably:

- still deliver houses fronting the view without turning their backs towards the others
- allow the remaining houses to feel connected to, and a sense of ownership of, the landscape feature
- encourage access to and use of the landscape asset, enhancing its safe walkability
- increases the desirability and market value of all the other housing without necessarily diminishing the value of dwellings directly facing the asset
- in the process, enhance the legibility and territorial definition of the area.

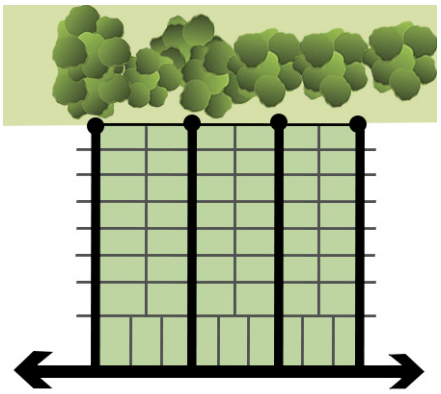
These approaches are practical and marketable responses consistent with CPTED principles.

Esplanade approaches: facing it

The idea of designing for all to participate in the safe enjoyment of parks, seafronts and the like are complementary to the growing acceptance, indeed promotion, of carefully mixing slow-moving cars and cyclists with pedestrians in shared street and civic places.



Parklands with limited access



Making parklands more accessible

Together, they are changing the way neighbourhoods and centres are being designed with respect to such community open spaces and civic assets.

Contemporary thinking is moving away from allowing these assets either to be edged directly by private development or merely by a pedestrian walkway between that private development and the community asset of park, river and such.

Such designing is, of course, not new and can be found in the great seaside and river esplanades of many Queensland towns.

Making public spaces more accessible

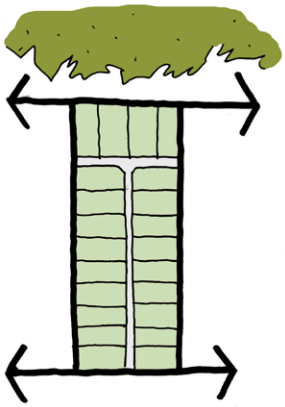
So confident is the belief in the surveillance and accessibility outcomes of public streets with cars and with people on footpaths that increasingly civic spaces and assets are being edged by streets. It may be argued that failing to provide slow-moving vehicle access at a park edge could prevent people with disability from accessing those areas either by denying their access outright or making their journey from distant streets more arduous and unsafe.

Rear lanes in support

The facing of development onto streets and public spaces is important for their quality and security. The strength of surveillance and the quality of the pedestrian space may be enhanced if the frontage is unbroken by many driveway access points.

One way to address is the introduction of rear lanes that provide vehicle and service access without setting out to give access to front doors or wanting to attract pedestrian use.

This is not a new idea for many older Australian neighbourhoods that have the traditional night-cart lanes, sometimes associated with detached bungalows and 19th century terrace houses.



Rear lane providing access to homes

However, these vehicle lanes can become problematic if they become hidden out-of-the-way places. They are inevitably wider than narrow pedestrian paths but are:

- usually longer
- usually lined by high fences
- sometimes with hidden corners created by the neighbourhood layout
- frequently with concealed spaces at the level of the lane created by the detailed design of car access points
- usually technically 'efficient' and without landscaping
- not expected to provide an attractive outlook and therefore offer little surveillance (if at all)
- perhaps poorly-lit
- inactive out-of-hours.

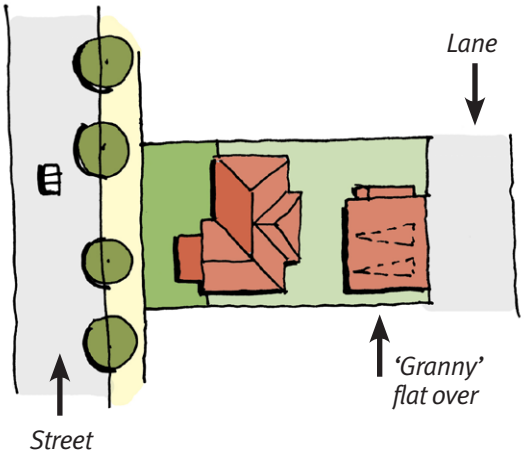
Applying CPTED principles to these areas can enhance safety.

Secondary dwellings

Surveillance of these laneways could be enhanced in areas of low to medium-density housing by adding to the diversity of housing types in this area. This could be achieved through the addition of secondary dwellings (granny flats), guest accommodation or entertainment areas in backyards or on top of the garages that line these rear lanes.

In some older neighbourhoods, where property dimensions are generous enough (and the needs of the existing dwellings fronting the larger streets can be met while still leaving reasonable land and frontage), the areas abutting such lanes have provided opportunities for significant infill housing with the laneways becoming 'address streets' themselves.

Laneways that assist buildings to support great streets and public places are desirable, but only if they do not become significant problems in themselves. As with CPTED issues, it is a matter of balance.



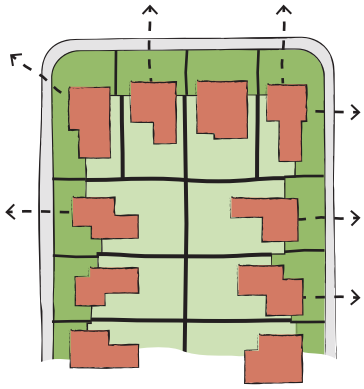
Can rear lanes and granny flats deliver a good outcome?

Fronts and backs

Many of the design approaches adopted in urban contexts raise two issues of what some term 'fronts and backs'.

Firstly, which is the front of the development and which is the back (if any)? Does the design create ambiguity and a loss of legibility, and, in so doing, create a safety or security problem? Do peoples' practical responses to the loss of privacy and security create further problems?

And secondly, does one development present its 'back' to the front of another development or to the public space and, in so doing, lessen surveillance or amenity to community security?



'Fronts and Backs' – where housefronts face the street and their backs face each other

Such questions arise in Radburn estates, canal and golf course developments, battle-axe blocks, areas of mixed use and more. The best CPTED outcomes require a detailed understanding at the architectural and landscape interface of buildings and the public space so that flexible responses can be employed to design out problems. This will lead to the informed urban design of neighbourhoods that maximises the chances of a good outcome.

For example, the detached house form, so common historically in Australian towns and cities, is usually very legible. The front and back of the house are clear as is which is the front garden, and which is the backyard. There is enhanced security in both the legibility and in the cooperative control of access into backyards.

Houses on corner sites fall into a special category as they have *two* fronts. These houses may promote their territoriality by clearly identifying entry points for the community.

Additionally, two storey houses provide good potential for increased views of the street. This must be balanced with the increased potential to lessen the privacy of neighbouring properties. Design needs to consider where windows in upper storeys are placed.

Australian houses are usually strongly connected to their front and back garden spaces. Other housing forms, however, such as multi-storey apartments, may place less emphasis on connecting privately-controlled garden areas directly to adjacent ground-floor units and instead allow 'group-managed' garden space to adjoin the bottom units. In such cases, care should be taken in delivering legible territoriality, privacy and security.

Taller development

Increasingly, we are seeing taller residential development in medium-rise apartments and tall towers. Apartments on upper floors can and should provide passive surveillance in several directions as they are not constrained like single-storey houses with back fences.

The height of an apartment is important and applies particularly in denser taller inner urban areas. The higher buildings go, the less the sense of connection with the public space at the ground level and therefore the less the potential sense of ownership of security outcomes. There is also a reduced concern about the invasion of privacy but unfortunately, the usefulness of supportive surveillance also decreases.

Research suggests the first four or five storeys of a residential development are critical for delivering passive surveillance. It is vitally important that these frontages are not blank or 'dead' when overlooking important neighbourhood or town centre streets and community places.

Where these developments are placed at a street corner, they can provide increased community surveillance and safety to both streets. This may occur without causing complaint by overlooking and invading the privacy of adjacent neighbours. In comparison, a development located mid-block is often the cause of social objection, if design does not offer privacy to neighbours, and, perhaps an undermining of a sense of commitment to the public space.

This apartment block provides good surveillance on both streets and neighbouring park

Chapter Eight

Applying CPTED to vulnerable areas

Chapter Three outlined that some places are more vulnerable to criminal activity than others.

Factors that encourage criminal activity include:

- a lack of surveillance created by the design of the precinct and its impact upon the surrounding built environment, such as hidden by back fences or blind corners
- a lack of surveillance created by the unsupported uses in the area
- a lack of surveillance created by the hours of their operation, especially at night-times or weekends, such as 24-hour service stations or 'accessible-but-not-open' shopping arcades
- a vulnerability to physical harm from the design and detailing of their construction, for example, by using flimsy construction materials
- 'legitimate' social and/or easy physical access for the would-be offenders
- the opportunity for easily accessible rewards, such as ATMs or other 24-hour locations with the potential for cash or other valuables.

Applying CPTED principles to these areas may lessen their vulnerability, if it is neither practical nor desirable to harden or lock these vulnerable places away.

In each of the below applications the specific risk informs the CPTED principles and practices that will best reduce risk and facilitate safe use of the space.

1. Automatic Teller Machines (ATMs)

Design of and around ATMs should consider the privacy and safety of users, and the security of the machine in relation to its location (inside, outside), and times of accessibility (day, night, 24/7).

ATM in the main street amidst cafes and shops

2. Service stations

The design and management of service stations should consider the geographical location, demographic and vicinity to other active hubs, operating hours, user and staff safety, after-hours access, vehicle movement around different services, and protection of property. In this case, CPTED principles and design should be supported by management strategies and operating protocols to support staff and user safety at all times of the day/night.

3. Night-time entertainment areas

Design considerations include the ease of transport access to reduce unnecessary mass gatherings, collaborative use of space, managing potential conflicts between venues and closing times. Also consider accessibility to and from services, managing potential conflict between people and vehicles, designing for rapid clearing of spaces and the potential of moving people on versus allowing them to loiter and cause potential conflict.

4. Public toilets

Consider the location (to meet community needs), privacy and safety of users and the security of the asset. Locating, via appropriate signage, and accessing toilet facilities should be part of the design process.

Public toilets with good visibility and legibility

5. Skate park facilities

These areas should provide a safe, active space that is visible without imposing on other users in the surrounding spaces. Consider access to transport and the vicinity to compatible spaces or entities.

6. Car parks

Design should consider vehicular access and exit points, design (open, secure, multi-level), access hours (day, night, 24/7), operation and management (free, paid), pedestrian access and egress, shared use, pedestrian permeability (public access, private use), and the anticipated usage.

Considerations about the use and security around car park payment booths/machines should be like those given to the design of ATMs.

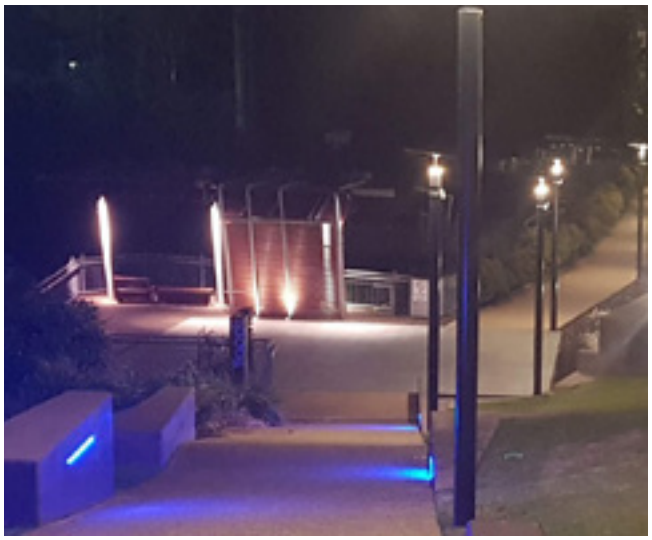
7. Transport infrastructure

The design and management of transport infrastructure such as bus stops and taxi ranks should consider the geographical location, demographic and vicinity to residential areas or activity hubs, operating hours, user and staff safety, after-hours use, and degree of isolation. It is imperative CPTED principles and design are supported by management strategies and operating protocols for all times of operation (day/night).

Embedding transport nodes in the busy public realm

8. Lighting design and signage

Lighting design and signage deserves special consideration through the impact it may make to vulnerable areas. CPTED principles should be integrated with the existing range of technical standards and requirements that relate to the specific aspects of making the built environment including lighting and signage. CPTED practitioners and designers should access the specific standards when including formal lighting and signage into recommendations. The standards provide valuable information on installation, dimensions and measurements, and best practice.



A balanced lighting design to reduce vulnerability of this public space

The interplay between lighting, signage and vegetation should also be considered, including deciding when lighting space is appropriate and when it is not. For example, if there is no surveillance from outside the space, the space may be susceptible to graffiti or damage irrespective of lighting.

9. Other domains

Ageing-friendly urban design

Ageing-friendly environments have been designed in various ways such as:

- campus style retirement villages in locations away from the town and city centres
- more recently, medium-density apartments or high-rise residential towers (with supporting facilities) in or near existing communities
- encouraging independent ageing-in-place by staying in dwellings, owned or rented, and integrated into neighbourhoods and communities.

The design of aged-friendly environments should consider integrating into the wider community and encourage ownership and connectivity with neighbours, services and transportation while adhering to the principles of passive surveillance.

Universities

Most university structures in Queensland exist in a defined campus, often separate from other parts of the town or city, however remote off-campus learning is becoming increasingly offered and undertaken.

Many campuses are designed as buildings scattered within a created or natural landscape, which can create conflict with passive *surveillance*, *legibility* and *territoriality*.

CPTED principles should be applied when providing:

- readily identified routes with clear way-finding
- organised and mechanical surveillance
- the clustering of after-hours activities within the same area, such as cafes and libraries close to student pick-up areas
- controlling and monitoring after-hours access to buildings and facilities
- amenities along important routes to augment perceptions of safety and surveillance.

Readily identified routes feature at this university campus

Hospitals

While hospitals need many of their facilities to be closely interconnected, some are now relocating services that do not need to be closely connected away from other buildings or off-site.

Design considerations should include the extended area outside and around a health precinct and ask:

- whether the services provided may give rise to specific issues
- whether staff, patients and visitors use public or private transport to safely access the health precinct (especially at night)
- how staff and patients move safely from one health facility to another.

Interconnecting facilities at this hospital

Industrial areas

General or heavy industrial estates are often vehicle-dominated and not conducive to public transport, pedestrian and cyclist movement. This raises questions of safety, especially after hours. The layout and design of these places should incorporate CPTED principles to minimise unwanted behaviour. A focus should be the change in use from day to night-time and the potential for problems to occur after hours when there is a lack of activity. CPTED outcomes that encourage legitimate activity outside business hours may reduce this concern.

Overall

A range of important urban environments, particularly institutional ones, should be designed and managed in ways informed by CPTED.

Consideration should always be given to applying CPTED to existing and future designs, understanding location, use and demographic, functions and features that enhance the community while helping the project deliver the required outcomes.

Conclusion

Implementing CPTED involves applying simple concepts to a complex environment.

The objective of CPTED is straightforward. Its purpose is to reduce or prevent crime through improving the decisions we make in planning, designing and maintaining our built environments. CPTED principles are similarly simple and have been adopted within legislation or as best practice by many urban planners.

However, complexity arises when assessing all the factors that can impact upon a CPTED decision. For any given design challenge, there may be community, environmental, cultural or economic issues to be considered. The successful implementation of CPTED may also require input from professionals from a range of disciplines such as town planners or engineers. Further complexity will arise if a balanced solution between competing interests or ideas is sought.

The strength of CPTED decisions rests in its flexibility and adaptability. These decisions are scalable, allowing them to apply from small areas through to large precincts. Further, good CPTED outcomes are the result of appreciating the environment surrounding a design issue and applying appropriate solutions that are tailored to the circumstances.

These Guidelines aid CPTED practitioners by outlining CPTED principles and raising a range of factors to be considered when determining the best outcome for any design challenge. Ultimately, every individual benefits from a safer community. Applying CPTED to decisions about the planning, design and management of our built environment will assist in achieving a safer Queensland.

Definitions

Active armed offender

An armed offender who is actively engaged in killing or attempting to kill people, and who has demonstrated their intention to continue to do so while having access to additional potential victims.

Activity generators

Places the public are encouraged to use. Such places may include outdoor cafés and restaurants, outdoor sporting areas located within open space, clusters of shops, etc.

Concealment spaces

Places that are not easily visible from outside of these spaces. They provide opportunities for potential offenders to hide and to commit anti-social activity including crimes.

CPTED

An acronym that stands for Crime Prevention Through Environmental Design. It is a crime prevention philosophy based on good design and effective use of the built environment leading to a reduction both in the fear and incidence of crime, as well as an improvement in the quality of life. The use of CPTED is intended to reduce crime and fear by reducing criminal opportunity and fostering positive social interaction among legitimate users of space. CPTED places an emphasis on crime prevention rather than apprehension and punishment of offenders.

Entrapment areas

Small physically confining spaces usually shielded on three sides by barriers such as walls or landscaping. These areas may be used to assist offenders to confront their victims. Entrapment spots include loading zones, spaces between buildings, clearings within landscaping and recessed entrances. Entrapment areas are particularly dangerous when located close to well-travelled routes and movement predictors.

Legibility

The ability of people, who are unfamiliar with an area, to find their way. Legibility instils a sense of confidence in users of public space and can be achieved though the identification of designated pedestrian routes through the use of signage, lighting and suitable landscaping.

Legitimate use

The lawful and appropriate use of a building, facility or public space.

Illegitimate use

Use of space by those who may have criminal intent and no legitimate reason to be in an area.

Movement predictors

Predictable or unchangeable routes that offer limited choices to change direction. Examples of movement predictors are pedestrian underpasses, narrow passageways, stairwells and pedestrian bridges. Movement predictors are of concern especially when located near entrapment areas, concealment places or isolated areas.

Observers

People who are legitimately in a space and are exercising passive surveillance.

Public spaces

Refers to both:

a) spaces that are publicly owned and which are intended for use by the public, and

b) spaces that are privately owned and which are intended for use by the public.

Surveillance

Is used in three ways:

a) passive surveillance by fellow users of space or those with a view of the space (e.g. casual observers)

b) active surveillance by those who are employed to protect or manage the place (e.g. trained security guards, attendants and other trained personnel)

c) mechanical surveillance (e.g. security cameras).

These Guidelines are aimed especially at enhancing opportunities for passive surveillance so that anti-social behaviour or crime related incidences might be discouraged, detected and prevented.

Target hardening

The use of physical barriers, locks, safes, screens, bollards or reinforced materials to reduce the opportunity for illegal access or vandalism to a property.

Urban design

The design-based approach taken to optimise the performance and efficiency of our suburbs, towns and cities. It complements other disciplines such as strategic planning, cultural planning, regional development and economics in shaping our urban environments.

Urban Design uses an integrated and multidisciplinary approach to optimise the way urban spaces work. It pays particular attention to the interfaces between the public and private spaces and the natural environment, and cultural values including built and social heritages.

References and further resources

Australia-New Zealand Counter-Terrorism Committee 2017, *Active Armed Offender Guidelines for Crowded Places* viewed 21 April 2020, https://www.nationalsecurity.gov.au/Media-and-publications/Publications/Documents/active-armed-offender-guidelines-crowded-places.pdf, accessed April 2020.

Crowe, TD 1991, *Crime prevention through environmental design: applications of architectural design and space management concepts*, Butterworth-Heinemann, Boston, Mass.

Department of Sustainability and Environment Victorian Government 2004, *Safer Design Guidelines for Victoria, Model CPTED Code*.

Department of Sustainability and Environment, Crime Prevention Victoria 2005, *Safer Design Guidelines for Victoria*, https://www.planning.vic.gov.au/__data/assets/pdf_file/0014/4631/Safer_Design_Guidelines.pdf accessed April 2020.

Government of Western Australia 2018, *Designing out crime planning guidelines*, Department of Planning, Lands and Heritage, viewed April 2020, https://www.dplh.wa.gov.au/policy-and-legislation/state-planning-framework/fact-sheets,-manuals-and-guidelines/designing-out-crime-planning-guidelines.

Jacobs, J 1961, *The death and life of great American cities*, Random House Inc, New York.

Jeffrey, CR 1971, *Crime prevention through environmental design*, Sage Publications, Beverly Hills, Calif.

Ministry of Justice, New Zealand 2005, *National Guidelines for Crime Prevention Through Environmental Design in New Zealand*, https://www.justice.govt.nz/assets/Documents/Publications/cpted-part-1.pdf, accessed April 2020.

Newman, O 1972, *Defensible space: crime prevention through urban design*, Macmillan, New York.

Office of the Deputy Prime Minister 2004, *Safer Places: The Planning System and Crime Prevention*, United Kingdom, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7784/147627.pdf, accessed April 2020.

Region of Peel CPTED Advisory Committee 2002, *Crime Prevention Through Environmental Design: Principles*, https://www.peelregion.ca/planning/cpted/cpted-introduction.pdf, accessed April 2020.

Queensland Department of Housing and Public Works, Office of the Queensland Government Architect, *QDesign – Queensland Urban Design Principles 2018*, https://www.hpw.qld.gov.au/__data/assets/pdf_file/0022/4837/qdesignmanual.pdf

The Office of the Queensland Parliamentary Counsel, https://www.legislation.qld.gov.au/.

Australian and International standards at www.saiglobal.com.

The International CPTED Association, http://www.cpted.net/.

The International Security Management and Crime Prevention Institute, https://ismcpi.com/.

The Urban Design Alliance of Queensland, http://www.udal.org.au/.

Wekerle GR & Whitzman C 1995, *Safe Cities: Guidelines for Planning, Design and Management*, Van Nostrand Reinhold, New York.

Population data and demographic projections in Chapter 4 were generated from the:

Australian Bureau of Statistics, April 2020, Population Projections, Australia, 2017 (base) -2066 , https://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/3222.0 accessed April 2020.

Queensland Government Statistician's Office, 2018, Household and dwelling projections: https://www.qgso.qld.gov.au/statistics/theme/population/household-dwelling-projections/state accessed April 2020.

Acknowledgements

In addition to those who contributed to the development of the 2007 Guidelines, the following individuals and agencies are acknowledged:

- John Byrne, Adjunct Professor, School of Design, Queensland University of Technology is acknowledged as the principal author of this document.
- Queensland Police Service members, Michelle Mullen and Chris Hebblethwaite, and members of the Keep Communities Safe Project Team: Paul Friedman, Andrew Ross, Kim Kellaway, John Henderson, Nadine Webster, Vicki Barrett, Susan Brady and Ruby Tofliau.

Input into the development of these Guidelines was received from the following individuals and representatives of the following agencies:

- Department of Local Government, Racing and Multicultural Affairs
- Department of Housing and Public Works
- Department of State Development, Tourism and Innovation
- Department of Transport and Main Roads
- Local Government Association of Queensland
- Logan City Council
- Queensland Police Service
- Queensland Rail
- Toowoomba Regional Council
- ARUP
- Infinitum Partners
- Murray Henman

The design of this document was produced by Salt Design. Explanatory graphics and sketch illustrations were prepared by Julie Ryan, Queensland Police Service. Photographs were provided by a variety of sources.

Use of third-party images

Front cover and p. 37: '**Office space on the mall**' by First National Real Estate. *Used with permission.*

Front cover and p. 5: '**King Street**'. *Judit Losh Photography. Used with permission.*

Front cover and p. 4: '**Walking in the Shade Cairns-1=**' by **Sheba_Also 45,000 photos** licensed under **CC BY-SA 2.0.**

p. 4:

- '**Southbank river walk**' by **Shelbalso** licensed under **CC BY-SA 2.0**.
- '**Participation**', used with permission by Bundaberg Regional Council.

p. 6: 'Kids dance party', Ripley. Supplied by **Providence**, South Ripley. *Used with permission*.

pp. 7 & 9: Buildings that breath, found in '**Brisbane City Centre Master Plan 2014**'. Photo reproduced courtesy of Brisbane City Council.

p. 10: 'People gathering ...' supplied by **Providence**, South Ripley.

p. 11: '**Mackay City Centre Revitalisation**', supplied by Mackay City Council.

p. 12:

- 'Activated areas ...' supplied by the Department of Transport and Main Roads.
- '**Museum in Cairns**', by **Tortenbrinker**, licenced under **CC-BY-SA-4.0.**
- '**Brisbane City Council – City Plan 2014**', reproduced courtesy of Brisbane City Council.
- '**Brisbane by CP007**' by **CP International Australia** under **CC BY-SA 2.0**.

p. 13:

- Rachael Sarra's artwork, *Energy*, 2008 featured in the Irish Lane Banners as part of Brisbane City Council's Outdoor Gallery Exhibition Women's Work 2019. Photo reproduced courtesy of Brisbane City Council.
- '**Accessible streets and footpaths**', Photo reproduced courtesy of Brisbane City Council.

p. 15: 'Howard Smith Wharves – projection'. Photo reproduced courtesy of Brisbane City Council.

p. 16: 'Signage for legibility ...' supplied by the Department of Transport and Main Roads.

p. 18: Both images supplied by the Department of Transport and Main Roads.

p. 20: 'Brisbane's most beautiful cinema' supplied by Howard Smith Wharves.

pp. 24 & 27: Supplied by TransLink Division, Department of Transport and Main Roads.

p. 25: Musk Avenue by Reubot licensed under CC BY-SA.

p. 26: 'A main street ...' supplied by Gold Coast City Council.

p. 27:

- Top image supplied by Gold Coast City Council.
- North quay (City Cat) by bertknot licenced under CC BY-SA 2.0.

pp. 29 & 30: King Street. Judit Losh Photography. *Used with permission.*

p. 30:

- 'Brisbane City Council – City Plan 2014' (graphic), reproduced courtesy of Brisbane City Council.
- 'Village Precinct Project at Sandgate' by Brisbane City Council licensed under CC BY 2.0.

p. 31:

- 'Buildings that breath', found in 'Brisbane City Centre Master Plan 2014'. Photo reproduced courtesy of Brisbane City Council.
- 'Woolloongabba Bikeway 1 – Stanley Street near Ipswich Road' by Brisbane City Council, licensed under CC BY 2.0.

p. 32: 'Queens Street Mall' by Mitch Talbot, Brisbane Marketing. *Used with permission.*

p. 33:

- 'Chairs2Share – Roma Street Parkland' by Brisbane City Council licensed under CC BY-SA 2.0.
- Cooktown, Queensland by Sarah Blinco & Cooper Dawson licenced under CC BY-NC 2.0.

p. 34: 'Sunshine Plaza' by Gerard, licensed under CC BY-SA 2.0.

p. 35:

- 'Brisbane City Hall view from King George Square, Brisbane' by Kgbo licensed under CC BY-SA 4.0
- Both images supplied by the Department of Transport and Main Roads.

p. 36: Both images supplied by the Department of Transport and Main Roads.

p. 38: 'Yeppoon Panorama' by Zayzayem licensed under CC BY-SA 2.0.

p. 41: 'The Strand', Townsville, supplied by Peter Abraham.

p. 44: 'Ripley Providence at night', supplied by Providence, South Ripley.

p. 46: 'Embedding transport ...' supplied by the Department of Transport and Main Roads.

p. 47:

- 'The Great Court University of Queensland-1' by John, licensed under CC BY-SA 2.0.
- 'Walkway' by Simon Morris licensed under CC BY-SA 2.0.

p. 48–49: 'The Strand' by Gerard licensed under CC BY-SA 2.0.

This page has been left intentionally blank.

Queensland Government