Crime Prevention Through Environmental Design (CPTED)

Crime prevention through environmental design (CPTED) is an approach that considers environmental conditions and the opportunities they offer for crime or other unintended and undesirable behaviors. CPTED attempts to reduce or eliminate those opportunities by using elements of the environment to (1) control access; (2) provide opportunities to see and be seen; (3) define ownership; and (4) encourage the maintenance of territory.

CPTED is unusual when compared with other crime prevention or security measures because it specifically focuses on aspects of the design, while the other measures tend to be directed at target hardening (e.g., denying access to a target using locks and bars; or using sensors and cameras to detect and identify an offender, supported by security guards). CPTED is unusual also when compared to some police activities. This is because CPTED encourages prevention and considers design and place, while policing has traditionally valued an efficient and effective response to incidents, and the identification and arrest of offenders.

We'll highlight the basic principles of CPTED — territoriality, natural surveillance, defensible space, and maintenance — as applied to residential housing, to which CPTED was first applied, as well as to commercial spaces. We'll also outline a process, based on CPTED principles, for identifying problems, evaluating the physical environment, and identifying strategies that will remove or reduce opportunities for crime.

CPTED Principles

The basic principles of CPTED are territoriality, natural surveillance, and defensible space.

Territoriality

Historically, a single-family home on its own piece of land and somewhat isolated from its neighbors (but often by as little as a few feet) has been considered to be the family's territory. The single-family home sits on a piece of land buffered from neighbors and the public street by intervening grounds. At times, symbolic shrubs or fences reinforce a boundary.

Unfortunately, as the population has grown and the need for housing has increased, the trend toward developing single-family units has been paralleled, if not surpassed, by the

development of row houses, apartment buildings, and various high-rise structures. Architects, planners, and designers involved in developing structures have not paid a great deal of attention to crime control or the need for an individual or a family group to identify with its home in a manner that might affect crime. Therefore, most families living in apartment buildings consider the space outside their apartment door to be distinctly public. In effect, they relegate responsibility for all activity outside the immediate confines of their apartment to public authorities. A question is whether environmental design can be used to extend the boundaries of these private realms, subdividing public space outside quarters so that more of the common space comes under the resident's influence and responsibility.

Through extensive research of efficiently functioning housing developments, a number of mechanisms have been identified that may be used in the design process (or may be added after construction). These mechanisms encourage the residents of multifamily dwellings to identify more with the ground or area around their immediate home site and to assume responsibility for its protection. Presented below is a brief discussion of a number of the mechanisms:

Site design. If the grounds around a set of residences can be directly identified with a particular building and the residents of that building take a personal interest in the use or upkeep of that area, they will play a role in protecting it. Through proper site design, a recreational area adjoining a building may be used as a buffer zone by providing play equipment for young children and seating areas for adults. The fact that children play and adults sit in these areas serves to increase the residents' concerns with the activities taking place there. Strangers are usually recognized and their activities come under observation and immediate questioning.

Street design. Research has shown that by the placement, enclosure, or rerouting of streets and traffic the nature of a particular area can be changed and the crime rate reduced. For example, a particular portion of a street might be closed to vehicular traffic, and play equipment and seats may be added. In a number of areas where this technique has been used, it has been found that most residents know or at least recognize people up and down the block and strangers on the street are identified. Similar approaches that involve rerouting traffic, using one-way streets, or blocking off streets has lowered the crime rate in some areas.

Symbolic barriers. The types of barriers that planners may use in laying out an area include open gateways, light standards, low walls, and plantings. Both physical and symbolic barriers serve the same purpose—to inform an individual that he is passing from a public to a private space. Symbolic barriers identified by residents as boundary lines serve as defining areas of comparative safety. Many places warrant the use of

symbolic barriers, including transition points between a public street and the semi public grounds of a building; an area between a building's lobby and its corridors; or hallways on particular floors of a building.

Internal design. Although economics may sometimes enter the picture, a building's interior may be designed for specific groupings of apartment units and shared entrances. These factors may cause the residents of these apartments to develop a concern for the space immediately adjacent to their dwelling. For example, on each floor of an apartment building, two to four families might be required to share a common corridor area. The apartment doors would be grouped around that common corridor, and access to elevators or stairs might be screened by a glazed partition. The net effect would be that the floor's residents would adopt the corridor as a collective extension of their dwelling unit and would take an increased interest in its maintenance and use.

Facilities and amenities. The location of particular facilities (such as play and sitting areas and laundry facilities) will tend to give an area a high intensity of use and support the idea of territoriality. The presence of residents involved in various activities (children at play and people chatting or engaged in other types of activities) allows for casual surveillance by concerned members of the family and screens out possible intruders.

Reducing the number of apartment units grouped together to share a collectively defined area and limiting the number of buildings that comprise a housing project are important factors for creating an environment that residents will help to protect. Research has documented the fact that housing projects consisting of fewer high-rise buildings (two to four) have lower crime rates than projects containing a larger number of buildings. Based on this finding, it is argued that there appears to be much less freedom of movement in the public spaces of the smaller high-rise projects. Unlike buildings and large developments, every building of a small grouping usually has an entrance directly off a public street. These dwellings more closely resemble middle-income, high-rise developments and look more private.

Natural Surveillance

Experience has shown that the ability to observe criminal activity may not be adequate to stimulate an observer to respond with assistance to the person or property being victimized. The decision to act depends on the presence of motivational conditions, including:

- The degree to which the observer has developed a sense of personal and property rights that are being violated by the criminal act.
- The degree to which the observer feels that the event is within his/her area of influence.

- The observer's ability to clearly identify whether the act is unusual for the particular area.
- The observer's identification with either the victim or the property being vandalized.
- The degree to which the observer believes he/she can effectively alter the course of events that is being observed.

Based on these conditions, a number of mechanisms have been identified that can be used to design the grounds and internal areas of apartment units, housing developments, and other residential areas to facilitate natural monitoring of activities taking place. By providing opportunities for surveillance through the positioning of windows in relation to stairs, corridors, or outside areas, continual natural observation will be maintained and crime will be deterred. If such steps are taken, the security of observed areas will be understood by potential criminals, making them think twice before committing a crime.

The first of these natural surveillance mechanisms involves the positioning of service areas and access paths leading to apartment buildings to facilitate surveillance by residents and authorities. For example, buildings might be designed so that their entries face and are within 50 ft (15.2 m) of a street, so that well-lit paths lead to the front door or the lobby, and so that the lobby is arranged to afford good visibility from the street. Other related steps focus on the strategic placement of windows, fire stairwells, lobby lights, and mailboxes so that they can be easily viewed from the street. Elevator waiting areas on each floor can also be designed so that they can be seen from the street level. Research has proven that if steps such as these are taken, residents will be more likely to become involved with protecting the facility, security patrols will be in a better position to observe what is going on, and criminals will be discouraged from vandalizing the site.

A second technique that might be used to increase surveillance is to design facilities so that people within them will naturally view commonly used paths, entries, and play and seating areas during their normal household activities. This concept also focuses on the strategic placement of windows, lighting, and open areas so that natural surveillance by residents is improved.

Another mechanism involves the subdivision of housing areas into small, recognizable, and identifiable groupings that improve visual surveillance possibilities. Research has shown that in housing developments where the surveillance of a neighbor's outside activities was possible, residents were found to be very familiar with everyone's comings and goings. The overall effect was to cement collective identity and responsibility through social pressure.

Defensible Space

Defensible space is a term for a range of combined security measures that bring an environment more under the control of its residents. A defensible space is a residential environment that can be used by inhabitants for the enhancement of their lives while providing security for their families, neighbors, and friends. The physical mechanisms suggested to create safety and improve upkeep (as part of the defensible-space concept) are self-help tools wherein design catalyzes the natural impulses of residents, rather than feeling forced to surrender their shared social responsibilities to any formal authority.

Research has revealed investigative techniques that might be used to modify existing housing areas to make them more secure. These include:

- Widening major pathways and using colored decorative paving.
- Differentiating small private areas (front lawns) outside each dwelling unit from the public path with low, symbolic walls.
- Adding public-seating areas in the center of public paths far enough from private-dwelling units to eliminate conflicts of use but close enough to be under constant surveillance by residents.
- Designing play areas as an integral part of open space.
- Adding new and decorative lighting to highlight various paths and recreation areas at night and extending the residents' surveillance potential and feeling of security.
- Adding seats and path networks to recreational facilities where large, central court areas exist. This increases the interest and usability of the areas.
- Redesigning parking and play areas around buildings to create the illusion that the buildings are grouped where natural opportunities exist.
- Modernizing building entrances to create breezeways into building courts and to accommodate a telephone intercom for opening entry doors to the lobby.
- Providing video surveillance of public grounds and central paths by security of public monitors.
- Installing audio surveillance capabilities in elevators and at the doors of residences.

The Environmental Influence on Criminal Behavior

The model for CPTED is based on the theory that action must be taken to counter crime before it occurs. The critical element in this model is the environmental-engineering component. It provides both direct and indirect controls against criminal activity by reducing the opportunity for crime through technology and the use of various urban planning and design techniques. The model explains what environmental engineering is and how it supports crime prevention.

The basic theory that supports CPTED is that urban environments can influence criminal behavior in two ways. First, the physical surroundings in which people live have an effect on each individual. These physical characteristics include noise, pollution, overcrowding, and the existence and unmonitored spreading of refuse and other unsightly waste. The second element that must be dealt with in the environmental-engineering formula concerns the social characteristics of the community that provide individuals with social relationships to which they must respond. Characteristics, such as alienation, loneliness, anxiety, and dehumanization, are seen as keys to criminal behavior.

In terms of these environmental characteristics, buildings are all too often constructed to be dangerous, with corridors and passageways hidden from public view. Elevators, basements, and storage and washroom areas are also laden with danger due to their design. Various large-scale housing developments are not secure in that they are often isolated from the main flow of traffic (both human and automobile) and are closed to public use and public view.

With regard to altering the social characteristics of the community and their relationship to criminal behavior, it should be recognized that behavior is future-oriented, not past-oriented. People steal so that they can have a car or money in the future, not because in the past they experienced psychic trauma, a broken home, poverty, or delinquent associates. Criminal behavior can be explained directly in terms of the consequences of behavior and in terms of noncriminal variables, such as poverty, race, or social class. Criminal behavior is viewed as a problem to be dealt with and not symptomatic of other problems (such as poverty, mental conflict, class conflict, unemployment, or under-education). To change criminal behavior, it must be dealt with directly by removing the environmental reinforcement that maintains the behavior. The approach advocated is to change the environment to which the individual responds.

Action Approaches to Crime Prevention Through Physical Planning

The primary focus of crime prevention has been on what architects, planners, and other non-police professionals can do in terms of various physical-planning strategies to reduce criminal opportunity. It has long been recognized that certain physical conditions, such as poor lighting and weak points of entry, can contribute to the rate and nature of crime. The critical job is to identify specific areas concerning physical planning and design that can be responded to and actions that can be taken to avoid criminal activity.

However, attempting to reduce crime or the fear of crime by regulating physical environments is easier said than done. In fact, although crime prevention can be built into almost every aspect of community planning, it is often ignored for a number of reasons. For example, fragmentation of responsible agencies is a key problem. In addition, crime has historically been looked upon as the exclusive responsibility of the police; not of those in charge of education, housing, or health and welfare.

It is notable that police agencies have become involved in the physical-planning process and have achieved notable results from their work. For example, the Fremont, California police department has been involved in a planning process and maintains that law enforcement should become an integral part of the master- or comprehensive review to screen all redevelopment plans for safety and crime hazards. Working with other units of municipal government, as well as architects and designers, the department drew up a set of model guidelines for the evaluation of projects. The model included evaluation criteria dealing with such subjects as the accessibility of buildings to patrol units; traffic flow and off-street parking provisions; and the location and regulation of cul-de-sacs, playgrounds, common greens, fences, and security entrances. In addition, working with agencies, such as the American Institute of Architects, the National Public Works Association, the Association of Public Utilities, and others, the department identified a number of subjects that are of specific concern to police officers and which should be considered in the design and planning stage of a building project. As a result of these efforts, the following list of design concerns was developed by the department:

- Building setbacks — front, side, and rear.
- Wall construction — interior and exterior.
- Door construction, including carports, garages, and sliding-glass doors, in industrial, commercial, and residential spaces.
- Windows and skylights — setbacks, heights (from ground), show-window displays, and the type of frame or window pane.
- Stairs — stairwells and staircases.

- Balconies.
- Utility boxes.
- Fences, walls, hedges, screens, setbacks, heights, and louvers.
- Parking — public and private.
- Lighting — industrial, commercial, and residential.
- Streets, sidewalks, and walkways — locations, slopes, curvature, grades, and the length of a block.
- Alleys — blind and through alleys.
- Visibility of valuables — people, safes, cash registers, and personal property.
- Signs — street signs and signals, traffic signs and signals, and advertising signs.
- Accessibility — approach, entrance, and exit (i.e., pedestrian, vehicular, and services) in residential, commercial, and industrial spaces.
- Public utilities and easements (gas, water, telephone, and electrical).
- Public areas and facilities (public restrooms, parks, bus stops and shelters, playgrounds, recreation halls, etc.).
- Street trees and shrubbery (types, heights, and locations).

CPTED Strategies

CPTED attempts to reduce or eliminate crime opportunities by using elements of the environment to (1) control access; (2) provide opportunities to see and be seen; (3) define ownership; and (4) encourage the maintenance of territory.

Access control

Access control seeks to direct the movement of potential offenders to reduce opportunities for offending. Although there is little research examining natural access control methods, a few studies have found that implementing measures such as bullet proof barriers at banks reduces robberies. Installing street barriers on streets with high levels of drug trafficking and homicides has been shown to decrease homicides. However, when compared with neighboring jurisdictions, at least one study showed that street closures did not reduce robberies and assaults to a significant degree.

Surveillance

Most surveillance studies have focused on closed circuit television (CCTV). Surveillance involves the implementation of various types of strategies that make it more likely that an offender will be noticed when committing a crime therefore surveillance is intended to deter individuals from offending. CCTV has been studied most extensively in the United Kingdom. CCTV has been shown to reduce recorded vehicle crime and robbery in some studies while other studies of CCTV have shown it to be ineffective. A

systematic review of CCTV showed the strategy to be effective in decreasing vehicle crime, but not effective in reducing violent crime. Some studies have also shown CCTV to significantly reduce levels of fear of crime in a community. Security guards have been shown to affect the likelihood that a bank robbery will occur and to reduce auto thefts. Note that there is some concern that CCTV may have unintended negative consequences such as displacing crime from one area to another.

Territoriality

Territoriality is a primary concept upon which many CPTED strategies are based. It is directed toward making changes to design features of buildings and locations to instill a sense of ownership or pride for a particular area so that criminals are discouraged from offending. Improving the landscaping of a particular area, removing graffiti, and making clear demarcations between public and private spaces are examples of territoriality. Studies examining whether implementation of features designed to clearly define public and private spaces can reduce crime have shown that implementing territoriality strategies can reduce fear of crime. Implementation of these strategies has also been shown to be related to reduced levels of recorded crime.

Maintenance

Maintenance involves routine maintenance of surrounding areas and buildings to foster a positive image that helps to discourage crime and reduce the fear of crime. Research indicates that the routine maintenance of the urban environment does reduce crime. For example, clean up programs have been shown to reduce graffiti, and repairing vandalized train equipment has been shown to not only increase train availability but decrease reported crimes against persons.

How to Apply CPTED Strategies

The following provides examples of the application of CPTED strategies to specific usage spaces:

Neighborhoods

Often the safety measures taken in subdivision communities, such as high fences, can have a negative, instead of positive effect on residents. The presence of security devices implies a need for them. CPTED guidelines, when applied to neighborhoods, can create a safer environment. For instance, streets designed with gateway treatments, roundabouts, speed bumps, and other "traffic calming" devices establish territoriality and discourage speeding and cut-through traffic.

Criminals prefer low-risk situations, and public visibility increases the chances a perpetrator will be caught. These measures are simple, inexpensive to implement, and will have a much more positive effect on residents than gates and bars.

Natural Access Control

- Limit access without completely disconnecting the subdivision from adjacent subdivisions.
- Design streets to discourage cut-through or high-speed traffic.
- Install paving treatments, plantings, and architectural design features, such as a columned gateway, to guide visitors to desired entrances and away from private areas.
- Install walkways in locations safe for pedestrians, and use them to define pedestrian bounds.

Natural Surveillance

- Avoid landscaping that might create blind spots or hiding places.
- Locate open green spaces and recreational areas so that they are visible from nearby homes and streets.
- Use pedestrian scale street lighting in high pedestrian traffic areas to help people recognize potential threats at night.

Territorial Reinforcement

- Design lots, streets, and houses to encourage interaction between neighbors.
- Accentuate entrances with the subdivision name, different paving material, changes in street elevation, architectural, and landscape design.
- Clearly identify homes with street address numbers that are a minimum of six inches high and well lighted at night.
- Define property lines with post and pillar fencing, gates, and planting to direct pedestrian traffic to desired points of access only.

Maintenance

- Maintain all common areas to very high standards, including entrances, greenways and recreational areas, and right-of-ways.
- Enforce deed restrictions and covenants, in addition to all applicable city codes.

Single Family Homes

Residential areas are the heart of a community. Streets and homes should be designed to encourage interaction between neighbors. Good examples include front porches, sidewalks, and property lines that are defined simply by low shrubbery instead of high fences.

Natural Access Control

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

Natural Surveillance

- Fully illuminate all doorways that open to the outside.
- Place the front door to be at least partially visible from the street.
- Install windows on all sides of houses to provide full visibility of the property.
- Provide appropriate illumination to sidewalks and all areas of the yard.
- Place the driveway to be visible from either the front or back door and at least one window.
- Properly select and install landscaping so that it allows unobstructed views of vulnerable doors and windows from the street and other properties.

Territorial Reinforcement

- Use front porches or stoops to create a transitional area between the street and the home.
- Define property lines and private areas with plantings, pavement treatments, or fences.
- Make the street address clearly visible from the street and alley with numbers a minimum of six inches high and distinctly or easily read.

Maintenance

- Keep trees and shrubs trimmed back from windows, doors, and walkways.
- Use exterior lighting at night, and keep it all in working order.
- Keep litter and trash picked up and the yard neat at all times.
- The house and garage should be kept in good repair.

Multi-Family Homes, Single Buildings & Complexes

Multi-family homes (i.e., duplexes, triplexes, and apartment complexes) pose the same problems as single-family structures, although these problems can be compounded by the number of dwellings and residents. Public areas - shared hallways, elevators, laundry rooms, and parking areas - present opportunities for crime prevention.

Natural Access Control

- Keep balcony railings and patio enclosures less than 42-in (106.7-cm) high and avoid using opaque materials.
- Define entrances to the site and each parking lot with landscaping, architectural design, or symbolic gateways.
- Block off dead-end spaces with fences or gates.
- Discourage loitering by non-residents; enforce occupancy provisions of leases.
- Use devices that automatically lock upon closing on common building entrances.
- Provide good illumination in hallways.
- Allow no more than four apartments to share the same entrance; individual entrances are recommended.
- Centrally locate elevators and stairwells where many users can watch them.
- Limit access to the building to only one or two points.

Natural Surveillance

- Design buildings so that exterior doors are visible from the street or by neighbors.
- Use good lighting at all doors that open to the outside.
- Install windows on all four facades of buildings to allow good surveillance.
- Assign parking spaces to residents. Locate the spaces next to the resident's unit, but not marked with their unit number. This makes unauthorized parking easier to identify and less likely to happen.
- Designate visitor parking.
- Make parking areas visible from windows and doors.
- Adequately illuminate parking areas and pedestrian walkways.
- Position recreation areas (i.e., pools, tennis courts, club houses, etc.) to be visible from many of the units' windows and doors.
- Screen or conceal dumpsters, but avoid creating blind spots and hiding places.
- Build elevators and stairwells in locations that are clearly visible from windows and doors.
- Allow shrubbery to be no more than 3-ft (0.9-m) high for clear visibility in vulnerable areas.

- Site buildings so that the windows and doors of one unit are visible from another (although not directly opposite).
- Construct elevators and stairwells to be open and well-lighted, and not enclosed behind solid walls.
- Place playgrounds where they are clearly visible from units, but not next to parking lots or streets.

Territorial Reinforcement

- Define property lines with landscaping or decorative fencing. Use low shrubbery and fences to allow visibility from the street.
- Accentuate building entrances with architectural elements, lighting, and/or landscaping.
- Clearly identify all buildings and residential units using street numbers that are a minimum of 6-in (15.2-cm) tall, and well-lighted at night.
- Where possible, locate individually locking mailboxes next to the appropriate units.

Maintenance

- Maintain all common areas to very high standards, including entrances, greenway and recreational areas, and right-of-ways.
- Prune trees and shrubs back from windows, doors, and walkways.
- Use and maintain exterior lighting.
- Strictly enforce rules regarding junk vehicles and inappropriate outdoor storage. Disregarding these rules will make a site appear uncared for and less secure.

Institutions

Churches, libraries, schools, and other institutions present their own unique challenges to crime prevention. While safety at these locations is often a high concern within a community, the installation of oppressive high-security devices and programs is not desirable. The varied hours, and variety of patrons and activities, make good design all the more important.

Natural Access Control

- Highlight the main entrance in the design.
- Require that visitors pass a "checkpoint" attended by those in authority.
- Limit the number of entrances and exits, both to the building and parking lots.
- Keep bus drop-off areas, employee parking, and visitor parking separate from each other and from busy streets.

Natural Surveillance

- Do not cover the entrance windows with posters and announcements that obstruct natural surveillance.
- Avoid constructing large blank walls that limit surveillance opportunities and can serve as targets for graffiti. Use walls with windows, architectural details, or foliage instead.

Territorial Reinforcement

- Include highly visible, architecturally appropriate signage in the design.
- Make sure to clearly mark the boundaries of the property.
- Keep parking lot surfaces in good condition. Clearly mark the parking spaces to convey a neat and orderly image.

Maintenance

- Remove graffiti within 24 hours of its appearance.
- Use landscape plants chosen to mature within the available space.

Management

- Ensure that all employees and volunteers are familiar with the security system to avoid false alarms.

Commercial Storefronts

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

As land uses become less mixed, and residents are less able to watch over commercial properties, it is essential that CPTED guidelines be followed when building or remodeling a commercial property. Safety is often cited as an important consideration in choosing one store over another.

Natural Access Control

- Locate check-out counters near the front of the store, clearly visible from the outside. Positioned near the main entrance, employees can better watch any activities.
- Clearly mark public paths. Make private areas harder for non-employees to access.
- Use signs to direct patrons to parking and entrances.
- Prevent easy access to the roof or fire escape from the ground.

- Provide rear access to shops if rear parking is offered.

Natural Surveillance

- Install rear windows to face rear parking areas for increased visibility.
- Allow window signs to cover no more than 25 percent of windows.
- Use interior shelving and displays no higher than 5 ft (1.5 m), even less in front of windows.
- Fully illuminate the exterior of the building and grounds at night.
- Design the loading areas to avoid creating hiding places for people and merchandise.
- Maintain clear visibility from the store to the street, sidewalk, parking areas, and passing vehicles.
- Design water retention areas to be visible from the building or street.
- Place all entrances under visual surveillance (monitored electronically if necessary).
- Place any pay telephones within clear view of employees.

Territorial Reinforcement

- Mark property boundaries, where possible, with hedges, low fences, or gates.
- Make private areas distinguishable from public areas.
- Identify shops with wall signs for those parking in the rear.
- Position parking areas to be clearly visible from the building or street with neatly marked spaces.

Maintenance

- Keep buildings and walks clean and repaired.
- Maintain parking areas to a high standard without pot-holes or trash.
- Remove faded posters, broken signs, and other displays that are beyond their useful lives.
- Keep plantings in good condition.

Management

- Set operating hours to coincide with those of neighboring businesses.
- Fully illuminate interior spaces.
- Avoid shifts and situations where only a single employee is present.

Shopping Centers

Shopping centers 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 the town center, serving as a gathering place for the community. On the other, a mall can serve as an attraction for criminal activity.

While shopping centers continually grow in size and popularity, they also become a haven for abnormal users and the site of a growing number of parking lot crimes.

Natural Access Control

- Clearly mark public entrances with landscape, architecture, and graphics/signage.
- Designate sidewalks and public areas with special paving and/or landscaping.
- Use landscaping to divide the parking areas into smaller lots.
- Separate loading zones, with designated delivery hours, from public parking areas.
- Allow no unsecured access to rooftops from within or from adjacent structures such as parking garages.

Natural Surveillance

- Position restroom entrances to be visible from main pedestrian areas, but away from outside exits and pay telephones.
- Brightly illuminate parking areas at night.
- Avoid creating dead end alleys or blind spots in loading areas.
- Design parking garages so that all levels, including the staircase, are visible from the street or ground floor.
- Equip garages with good lighting.
- Use angled or perpendicular parking in front of stores rather than parallel to allow greater visibility between cars.
- Place water retention areas in locations visible from the building or street.
- Avoid exterior walls devoid of windows.
- Use baffle type restroom entrances — no doors to hinder surveillance.

Territorial Reinforcement

- Define property perimeters with landscaping, decorative fencing, gates, and signs.
- Have signs that clearly identify the interior businesses and site signage marking public entry points.

Maintenance

- Maintain high visual quality on site. Use appropriate landscaping to control maintenance costs.
- Keep buildings and walks clean and repaired.
- Maintain parking areas to a high standard with no pot-holes or trash.
- Install attractive displays in windows of vacant stores to avoid creating an abandoned image.
- Keep lines of sight open. Prune trees and shrubs to allow visual access to all parts of the site.

Management

- Close-in parking should be available to nighttime employees.
- Business associations should work together to promote shopper and business safety and the appearance of safety.
- Morning walkers provide additional natural surveillance before shops open.

Office Buildings

As structures grow in size and pedestrian and vehicle traffic increases, safety becomes an extremely important issue. It is, however, important to avoid the adverse images which come with fortress hardware. Subtle, but recognizable security measures preserve the sense that security is present.

Natural Access Control

- Clearly define public entrances with architectural elements, lighting, landscaping, paving, and/or signage.
- Reduce the number of public access points to those that are watched by guards, receptionists, nearby tenants, or passing traffic.

Natural Surveillance

- Position restrooms to be observable from nearby offices or reception areas.
- Install and use good lighting at all exterior doors, common areas, and hallways.
- Keep dumpsters visible and avoid creating blind spots or hiding places, or place them in secured, locked corrals or garages.
- Design windows and exterior doors so that they are visible from the street or by neighboring buildings.
- Install windows into all facades.
- Place parking to be visible from windows.
- Keep shrubbery under three feet in height for visibility.

- Prune the lower branches of large trees to at least ten feet off the ground and smaller trees to at least six feet.
- Do not obstruct views from windows.
- Design interior windows and doors to have visibility into hallways.

Territorial Reinforcement

- Define perimeters with landscaping or fencing.
- Design fences to maintain visibility from the street.
- Differentiate exterior private areas from public areas.
- Position security and/or reception areas at all entrances.
- Secure non-public entrances for employee access.

Maintenance

- Keep all exterior areas neat and clean.
- Keep all plantings looking well-managed.

Industrial Sites

In most industrial site design, the most important issue is the safety of those who will be working or traveling to these sites. Unfortunately, safety regarding crime is often given little consideration. After work hours, industrial areas are, for the most part, badly illuminated, seldom under any type of surveillance, and virtually deserted. Add to this isolation the industrial danger areas - loading docks, service entrances, blind alleys, and expansive parking areas — and you have the potential for an extremely unsafe environment.

Natural Access Control

- Avoid dead end driveways and street designs to increase surveillance opportunities from passing traffic and patrols.
- Use easily securable site entrances. Install entrance controls to employee parking areas (i.e., fence, gate, or attendant).
- Assign parking by shifts and account for late-night workers with close-in spaces.
- Restrict direct pedestrian and vehicular access to railroad tracks.
- Plan storage yards for visual access by patrol cars.
- Restrict access to roofs by way of dumpsters, loading docks, stacked items, ladders, etc.
- Keep building entrances to a minimum, and monitor them.
- Use a separate, well-marked, monitored entrance for deliveries.
- Have the employee entrance close to the employee parking and work stations.

- Keep the night-time parking separate from service areas.
- Restrict access between different areas.
- Provide access to both the front and the back of the site so that the grounds can be patrolled.
- Use separate docks for shipping and receiving.

Natural Surveillance

- Illuminate and define all entrances so that they are visible to the public and patrol vehicles.
- Make parking areas visible to patrol cars, pedestrians, parking attendants, and/or building personnel.
- Position parking attendants for maximum visibility of property.
- Design the reception area to have a view of parking areas, especially the visitor's parking.
- Use walls only where necessary and, if used, make them high enough to prevent circumvention.
- Avoid creating hiding places in alleys, storage yards, loading docks, etc.

Territorial Reinforcement

- Create a well-defined entrance or gateway with plantings, fences, gates, etc.
- Limit deliveries to daylight hours only, if possible.
- Define vehicle entrances with different paving materials and signage.
- Separate visitor parking from employee parking and shipping and receiving areas.

Management

- Set up operating hours to coincide with those of neighboring businesses.

Parking Garages

Parking garages are a necessary component in the commercial and urban landscape. Garages that are well designed and that adhere to CPTED principles can be a safe area. CPTED guidelines can do much in the way of improving parking structure safety without tremendous cost. With the simple addition of good lighting, for example, a garage can quickly become a much safer area.

Natural Access Control

- Use attendants or cameras and sound monitors, and indicate their presence with signs.

- Position all pedestrian entrances next to vehicle entrances.
- Construct stairwells so as to be visible, and without solid walls.
- Place elevators close to the main entrance with the entire interior in view when the doors are open.
- Do not install permanent stop buttons in elevators.
- Limit access to no more than two designated, monitored entrances.

Natural Surveillance

- Monitor all elevators with cameras and microphones, or use see-through material for the car walls.
- Replace solid barrier walls with stretched cable railings for maximum visibility.
- Fully illuminate all parking areas and driving lanes. Metal halide lamps provide the best color rendition or color corrected high pressure sodium lights.

Maintenance

- Keep all surfaces clean and light colored to reflect light (paint white if necessary, particularly if underground).
- Carefully maintain all lighting equipment.

Management

- Allow no unmonitored access to adjacent buildings without direct visual contact.
- Differentiate between public and private parking spaces.
- Set hours of use to reflect those of local businesses, with secure closing during non-use hours.

Public Parks, Plazas & Open Spaces

Public parks and open space provide a broad range of benefits to a neighborhood: mitigating air and water pollution, combating suburban sprawl, providing opportunities for recreation, fostering cohesive neighborhoods, attracting businesses, and stabilizing property values. Parks can also feel isolated, unkempt, and unsafe. By employing CPTED principals in the design and maintenance of public spaces, the community can continue to enjoy and support it's greenspace.

Natural Access Control

- Walkways should be direct, follow natural pathways and avoid blind corners.
- Illuminate walkways and access points to open spaces.

Natural Surveillance

- Carefully select the types and location of trees and shrubbery to maintain visibility and surveillance and minimize opportunities for intruders to hide.
- Use low ground covers and shrubs less than three feet in height and prune trees limbs to a height of 10 feet.
- Allow users to view entrances, exits, pathways and the immediately surrounding areas.
- Ensure lighting does not produce shadows close to pathways and entries or exits.

Territorial Reinforcement

- Provide signage that is clearly visible, easy to read, and simple to understand.

Maintenance

- Reduce the need for maintenance by encouraging pride and a sense of ownership within the community.