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# CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN



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## GUIDELINES FOR THE CITY OF KELOWNA

*“The proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime and an improvement in the quality of life.”*

U.S. National Crime Prevention Institute

*Windows overlooking the Queensway Transit Station, combined with good lighting, make it a safer environment for passengers; an example of natural surveillance.*



*Planning & Development Services, Community Planning Division, 1999*

*Recognition is gratefully extended to the City of Orlando, Florida and the City of North Vancouver, British Columbia for granting permission to use their CPTED documents in the production of these guidelines for the City of Kelowna.*

# Crime Prevention Through Environmental Design Guidelines for the City of Kelowna

## Table of Contents

ITEM:	PAGE NO.:
<b>Introduction:</b>	<b>4</b>
The CPTED Strategies	4
Natural Surveillance	5
Territorial Reinforcement	5
Natural Access Control	6
Target Hardening	6
<b>Residential Areas:</b>	<b>7</b>
Single Detached Dwellings:	7
Natural Surveillance	7
Territorial Reinforcement	7
Natural Access Control	8
Target Hardening	8
Comprehensively-Planned Residential Areas:	8
Natural Surveillance	9
Territorial Reinforcement	10
Natural Access Control	11
Multiple Unit Residential Buildings:	11
Natural Surveillance	11
Territorial Reinforcement	12
Natural Access Control	12
Target Hardening	13
<b>Commercial Areas:</b>	<b>13</b>
Town Centres:	13
Natural Surveillance	13
Territorial Reinforcement	15
Natural Access Control	16
Management	16
Drive-Through Businesses:	16
Natural Surveillance	16
Shopping Malls:	17
Natural Surveillance	17
Territorial Reinforcement	17
Natural Access Control	17
Management	17
Offices:	18
Natural Surveillance	18

## Table of Contents (continued)

ITEM:	PAGE NO.:
Territorial Reinforcement	19
Natural Access Control	19
Target Hardening	19
<b>Industrial Areas:</b>	<b>20</b>
Natural Surveillance	20
Territorial Reinforcement	20
Natural Access Control	20
Target Hardening	21
Management	21
<b>Parkades:</b>	<b>21</b>
Natural Surveillance	21
Natural Access Control	22
Management	22
<b>Conclusion:</b>	<b>23</b>
<b>Other Resources:</b>	<b>23</b>
<b>References:</b>	<b>24</b>

# CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

## GUIDELINES FOR THE CITY OF KELOWNA

### INTRODUCTION:

Crime Prevention Through Environmental Design (CPTED, pronounced “sep-ted”) is a concept that is now widely accepted throughout North America as an effective way to improve safety in neighbourhoods and communities. CPTED works. In communities where these principles have been implemented, criminal activity has decreased by as much as 40 percent. Environmental crime prevention has many positive aspects which deter crime instead of addressing criminal activity after it occurs. The CPTED concept has been developed by criminologists and police departments based on knowledge of, and experience with, criminal behaviour. Its basis derives from common security techniques. It is a relatively new concept, having only been in use since the 1970s. The usual means of familiarizing professionals and community representatives with CPTED principles have been through courses and seminars offered by criminologists or police departments. In many municipalities, the principles of CPTED are implemented by a cooperative working relationship with police departments and planning departments who deal with day to day development applications.

More recently, handbooks and other guideline documents have been generated to inform people about the CPTED concept. A few municipalities have begun to adopt such documents as part of the tools that are used to guide growth, new development and change in urban areas.

The City of Kelowna now provides this set of guidelines to introduce the CPTED concepts to anyone interested in ways of improving the safety of our communities by the way they are designed. Visual examples from Kelowna are provided to demonstrate how these principles can be applied. Quite often, CPTED concepts can be seen as conflicting with other principles of good design, such as landscaping and interesting building designs. However, if the ideas are applied with common sense, they can be applied in harmony with other positive ways of enhancing our environment.

This document provides guidelines and suggestions only. Its concepts will not be imposed in a regulatory manner. If there is any inconsistency between CPTED concepts and the requirements outlined in other City of Kelowna by-laws or documents, an interpretation will be made by the City.

### THE CPTED STRATEGIES

*“The proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime and an improvement in the quality of life.”*

U.S. National Crime Prevention Institute

This quotation can be viewed as an effective mission statement of Crime Prevention Through Environmental Design. It is important to remember that the concepts that are expressed through CPTED are derived from a criminology-based approach to a safer environment. These concepts can be blended with other sound urban design principles, but are not intended to be a complete representation of good urban design. Components or strategies of CPTED and some of the underlying philosophy are provided below:

### **NATURAL SURVEILLANCE**

This design concept is directed primarily at discouraging criminal activity by ensuring that public spaces are easily observable. While formal surveillance techniques may involve hidden cameras and security personnel, physical features that maximize visibility of people, parking areas and building entrances can be just as effective.

Examples include:

- doors and windows that look out on to streets and parking areas;
- sidewalks and streets that are open and inviting to pedestrians;
- unobstructed sight-lines;
- open design concepts (e.g. that do not create hidden spaces);
- front porches and activity areas in front of buildings to encourage a visual connection with the street; and,
- adequate night-time lighting.

The overall sense of safety improves when people can easily see others and be seen. With proper use of natural surveillance, formal surveillance may only be necessary in vulnerable locations such as elevators and interior corridors.

### **TERRITORIAL REINFORCEMENT**

The historical basis of this idea lies in the need to defend an environment against attack. Physical design can create or extend a sphere of influence. Users then develop a sense of territorial control, while potential offenders, perceiving this control, are discouraged. This strategy is promoted by features that define property lines and distinguish private spaces from public spaces. Ways of doing this include use of landscape plantings, pavement designs, gateway treatments, and fences which create boundaries without compromising natural surveillance. It is further enhanced by a sense of pride or ownership, which is demonstrated by the way in which a space is cared for or maintained. By contrast, poorly maintained areas offer an invitation to criminal activity. Defensible space is another criminology-based way of describing this strategy. Part of the strategy involves creating recognizable public, semi-private and private zones:

- **Public zones** are generally open to anyone and best-suited to natural surveillance approaches to create a safe environment;
- **Semi-private zones** create a buffer between public and private zones and may serve as common use spaces, such as an interior courtyard. Although accessible to the public, separation is provided by using design features, such as landscaping, that establish definite transitional boundaries.
- **Private zones** are areas of restricted entry. Access is controlled and limited to specific individuals or groups. A private residence is a clear example.

## **NATURAL ACCESS CONTROL**

Natural access control is a design concept directed primarily at decreasing crime opportunities by discouraging access to crime targets and creating a perception of risk to offenders. This is a logical extension of the idea of territorial reinforcement. It is gained by designing streets, sidewalks, building entrances and neighbourhood gateways to clearly indicate public routes, and by discouraging access to private areas with structural elements. There are positive ways to achieve this without creating fortresses with walls and gates.

## **TARGET HARDENING**

This is the last resort to resist crime by increasing physical security and is a more recognizable, traditional way to discourage crime. Target hardening is accomplished by features that prohibit entry or access such as: window locks, dead bolts for doors, and interior door hinges. This method of crime prevention is most effective when combined with the strategies identified above, so as to achieve a balanced approach.

Opportunities to implement CPTED strategies come with the any proposal which involves new construction; revitalization, particularly in a downtown area or existing residential neighbourhood; renovation of individual buildings; and repairs to buildings and structures. At the proposal stage, or when reviewing development plans, the application of CPTED can incrementally help to generate a greater level of safety in our communities. The best opportunities for safety, however, come with the establishment of good communities, where neighbours interact effectively and are committed to ensuring that their environments are positive. The rest of this document gives examples and provides guidelines on how to apply these CPTED strategies in different urban areas.

# RESIDENTIAL AREAS

Neighbourhoods are the building blocks of a city. While we may have multiple choices when it comes to walking through a certain part of town, or using public transportation, we have few choices when it comes to the streets where we live. The guiding principle is to “know thy neighbour”. Streets and homes should be designed to encourage interaction between neighbours and pedestrian activity on the street: good examples of design elements which encourage this interaction are front porches; property lines defined by low shrubbery; and inviting building facades with plenty of windows.



## SINGLE-DETACHED DWELLINGS:

### CPTED Guidelines

#### Natural Surveillance

- all doorways that open to the outside should be well- lit;
- the front door should be visible from the street;
- windows on all sides of the house should provide full visibility of property;
- sidewalks and all areas of the yard should be well-lit;
- the driveway should be visible from either the front or back door and at least one window;
- the front door should be clearly visible from the driveway;
- properly maintained landscaping should provide maximum viewing to, and from the house;
- motion lighting in lanes can improve safety of pedestrians and vehicles, as well as reduce break-ins, if there is also surveillance from nearby homes;
- not all public areas should be lit, as this promotes a false sense of security for those passing through at night (parks are a good example).

#### Territorial Reinforcement

- front porches or stoops create a transitional area between the street and the home;
- property lines and private areas should be defined with plantings, pavement treatments or fences;
- residences should be clearly identified by street address numbers that are a minimum of five inches (13 cm.) high and well-lit at night;
- entrances from a lane help to provide control over the lane from abutting properties (this prevents it from being an isolated area);
- traffic calming measures (e.g. speed bumps) and well-maintained landscaping also enhance pedestrian safety of lanes.

## Natural Access Control

- walkways and landscaping should direct visitors to the proper entrance and away from private areas.

## Target Hardening

- interior doors that connect a garage to a building should have a single cylinder dead bolt lock;
- door locks should be located a minimum of 40 inches (1 metre) from adjacent windows;
- exterior doors should be hinged on the inside and should have a single cylinder dead bolt lock with a minimum one-inch (2.54 cm.) throw;
- all windows should have locks;
- windows in older houses should be renovated such that they can be effectively locked;
- sliding glass doors should have one permanent door on the outside; the inside moving door should have a locking device and a pin.

## **COMPREHENSIVELY-PLANNED RESIDENTIAL AREAS:**

Often the safety measures taken in comprehensively planned developments, such as high fences or walls and video-monitored gates, can have a negative instead of positive effect on residents. Interestingly enough, walled developments were introduced as a CPTED concept by architect Oscar Newman in the 1970s. Newman theorized that by closing residential areas off with gates to eliminate through traffic, crime is reduced and residents feel safer. Thinking by CPTED experts is now quite different.

In fact, criminologists now advise that by installing walls and gates, the impression of an unsafe, or high-crime environment, can be created. Walls can generate less safety on the sidewalk or street outside the wall by eliminating natural surveillance over the public realm. In some instances, burglars have been attracted inside the walls, believing that the development is a concentration of homes which have contents of value. In the traditional comprehensively-planned developments, a relatively homogenous population is a common characteristic. This factor may initially be attractive to the residents, and is a marketing asset, due to the instant social community it is seen to create. However, there are also negative effects. From a crime prevention perspective, the residents are probably all within a similar income group, again providing an attraction to potential burglars, since they will know what to expect inside the walls. Further, if the population group is all within a certain age group, its travel patterns will be consistent, with more people likely to be away at certain hours of the day, or times of the year. A lack of population diversity, where people are home at different hours of the day, inhibits effective natural surveillance.

Current CPTED guidelines, when applied to subdivisions, can create a safe environment without the use of the more common, conspicuous methods. For instance, streets designed with traffic calming devices, such as gateway treatments, speed bumps and other measures, discourage speed and non-local traffic. Also, by keeping public areas observable, potential offenders will think twice before committing a crime.



*Walling off an area not only leaves the streets less safe and without surveillance, but provides cover for those breaking in once they are over the wall.*

### **CPTED Guidelines: (Comprehensively-Planned Residential Areas)**



#### **Natural Surveillance**

- landscaping should not create blind spots or hiding places;
- motion lighting in lanes can improve safety of pedestrians and reduce break-ins, if there is also surveillance from nearby homes;
- open green spaces, children’s play areas and recreational areas should be located so that they can be observed from nearby homes;
- children’s play areas should be located far enough from the street to protect children from traffic or abduction by strangers (in the worst-case scenario);
- pedestrian-scale street lighting should be used in high pedestrian traffic areas;
- not all public areas should be lit, as this promotes a false sense of security for those passing through at night (parks are a good example);
- storm-water retention areas should be visible from the homes or street --- they should be visual amenities, not hedged or fenced off.

#### **Territorial Reinforcement**

- lots, streets and houses should be designed to encourage interaction between neighbours, with elements such as front porches, windows overlooking the street; and landscaping that identifies public, private and semi-private spaces without erecting high walls, fences or hedges;
- entrances should be accentuated with different paving materials, changes in street elevation, architectural and landscape design, so as to establish areas of influence and the impression of ownership;

- residences should be clearly identified by street address numbers that are a minimum of five inches (12.5 cm.) high and well-lit at night;
- property lines should be defined with fencing (that does not create a visual barrier), gates, and plantings to direct pedestrian traffic (this helps to define private, public and semi-private areas);
- all off-street parking spaces should be assigned, such that visitors are acknowledged.

## Natural Access Control

- avoid walling off an entire development, as it increases fear by reducing ownership and surveillance of the street;
- access should be limited (without completely disconnecting the subdivision from adjacent development);
- streets should be designed to discourage speeding and non-local traffic;
- paving treatments, plantings and architectural design features, such as a columnar gateway, guide visitors away from private areas (see public, vs. semi-private and private spaces in introduction);
- walkways should be easy to identify, located in such a way as to direct pedestrian traffic, and visible from the street, homes or parking areas.



## MULTIPLE UNIT RESIDENTIAL BUILDINGS:

In higher density residential areas, there is a much greater number of public areas to consider. These include shared interior hallways, elevators, laundry rooms and parking areas. However, multiple dwelling buildings don't necessarily mean multiple problems. There's a certain amount of truth to the old saying; "There's safety in numbers", and with neighbours who take responsibility for each other, there's no reason why a multiple dwelling building or development cannot be a safe place to live.

### CPTED Guidelines

#### Natural Surveillance

- wherever feasible, ground-oriented units enable surveillance over outdoor activity areas and the street;
- building entrances and exterior doors should be clearly visible from the street or by neighbours;
- all doors that open to the outside should be well-lit;
- all four facades of a building should have windows;
- parking spaces should be assigned to each unit located adjacent to that unit, and not marked by unit numbers (a numbered parking space separated from its assigned residential unit might enable pursuit of a victim without enabling surveillance over the space);
- visitor parking should be designated;
- the lower branches of existing trees should be kept at least ten feet (3 metres) off the ground;
- parking areas should be visible from windows and doors;
- parking areas and pedestrian walkways should be well-lit;



*This playground is both easily seen by surrounding residents and not visible from the street.*

- recreation areas, in particular, children’s play areas, should be visible from a multitude of windows and doors;
- playgrounds should not be visible from the street in order to protect children from strangers and traffic;
- dumpsters should not create blind spots or hiding areas;
- elevators and stairwells should be clearly visible from windows and doors;
- shrubbery should be no more than three feet (one metre) high for clear visibility;
- buildings should be sited so that the windows and doors of one unit are visible from another;
- stairwells should be well-lit and open to view; not behind solid walls.

## Territorial Reinforcement

- property lines should be defined by landscaping or fencing which does not create a visual barrier;
- low shrubbery and fencing should allow visibility from the street;
- building entrances should create a strong sense of identity and presence on the street with the use of architectural elements, lighting and /or landscaping;
- all buildings and residential units should be clearly identified by street address numbers that are a minimum of five inches (12.5 cm.) high, and well-lit at night;

*This building demonstrates clear definition of private, semi-private and public space, while also enabling good street surveillance*



- balconies should be large enough to provide a useable activity area for residents, thereby increasing influence over the adjacent neighbourhood;
- mail-boxes should be located next to the appropriate residences.

## Natural Access Control

- balcony railings should never be a solid opaque material;

- entrances into parking lots should be defined by landscaping, or architectural design;
- dead end spaces should be blocked by a fence or gate;
- hallways should be well-lit;
- where feasible, no more than four apartments should share the same entrance;
- elevators and stairwells should be centrally located;
- access to the building should be limited to no more than two points.

## Target Hardening

- cylinder dead bolt locks should be installed on all exterior doors;
- where necessary, entrances to parking lots may be monitored by a guard;
- common building entrances should have locks that automatically lock when the door closes;
- common doorways should have windows and be key-controlled by residents;
- door hinges should be located on the interior side of the door;
- door knobs should be 40 inches (1 m.) from window panes;
- sliding glass doors should have one permanent door on the outside and on the inside moving door should have a lock device and a pin.

## COMMERCIAL AREAS:

For a neighbourhood to remain healthy, its local businesses must flourish; and for businesses to do well, they must be safe places to visit.

Within the last few decades, the North American trend has been to increase separation of commercial areas from residential ones. Too often, districts that are strictly commercial in nature feature negative elements like vacant building spaces, poorly maintained areas, and isolation after business hours. Such characteristics often provide opportunities for vandalism, and more serious crime, such as break-ins. What follows is an environment that can seem threatening, especially at certain hours of the day. It is therefore essential that CPTED guidelines be followed when building or remodeling commercial property. In some situations, re-introducing a greater mix of land uses, in particular mixing residential with commercial uses, helps to create a healthier and safer environment by introducing activity over a greater number of hours. Another negative design factor within older commercial districts is the increased use of cars and the reduction in pedestrian activity. Re-establishing pedestrian activity in commercial areas also helps build healthier communities and reduces opportunities for crime.

## TOWN CENTRES:

### CPTED Guidelines

#### Natural Surveillance

- dumpsters should not create blind spots or hiding areas, particularly when located in lanes;
- recessed doorways, alcoves or other dark niches should be not be created or should be removed to eliminate hiding places for potential assailants, vandals or other criminal activity;



*These are two examples of recessed doorways which provide hiding spaces, creating an unsafe environment and enabling vandalism and other undesirable activities.*



- lighting should be even to avoid casting shadows where people can hide; using numerous low wattage lights accomplishes this better than a few high wattage lights;
- loading areas should not create hiding places;
- signs placed within windows should cover no more than 15% of the window area, to ensure that natural surveillance of the street is maintained;
- interior shelving and displays should be no higher than five feet (1.5 metres) for increased visibility;
- the lower branches of existing trees should be kept at least ten feet (3 metres) off the ground;
- parking areas should be clearly visible from the building or street;
- paths in commercial areas should be provided in locations with good surveillance, not blocked in by blank walls and dense landscaping;
- exterior of buildings should be well-lit;
- wherever it is appropriate, a mix of uses should be encouraged to increase natural surveillance at different times of the day; placement of residential uses above commercial is a good example of this;



*This building includes residential units above commercial shops allowing for surveillance of the street and the building throughout various times of the day and night.*

- windows should face rear parking lots for increased visibility;
- clear visibility should be maintained from the store to the street, sidewalk, parking areas and passing vehicles;
- lanes should be well-lit and should have windows overlooking them;
- all entrances should be under visual surveillance or monitored electronically.

## Territorial Reinforcement

- public events, such as festivals and outdoor concerts help to increase activity and community ownership, thereby reducing the opportunities for crime;
- property boundaries, where possible, should be marked with hedges, low fences or gates;
- private and semi-private areas should be easily distinguishable from public areas;
- shops should be identified by wall signs for those parking in the rear;
- awnings should be installed over rear doors and windows;
- lanes should be well-maintained with pavement treatment and landscaping, wherever possible;
- entrances onto lanes and use of the space in the lane (e.g. shopping entrances or outdoor cafes), increases public ownership and safety of the lane;
- blank walls should be avoided, but can be improved by the installation of windows, vertical landscaping (e.g. ivy), non-paint-able surfaces, or the use of mural art; which all discourage graffiti;
- all public and semi-private areas should be well-maintained to convey pride and ownership, which discourage negative activity;



*Blank walls are prime targets for graffiti as they readily display the work of the vandal.*

*Murals discourage graffiti. Vandals may view the mural as difficult to compete with artistically. Vandals may also be aware that their work would be difficult to see against a mural.*



- benches should be placed in public spaces and along paths or sidewalks to provide a resting place, particularly for seniors or those with disabilities; elevated seating positions allow for broad observation and give users a greater sense of control.



*Outdoor furniture adds to the pedestrian environment and provides for a greater sense of ownership and safety.*

## Natural Access Control

- cash registers should be located in front of the store, near the main entrance;
- public paths should be clearly marked;
- signs should direct patrons to parking and entrances;
- there should be no easy access to the roof;
- entrances to dwellings within a commercial building should be separate from the commercial entrance to enable distinction of residential visitors from those frequenting businesses;
- wall treatments, such as climbing plants or trellises, should not provide a means to climb the wall;
- rear access to shops should be provided from rear parking lots.

## Management

- operating hours should coincide with those of other neighbouring businesses;
- pay phones should be call-out only and under surveillance at all times;
- interior space should be well-lit.

## DRIVE-THROUGH BUSINESSES:

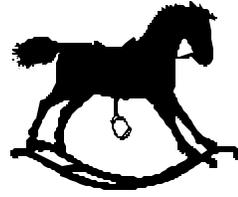
Drive-through businesses are potentially the perfect places for criminal activity. They are often used at odd hours, are hidden from view, and those using them will almost certainly be carrying cash. The rule of thumb in the design of a drive-through can be reduced to one word: visibility.

## CPTED Guidelines

### Natural Surveillance

- locate ATM's (automatic teller machines) in front of banks facing main roads;
- put ordering station for a restaurant within sight of interior of the restaurant and/or main road.





## SHOPPING MALLS:

Shopping malls often provide much of the public space in suburban communities and, as such, can be a mixed blessing. On the one hand, they perform the important function of town centre, serving as a gathering place for the community. On the other, a mall can serve as an attraction for criminal activity. While the shopping mall continually grows in size and popularity, it also becomes a haven for inappropriate social behaviour and the site of a growing number of parking lot crimes. It is now more important than ever that designers and property owners implement CPTED strategies.



## CPTED Guidelines (Shopping Malls)

### Natural Surveillance

- parking areas should be visible from windows, wherever possible;
- washroom doors should be visible from main pedestrian areas and away from outside exits;
- the lower branches of existing trees should be kept at least 3 metres off the ground;
- parking areas should be well-lit with lighting that does not create dark shadows (numerous low wattage lights are preferable to few high wattage lights);
- loading areas should not create dead end alleys or blind spots.

### Territorial Reinforcement

- property perimeters should be defined by landscaping, gates, or fencing which does not create a visual barrier;
- signs should clearly identify all businesses within the building.

### Natural Access Control

- signs should clearly mark public entrances;
- sidewalks and public areas should be clearly marked by way of special paving and/or landscaping ;
- wall treatments, such as climbing plants or trellises, should not provide a means to climb the wall;
- loading zones, with designated delivery hours, should be separate from public parking.

### Management

- parking close to building entrances should be available to night-time employees;
- business associations should work together to promote shopper and business safety.



## OFFICES:

Office buildings are places of work where many people spend much of their day. With a little foresight, these buildings can be designed to be a safer environment both for workers and office clientele. A little influence over the surrounding community to enable crime prevention can be accomplished as well.

### CPTED Guidelines (Offices)

#### Natural Surveillance

- windows and doors should have views into hallways;
- entrances to washroom facilities should be observable from nearby offices;
- all exterior doors should be well-lit;
- hallways should be well-lit;
- dumpsters should not create blind spots or hiding areas;
- shrubbery should be kept under two feet in height for visibility;
- the lower branches of existing trees should be kept at least 3 metres off the ground;
- windows should not be obstructed with signs;
- windows and exterior doors should be visible from the street or by neighbours;
- all four facades should have windows;
- parking spaces should be assigned to each employee and visitor;
- parking and entrances should be observable by as many people as possible;
- parking areas and walkways should be well-lit;
- parking areas should be visible from windows, side parking areas should be visible from the street;
- dumpsters should be clearly visible from windows.



*Windows and doors  
accessing and  
overlooking rear  
parking areas  
increase the safety of  
these parking lots.*

## Territorial Reinforcement

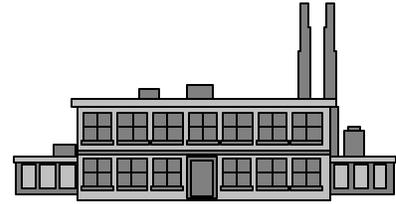
- perimeters should be defined by landscaping or fencing;
- fences should be designed to maintain visibility from street;
- exterior private areas should be easily distinguishable from public areas;
- security and/or reception areas should be positioned to observe all persons entering the building.

## Natural Access Control

- public entrances should be clearly defined by walkways and signage;
- building entrances should be accentuated through architectural elements, lighting, landscaping and/or paving stones.

## Target Hardening

- exterior door knobs should be a minimum of 40 inches (1 metre) from adjacent windows;
- case hardened dead bolt locks should be installed on all exterior doors with a minimum of one-inch throw;
- door hinges should be installed on the interior side of the door or tamper-proof hinges should be used.



## INDUSTRIAL AREAS:

In most industrial building design, the most important issue is the safety of those who will be working or travelling to these areas. Unfortunately, safety is often given little consideration. After working hours, industrial areas are, for the most part, badly-illuminated, seldom under any type of surveillance, and virtually deserted, which in itself is problematic enough. Add to the isolation factor, the industrial danger areas, loading docks, service entrances, blind alleys and expansive parking areas, and you have the potential for an extremely unsafe environment.

### CPTED Guidelines: (Industrial Areas)

#### Natural Surveillance

- wherever it is appropriate, a mix of uses should be encouraged to increase natural surveillance at different times of the day; accessory residential uses, or commercial establishments, such as restaurants and clubs, are examples;
- all entrances should be well-lit, well-defined and visible to public and patrol vehicles;
- parking areas should be visible to patrol cars, pedestrians, parking attendants and/or building personnel;
- the parking attendant should be positioned for maximum visibility of property;
- reception areas should have a view of parking areas;
- perimeter walls should be used only where necessary and should be high enough to prevent circumvention (e.g. for outdoor storage areas);
- blind alleys, storage yards, etc., should not create hiding places.

#### Territorial Reinforcement

- a gateway effect or formal entrance should be created with planting, fences, gates, etc.;
- all public or semi-private areas should be well-maintained to convey pride and ownership, and discourage negative activity;
- delivery hours should be limited to daytime hours;
- vehicle entrances should be defined by different paving materials and signage.

#### Natural Access Control

- dead ends should be avoided;
- site entrances should be easily securable;
- entrances to parking areas should be controlled by a fence, gate or attendant;
- parking should be assigned by shifts; night-time workers should be provided with parking spaces that minimize the walk to the building entrance;
- pedestrian and vehicular direct access to railroad tracks should be restricted;

- storage yards should be planned for vehicular access by patrol car;
- access to roofs via dumpsters, loading docks, poles, stacked items and the like, should be restricted;
- building entrances should be kept to a minimum;
- delivery entrances should be separate, well-marked and monitored;
- employee entrance should be close to employee parking and work areas;
- night-time parking should be separate from service entrances;
- access to one area of building should clearly define public, private and semi-private areas, by the use of access restrictions;
- access should be provided to both front and back so that building can be patrolled.

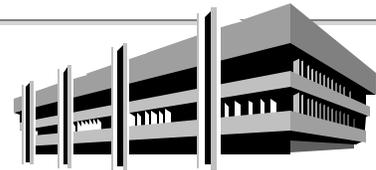
## Target Hardening

- delivery bays should be secured with locks.

## Management

- operating hours should be the same as those of neighbouring industrial businesses.

## **PARKADES:**



Studies show that in both urban and suburban environments, parkades are problematic. Limited visibility, low lighting, seclusion, and limited surveillance, combined with few exit points create fear in these places. Where appropriate, encouraging other activities, such as retail at the ground level, can increase activity, and thereby improve safety of parking structures.

CPTED guidelines can do much in the way of improving personal safety in parking structures without tremendous cost. With the simple addition of high intensity lighting, for example, a parkade can quickly become a much safer place.

## CPTED Guidelines

### Natural Surveillance

- all levels of the parking garage should be visible from the street or ground floor, and supplemented with high intensity lighting to minimize hiding places;
- parking areas and driving lanes should be well-lit;
- all elevators should be monitored by cameras and sound or utilize clear materials for the entire elevator car;



*This underground parking lot has clear sight-lines that allow for good visibility of the entire lot. The walls are not solid, both walls and ceilings are painted white and the area is well lit.*

- walls and ceilings should be painted white or with a reflective sheen to further illuminate the area;
- the parking area should not have recessed or poorly illuminated areas that facilitate hiding;
- transparent material should be used in stairwells to improve surveillance.



*Visibility from the exterior is increased through the use of glass or grills in stairwells.*

## **Natural Access Control**

- garages should be actively attended or monitored openly with cameras and sound monitors; this should be clearly indicated with signs;
- by providing extra depth, bikes in residential parking garages can be locked in front of individual parking stalls, thereby defining who should be accessing the area;
- pedestrian entrances should be adjacent to vehicle entrances;
- elevators should be close to the main entrance with the entire interior of the elevator in view when the doors are open;
- there should be no permanent stop button installed in elevators;

- the ground floor should be designed to provide a view of the garage;
- the parkade should provide no exterior access to adjacent rooftops;
- vehicular access should be limited to no more than two designated, monitored entrances.

## Management

- there should be no free access to an adjacent building without direct monitoring;
- public and private parking spaces should be designated;
- location of handicapped parking spaces should be made clear with the use of directional signs and such spaces should be close to accessible exit points;
- hours of use should reflect those of local businesses, with secure closing during non-use hours.

## CONCLUSION:

Crime Prevention Through Environmental Design guidelines can go a long way in making an environment safe. As stated earlier, criminal activity in CPTED cities is on the decline, but these principles alone cannot make, and more importantly keep, a community safe. CPTED can reduce the probability of crime by eliminating problem areas: the badly lit parking lot, the blind alley and the public telephone stuffed in the dark corner. Hopefully, along with the feelings of safety and security that CPTED brings, will come a feeling of responsibility for our neighbour. That is the greatest crime prevention technique of all.

***"CPTED is not the total answer to Community problems, but it does provide the community with the means to eliminate or reduce environmental obstacles to social, cultural or managerial control"***

*Timothy D. Crow*

## OTHER RESOURCES:

The City of Kelowna works through the RCMP to implement other crime-prevention programs. Examples include Neighbourhood Watch, Block Watch, and Citizens' Patrols, among others. The RCMP will also visit a property on request to advise on ways to reduce the likelihood of crime. Contact staff working on Crime Prevention at the RCMP in Kelowna (located on Doyle Ave. Tel: 762-3300).

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