Crime Prevention Through Environmental Design (CPTED)

Crime Prevention Through Environmental Design, or CPTED (pronounced sep-ted) is a crime control philosophy that attempts to apply physical design, citizen participation and law enforcement strategies in a comprehensive way to protect facilities or neighborhoods. The goal of CPTED is to reduce the opportunity for crime to occur. It is a series of design principles that, when properly employed, serve to eliminate criminal behavior and improve the quality of life through the reduction of fear of crime. Employing physical design features and space management strategies that discourage criminal activity, while at the same time encouraging the legitimate use of the location achieve this reduction in criminal opportunities.

The Definition of CPTED

As developed by the Westinghouse National Issues Center, the definition of Crime Prevention Through Environmental Design (CPTED), is "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 equality of life."

Key CPTED Concepts

Crime Prevention Through Environmental Design (CPTED) is premised upon three basic concepts or principles:

- **Natural Surveillance** – Natural surveillance is the organization of physical features, activities and people in such a way as to maximize visibility. It creates a risk of detection to intruders and offenders, and a perception of safety to legitimate users.

  People feel safe in places where they can be seen and where they can see what is going on around them. Perpetrators of crime, in contrast, prefer settings that are not visible to law abiding people who might assist their victims.

  This principle is based upon the premise that criminal activity is generally reduced when an area is being observed informally by others who are present or nearby.

- **Natural Access Control** – Would-be perpetrators of crime like settings or environments they can enter or leave without being noticed. The objective of natural access control is to create a perception of risk to potential offenders and deny them access to targets.

  Natural access control is the physical guidance of people coming to and going from a space by the judicial placement of entrances, exits, signs, fencing, landscaping and lighting. Natural access control places users of space in locations where natural surveillance potential exists.

- **Territoriality** – Territoriality includes the use of physical attributes that express ownership, such as fences, pavement treatments, art, signage and landscaping.

  Physical design can create and extend a sphere of influence. Legitimate users then develop a sense of territorial control while potential offenders, perceiving this control, are discouraged from committing illegal acts. Features that define property lines and distinguish private spaces from public spaces using landscaping, pavement designs, gateway treatments, and fencing often accomplish this.

Why the Emphasis on "Natural?"

Historically, the emphasis has been on the target hardening approach to crime prevention. Relying on mechanical (locks, alarms, electronic access control, CCTV, etc.) and organized (security patrols, law enforcement, Neighborhood Watch, etc.) crime prevention strategy means to make the target more difficult to get into and create a fortress effect.

This traditional approach overlooks the opportunity for natural access control and natural surveillance. By "natural," we are referring to the crime prevention by-product that comes from normal and routine use of an environment.

The CPTED approach to crime prevention advocates that all possibilities for "natural" crime prevention should be exhausted prior to the involvement of mechanical and organized strategies. The CPTED approach is usually more user friendly and customer service oriented than the traditional target hardening approach.

Hierarchy of Space

CPTED stresses the importance of clearly designing a hierarchy of spaces:
- ✓ **Public** – intended for the use of anyone – public street or sidewalk.
- ✓ **Semi-Private** – intended for specific users or uses
- ✓ **Private** – intended for private use by businesses or homeowners.

It is important to minimize spaces that are unassigned – those that have nonexistent or unclear signs of ownership.

Researchers of animal behavior have demonstrated that an animal currently in possession of a territory has more confidence than a challenging animal and usually wins a battle. A basic principle of CPTED is that law-abiding citizens should show that they "own" their territory. This discourages criminal behavior.

Optimizing territorial behavior through design means encouraging such features as:
- ✓ Front porches on houses and apartment buildings
- ✓ Traffic plans that avoid one-way streets through neighborhood business districts
- ✓ Neighborhood "traffic calming"
- ✓ Design transition and demarcation between private, semi-private and public areas

CPTED concepts or principles can most effectively and economically be employed during the design stage of new facilities. Certain aspects of existing buildings, however, can be retrofitted to employee CPTED concepts.

- **Natural Surveillance Techniques**

  - ✓ **Lighting**
    - ❏ Provide adequate exterior lighting on streets, parking lots, walkways, recreational areas, etc.
    - ❏ Lighting should be consistent to reduce contrast between shadows and illuminated areas.
    - ❏ Avoid lighting isolated areas people should not use at night.
    - ❏ Ensure that tree foliage or other landscaping does not obscure lighting.

✓ **Windows and Doors**
  ❏ Provide two-way visibility in areas available to the public. Windows and doors should not be obstructed.
  ❏ Use one-way visibility (from inside to outside) in areas not open to the public. Use mirrored glass or see-through curtains to maintain inside privacy. Use glare-proof glass to enable occupants to see out of a building at night.
  ❏ Install through-the-door viewers to screen people seeking entrance to secure areas.

✓ **Unobstructed Sight Lines**
  ❏ Maintain tree canopies at least 7-feet above grade level.
  ❏ Keep shrubs and other plant growth trimmed to less than 3-feet.
  ❏ Minimize the use of berms to conceal parking lots or areas.
  ❏ Use open landscaping and see-through fences instead of solid walls of hedges for boundaries or property lines.
  ❏ Orient buildings in a complex for good visibility of the streets, parking lots and other buildings in the complex.
  ❏ Orient parking lots or areas to provide good visibility.
  ❏ Maintain continuous front setbacks for houses or buildings along a street.
  ❏ Use mirrors or CCTV where sight lines are obstructed.
  ❏ Use straight, short cul-de-sacs instead of curved, angled or long ones where practical, to enable the end of the cul-de-sac to be seen from the cross street.

✓ **Communication Systems**
  ❏ Install emergency phones, alarms or intercoms in convenient places for people to use to report intruders or suspicious activities or to call for help.
  ❏ Post signs to indicate locations of emergency communication devices.

✓ **Indoor Facilities and Activities**
  ❏ Locate high-activity rooms and areas so they face public and semi-public areas. Such high-activity rooms include kitchens and family rooms in homes, lobbies with guards or receptionists in buildings, offices of managers or supervisors in businesses and other establishments, cashiers in stores and restaurants, etc. Provide large, unobstructed windows for good visibility of outside areas.
  ❏ Locate facilities for activities that attract only a few people at a time in areas of high usage and good visibility so they can benefit from available natural surveillance. Such activities include restrooms, elevators and stairwells, ATMs, pay telephones, laundry rooms, trash rooms or containers, etc.

✓ **Outdoor Facilities and Activities**
  ❏ Include front porches and benches to provide places where people can sit and observe activities on streets, sidewalks, open spaces, etc.
  ❏ Locate facilities for activities that attract large numbers of people (basketball courts, ball fields, etc.) in areas of low usage so that users can provide surveillance of the area.
  ❏ Locate facilities for activities that involve a few people at a time in areas of high usage and good visibility so they can benefit from natural surveillance in the area. These include pay phones, ATMs, bus stops, bike racks, parking lots, etc.
  ❏ Locate walkways to building entrances through areas that provide natural surveillance.
  ❏ Mix compatible residential, commercial and other land usages permitted by zoning regulations to provide round-the-clock presence and surveillance opportunities.
  ❏ Locate parking lots where non-conflicting users – perhaps church goers on weekends and office workers on weekdays – can share the parking spaces to expand the times people are in the area.

- ✓ **Streets**
  - ❏ Build sidewalks and seating along streets to promote walking through a neighborhood.
  - ❏ Employ traffic calming measures to reduce the amount and speed of vehicular traffic.

- ✓ **Boundaries**
  - ❏ Define clear boundaries between public, semi-public and private spaces. Boundaries are needed at entrances to courtyards, yards, patios, terraces, play areas, parking lots, etc. They can be established by signs, walls and fences, gates, landscaping, sidewalks, curbs and pavement treatment (cobblestones or brick).
  - ❏ Use boundaries to prevent conflicts between different groups, e.g. teens and seniors, so user groups will be able to enjoy an area or facility and maintain an ownership interest in it.

- ✓ **Public Spaces**
  - ❏ Create display and performance areas for local artists. An attractive environment attracts legitimate users while a barren one repels them.
  - ❏ Define uses for all areas in a neighborhood to prevent "no man's lands" from existing.
  - ❏ CPTED Strategies

- • **Natural Access Control Techniques**

- ✓ **Security Systems**
  - ❏ Install alarms, intercoms, CCTV, etc. at building entrances and exits. Make systems visible to potential intruders.
  - ❏ Install alarmed, self-locking emergency exits.

- ✓ **Doors and Windows**
  - ❏ Limit the number of entrances and exits to buildings.
  - ❏ Locate entrances and exits in areas that are under surveillance or direct supervision.

- ✓ **Walls and Fences**
  - ❏ Use open fences, i.e. vertical wrought iron. They are easy to see through and less susceptible to graffiti.
  - ❏ Use vines, thorny plants and other landscaping along walls to make access more difficult and discourage graffiti.

- ✓ **Signs**
  - ❏ Locate wayfaring signs in strategic places.
  - ❏ Signs should be easy to understand and unambiguous. Use symbol signs where possible.
  - ❏ Use signs to:
    - – Discourage access to dangerous places
    - – Indicate opening and closing times
    - – Direct people to safe paths, exits, emergency assistance, means of calling for help, etc.
    - – Inform people how to report maintenance problems, i.e. inoperative lighting.
    - – Inform intruders of access control measures.

- ✓ **Safe Paths and Common Areas**
  - ❏ Provide adequate lighting for all pedestrian walkways to be used in hours of darkness.
  - ❏ Close or discourage nighttime use of walkways where adequate lighting, visibility, and surveillance cannot be provided.
  - ❏ Eliminate entrapment spots, e.g. dense landscaping or plant growth, high walls or hedges, or alcoves along pedestrian walkway.

- ❏ Locate amenities and activities at or near entrances, exits and major circulation paths to increase risk of detection for intruders.
- ❏ Use signs to:
    Discourage access to dangerous places
    - − Indicate opening and closing times
    - − Direct people to safe paths, exits, emergency assistance, means of calling for help, etc.
    - − Inform people how to report maintenance problems, i.e. inoperative lighting.
    - − Inform intruders of access control measures.

CPTED Strategies

Timothy D. Crowe, a previous director of the National Crime Prevention Institute, and perhaps the most notable authority on CPTED today, has defined the following seven CPTED strategies:

- *Provide clear border definition of controlled space.* Examples of border definition may include fences, shrubbery of signs in exterior areas. Within a building, the arrangement of furniture and color definition can serve as means of identifying controlled space. As much as possible, all space should be the clear responsibility of someone.
- *Provide clearly marked transitional zones.* Persons need to be able to identify when they are moving from public to semi-public to private space. For example, a sidewalk represents public space and the main path into a residential development is semiprivate, and a path that branches into individual units becomes semiprivate and the interior of the unit becomes private space.
- *Relocation of gathering areas.* Gathering areas or congregating areas need to be located or designated in locations where there is good surveillance and access control. For example, play areas should be located within the central common area of the building with as many units as possible able to watch children at play.
- *Place safe activities in unsafe locations.* Safe activities attract normal users to a location and subsequently render the location less attractive to abnormal users due to observation and possible intervention. For example, well-used common areas (safe) may overlook a parking area (unsafe) to provide additional security for the parking area.
- *Place unsafe activities in safe locations.* Placing unsafe activities in areas of natural surveillance or controlled access will help overcome risk and make the users of the areas feel safer. For instance, common restroom facilities should not be located in a remote corner of the site or at the end of a long hallway.
- *Re-designate the use of space to provide natural barriers.* Separate activities that may conflict with each other (outdoor basketball court and children's play area, for example) by distance, natural terrain or other functions to avoid such conflict.
- *Improve scheduling of space.* The timing in the use of space can reduce the risk for normal users and cause abnormal users to be of greater risk of surveillance and intervention.

CPTED-Based Guidelines

- **Location**

  The location of a building and its relationship to its immediate surroundings is an important element or issue.
  - ✓ Concern about crime and violence is often greater at locations in **urban** surroundings and thus the design is more insular in nature and may not encourage interaction with the neighboring community.
  - ✓ Buildings located in **rural** environments may not be able to benefit from natural surveillance by a nearly residential population. The availability of lower cost land may encourage rural buildings to have a larger footprint and be more difficult to monitor and protect.

- **Property Boundaries**

  The boundaries of the property should be clearly defined and readily recognizable. This can be accomplished by the following means.
  - ✓ "No Trespassing" signs, including reference to appropriate state laws and local ordinances, should be posted near property boundaries.
  - ✓ Landscaping such as a tree line or low shrubbery can be used to identify boundaries. Plant growth and landscaping should be no more that 3' tall and should not hinder the unobstructed view of patrolling law enforcement vehicles.
  - ✓ Continuous relatively transparent fencing such as wrought iron fencing or even chain link fencing can serve to define boundaries. Wrought iron fencing is a good choice because it provides no significant surface for graffiti, is vandal resistant and requires minimal maintenance.
  - ✓ If fencing is used to define property, it should be maintained in a good state of repair so that it helps to define territoriality.
  - ✓ Varying the texture or composition of vehicle driving surfaces at property lines can help define boundaries.
  - ✓ Attractive, clearly visible signage at the entrances to property can be used to define boundary lines.
  - ✓ Throughout the area, grounds should be free from trash and other debris.

- **Vehicle Routes**
  - ✓ Motor vehicle routes should be designed so that they are capable of handling the number of vehicles at peak times at the beginning and end of the day or shift.
  - ✓ The vehicle entry drive should be wide enough to accommodate vehicular traffic simultaneously coming in and out, and, if possible, should be separated by a low landscaped median.
  - ✓ A separate loading and unloading area should be provided for delivery or shipments.

- **Parking Lots**
  - ✓ Parking lots should be in close proximity to the building to facilitate visual surveillance from administrative areas.
  - ✓ External access to parking areas should be restricted to a limited number of controlled entrances.
  - ✓ There should be a parking lot or area clearly designated for visitors. This lot should also be within unobstructed sight of the administrative offices.
  - ✓ Curbs separating parking areas from grounds should be of such height and design as to dissuade vehicles from jumping onto non-vehicular spaces.
  - ✓ All parking areas should be identified with large signs clearly stating access regulations.
  - ✓ Parking lots should have gates or bollards at entrances to control access and egress.
  - ✓ All parking lots or areas should be paved (to avoid spinning tires propelling rock or loose gravel).

- **Loading and Unloading Zones**
  - ✓ Loading and unloading zones should be separate from employee and visitor parking.
  - ✓ Loading and Unloading zones should be adequately signed and clearly striped to prevent unauthorized parking.
  - ✓ Barriers should be provided to prevent unauthorized access to loading/unloading docks.

- **Internal Grounds – Near Buildings**
  - ✓ Sightlines from buildings to parking areas, loading and unloading areas, informal gathering places and pedestrian walkways should be unobstructed by obstacles, landscaping or plant growth.
  - ✓ Trees, fences, flagpoles, dumpsters, etc., should be kept at a sufficient distance from buildings to prevent climbing to upper floors or windows.
  - ✓ There should not be downspouts, trellises, or other building features that could permit climbing access to upper floors or windows.
  - ✓ Trash dumpsters on the grounds should be routinely locked to prevent concealment of company property or access by indigent persons.
  - ✓ Motor vehicle parking should be prohibited near trash dumpsters.
  - ✓ There should be signs on trash dumpsters prohibiting foraging.
  - ✓ Trash cans and external furnishings should be secured to fixed objects in a way as to prevent their removal.
  - ✓ External drinking fountains should be recessed into exterior building walls rather than freestanding.
  - ✓ All outbuildings and storage sheds, should be adequately secured.
  - ✓ There should not be any walkway covers that provide access to second floor windows.

- **Building Exterior**
  - ✓ Exterior walls should be free from graffiti.
  - ✓ Accessible canopies or awnings should have protective parapets to deter their use to climb onto roofs.
  - ✓ Mechanical, electrical, HVAC, or other equipment located outside the building should be surrounded by a protective enclosure.
  - ✓ Exterior recesses in buildings designed with wings should be fenced to prevent access. These areas should also be well lighted.
  - ✓ Multiple buildings should be linked with wrought iron fencing (for natural surveillance) and gates.
  - ✓ Pedestrian walkways should be clearly defined with curbs, sidewalks, or raised or striped walkways.
  - ✓ Pedestrian traffic should be funneled from broader walkways to more narrow walkways closer to the building providing clear visual pathways.

- **Loading Docks**
  - ✓ Loading dock doors should be properly identified so that they can be easily found by delivery people.
  - ✓ Loading dock doors should be locked at all times when not in use.
  - ✓ Loading dock doors should be fabricated from metal and equipped with a dead bolt lock and hinges that do not permit the pins to be removed from the exterior.
  - ✓ If loading dock door is a pair or double door, the inactive door (the door without the locking device) should be equipped with vertical bolts (called flush bolts) at the top and the bottom of the door, and there should be a metal strip (called an astragal) that covers the space between the two doors to prevent access to the door's locking bolt.
  - ✓ Motor vehicles – other than authorized delivery vehicles - should be restricted from parking near loading docks.

- **Non-Pedestrian Building Entry Points**
  - ✓ All potential building entry points – such as abandoned coal chutes, utility entry points, steam tunnel entry points, etc. – should be properly secured.
  - ✓ Sturdy fencing should enclose locations where gas and electric utilities enter buildings.
  - ✓ Locations where gas and electric utilities enter buildings should be well lighted.
  - ✓ Electrical service disconnects and gas valves should be equipped with locking devices.

- **External Lighting**
  - ✓ Parking lots, vehicle roadways, pedestrian walkways and building entryways should have "adequate" levels of illumination. The American Crime Prevention Institute recommends the following levels of external illumination:

- Parking Lots	3-5	footcandles
- Walking Surfaces	3	footcandles
- Recreational Areas	2-3	footcandles
- Building Entryways	5	footcandles

    These levels may be subject to reduction in specific circumstances where after hours use is restricted.
  - ✓ Use metal halide exterior lighting
  - ✓ A system of lighting fixture identification should be developed. The lighting fixture identification system should enable anyone to easily report a malfunctioning fixture.
  - ✓ Exterior lighting should be controlled by automatic devices (preferably by photocell).
  - ✓ Exterior lighting fixture lenses should be fabricated from polycarbonate, break-resistant materials.
  - ✓ Plant materials, particularly tree foliage, should not interfere with or obscure exterior lighting.
  - ✓ Light fixtures below 10' in grade should be designed to make access to internal parts difficult (i.e. security screws, locked access panels).
  - ✓ All switches, breakers and electrical panels that control lighting should be inaccessible to the public.
  - ✓ If exterior lights are not being used at night exterior motion-detection lighting should be installed to detect the presence of intruders.

- **Safe Landscapes**
  - ✓ Plant growth within three feet of any walking surface (including informal pathways), parking lots or areas, recreation areas or building entryways should not exceed two foot in height.
  - ✓ Ground cover plant materials, low planters and forms of hostile landscape should be used to discourage persons from standing near windows, small alcoves, corners of buildings, and the edges of parking lots.
  - ✓ Trees should be trimmed at least seven foot from the lowest foliage to the ground.

- **Buildings**

  - ✓ **Building Perimeter Doors**
    - ❏ Visitor entry points should be clearly identified by bilingual signs.
    - ❏ Signs posted at all building perimeter entry points should provide clear direction that visitors are required to check in at the designated reception area.
    - ❏ The building should be designed in such a manner that visitors have to check in at the reception area before they can penetrate other parts of the building.
    - ❏ Designated building visitor entry points should be under the visual supervision of administrative offices.
    - ❏ Exterior doors not used as designated entry points, should be locked to prevent entry from the exterior.
    - ❏ Primary exterior entry doors should be equipped with electronic access control systems.

- ❏ Ideally, exterior doors should be equipped with electronic propped door alarms, which annunciate either locally and/or at the security offices.
- ❏ All exterior doors should be routinely tested to ensure the doors close and lock properly and that door hardware are in a good state or repair.
- ❏ Perimeter doors should be designed for "heavy duty" (ANSI Grade III) applications.
- ❏ Where panic or exit devices are used on exterior doors, they should *not* be equipped with vertical rods (devices that lock the door at both the head and threshold and are intended for pairs of doors). Such devices often do not properly secure when the door returns normally to the closed position.
- ❏ Exit doors should be equipped with push pads rather than push bars. Push bars can be more easily opened with a coat hanger from the outside.
- ❏ Double doors should be equipped with an astragal (plate) covering any gap between the doors.
- ❏ The outside handles should be removed from doors intended to be used only as exits.
- ❏ For exit doors heavily used during the day, the panic device should be "dogged" (rolled down) to minimize constant use wear and tear on the locking device.
- ❏ During locked periods, when a key is used to gain building entrance through an exterior door, the door should automatically relock when the key is removed from the lock.
- ❏ Glass lights in or near exterior doors should be equipped with break-resistant glazing to prevent the window from being broken, and the door unlocked by reaching through the broken window.
- ❏ All exterior doors should have an easily recognizable number on the outside to assist possible emergency responders.
- ❏ The windows on all exterior doors should remain uncovered.

✓ **Building Exterior Windows**
These recommendations are applicable to windows that are "reasonably accessible." To meet this vulnerability standard, the window must be lower than 8' from grade or otherwise reasonably accessible by climbing trees, or building features such as nearby walls, trellises, downspouts and/or masonry footholds. The window must also provide an opening of at least 96 square inches with one side being greater than 6 inches. Also of concern are windows that are too small to enter, but could be used to access and adjacent door lock or another window, which could be used to gain entry.

- ❏ Operable exterior windows should be easily locked.
- ❏ Window locks on double hung windows (sashes slide up and down) and horizontal-sliding windows should be equipped with an auxiliary locking device or interlocking sashes.
- ❏ Windows below or partially below grade should be provided with metal grills, screens or break-resistant glass or acrylic material.
- ❏ Windows in concealed areas should be provided with metal grills, screens or break-resistant glass or acrylic material.
- ❏ Windows opening into high security spaces such as computer/server rooms, storage rooms, utility rooms and offices, should be provided with metal grills, screens or break-resistant glass or acrylic material.
- ❏ Applicable exterior windows should remain uncovered.

- ✓ **Internal Circulation and Control**
  - ❏ Doors or gates that can be locked should be used to secure unused sections of the building when the sections are not in use.
  - ❏ The entrance lobby should be clearly visible from the main administrative office.
  - ❏ Right angles in corridors should be observable by natural surveillance.
  - ❏ Corridors should be wide enough to facilitate continuous traffic flow.
  - ❏ Corridors should be observable by natural surveillance.
  - ❏ There should not be recessed areas in corridors that could be used for hiding or loitering.
  - ❏ Areas under stairwells should be enclosed.
  - ❏ All descending stairwells should open into visible accessible hallways.

- ✓ **Interior Doors**

  Internal doors should be marked with room numbers that are clear and logical to persons unfamiliar with the building.
  - ❏ Windows adjacent to or on doors should provide an unobstructed view of the interior space, i.e., no posters, signs or blackout materials should be allowed.
  - ❏ Lockable door hardware should be routinely tested to ensure that doors close and lock properly and that the hardware is in a good state of repair.
  - ❏ Interior doors leading into high security places such as computer/server rooms, storage rooms, utility rooms and offices should be equipped with full flush wood or metal doors, secured with deadbolt locking devices (where life safety codes do not mandate otherwise) and hinges that do not permit the pins to be removed from the exterior.
  - ❏ There should be locks on mechanical room doors. The locks on these doors should automatically return to the locked position when the key is removed.

- ✓ **High Risk Internal Spaces**

  "High risk spaces" include such rooms or spaces as computer/server rooms, storage rooms, food service areas, and raw materials storage areas, offices, among others.

  - ❏ Computers, microscopes, science balances and other high value equipment used in laboratory environments should be equipped with security cables, adhesive pads or other locking devices to make removal of the equipment more difficult.
  - ❏ "High risk spaces" should be equipped with intrusion detection alarms.

- ✓ **Interior Lighting**
  - ❏ Stairwells, corridors and restrooms, in particular, should be well lighted.
  - ❏ Publicly accessible light switches should not control internal lighting.
  - ❏ "Reasonably accessible" fluorescent lighting fixtures should be equipped with lenses that cannot be easily removed.

- ✓ **Interior Hiding Places**
  - ❏ Locks or breakable seals should be provided for access panels for plumbing, electrical and HVAC systems in public places.
  - ❏ Dropped or removable ceilings should be avoided, whenever possible.
  - ❏ When dropped or removable ceilings are necessary, ceiling tiles should be sealed in a way to portray when they have been disturbed.
  - ❏ Employee lockers should be or an open mesh design and equipped with an override key that permits access by security or management.
  - ❏ All potential locations where contraband can be concealed should be identified and corrective action applied.
  - ❏ Potential hiding spaces under stairs should be blocked or otherwise secured.

- ✓ **Electronic Intrusion Detection Systems**
  - ❏ There should be clear, easily observable, multilingual signs (English and Spanish) posted on the exterior of the building (doors and windows) indicating the facility is equipped with an intrusion detection (burglar alarm) system.
  - ❏ "High risk spaces" should be protected by an intrusion detection system.
  - ❏ Intrusion detection systems should be centrally monitored.

- ✓ **Administrative Areas**
  - ❏ Administrative offices or areas should be located in close proximity to the primary building entrance.
  - ❏ Multilingual signage (English and Spanish) should advise visitors of access and sign-in policies.
  - ❏ The reception area should have as much glass as possible facing the entry and lobby areas.
  - ❏ Visitors should not be able to physically bypass the reception area without signing in and obtaining an identification card.
  - ❏ If master keys are maintained in management or security offices, they should be secured in a high security key control cabinet or safe.
  - ❏ Reception areas should have a lockable door, duress alarm and telephone.
  - ❏ The reception area should have a subtle audible enunciator to indicate when the door is opened.
  - ❏ Employee records should be stored in a fire resistant vault within a locked room.
  - ❏ It may be beneficial to have a "security center" within the reception area where CCTV cameras, access control systems, intrusion detection systems and intercoms can be monitored.

- ✓ **Corridors**
  - ❏ Corridors should be broad enough to allow for effective two-way pedestrian traffic.
  - ❏ Corridors should be well lit with no dark areas.
  - ❏ Increased light, reflective paint colors, and graphics on hallway wall surfaces should be used to increase the perception of openness and constant movement.
  - ❏ Chamfered (cut off or beveled) corners at corridor intersections are preferable to 90º turns.
  - ❏ Office doors should have glass in them, and there should be windows near doors so that employees can exercise natural surveillance of corridors or hallways. The windows will also enhance surveillance from the corridors.
  - ❏ Corridors should not have accessible light switches.
  - ❏ Building accessibility and use can be defined through the use of varied wall and flooring color, textures and materials in corridors. Flooring differences can help differentiate public hallways from semi-private office spaces with the attendant behavior changes that are expected.
  - ❏ Blind spots in corridors should be equipped with parabolic mirrors (or a similar device).

- ✓ **Restrooms**
  - ❏ The entry points to restrooms should be designed in a way that occludes direct sight lines into the restroom from the corridor.
  - ❏ Restrooms should have well-lighted maze entries that allow quick ingress and egress. The maze partition should be elevated at least 6" off the floor.
  - ❏ If the entrances to restrooms have doors, they should not be lockable from the inside.
  - ❏ All restroom stalls should have doors and operable locks.
  - ❏ Restroom stalls should allow sight below and above partitions.
  - ❏ Removable acoustical tiles should not be used in restroom ceilings.
  - ❏ Restrooms should not have accessible light switches.
  - ❏ Shelves, hand dryers, sanitary napkin dispensers and trash containers should be heavy duty, recessed and fire resistant.

- ❏ Restroom mirrors should be fabricated from unbreakable materials.
- ❏ Faucets in restrooms should be equipped with spring returns.
- ❏ There should be clothing hooks in toilet stalls.
- ❏ Restrooms should have emergency shut-of points for water supply that are well known to staff and documented.
- ❏ Public telephones should *not* be near restrooms, so as to provide a legitimate excuse for loitering near restroom entry points.

✓ **Locker Rooms**
- ❏ Locker rooms should be organized for easy surveillance.
- ❏ Locker rooms should have a clear circulation pattern with no dead end spaces.
- ❏ Locker room lockers should not exceed 48"- 52" in height to allow for visual surveillance.
- ❏ Lockers should ideally be flush mounted and should be the open mesh type.
- ❏ Locker rooms should have well lit maze entries.
- ❏ Removable acoustical tiles should not be used in locker room ceilings.
- ❏ Shelves, hand dryers and trash containers should be heavy duty, recessed and fire resistant.
- ❏ Locker rooms should not have accessible light switches.

✓ **Vending Machines**
- ❏ Vending machines should be located in areas where they can be monitored by employees.
- ❏ Vending machines should be either flush mounted or installed in a niche or alcove that allows them to be flush to the wall.
- ❏ Vending machines should be attached to walls to avoid being knocked over.
- ❏ Vending machines may be equipped with high-security auxiliary locks.
- ❏ Roll down protective screens may be installed in front of vending machines.
- ❏ Vending machines may be consolidated in vending or break rooms that can be secured when the building is closed.
- ❏ Vending machines may be electronically alarmed.

CPTED Applications

- **Single Family Dwellings**

  ✓ **Natural Access Control**
  - ❏ Walkways and landscaping direct visitors to the proper entrance and away from private areas.

  ✓ **Natural Surveillance**
  - ❏ All doorways that open to the outside should be well lighted.
  - ❏ The front door of the home should be visible from the street.
  - ❏ To provide for full visibility of property, there should be windows on all sides of the house.
  - ❏ The driveway should be visible from either the front or back doors and at least one window.
  - ❏ Landscaping should be properly maintained and trimmed.
  - ❏ Sidewalks and all areas of the yard should be well lighted – for some applications, motion detection lighting is recommended.

- ✓ **Territoriality**
  - ❏ Front porches create a transitional area between the sidewalk or street and the home.
  - ❏ Property lines and private areas should be defined with landscaping or fences (see through).
  - ❏ The home address number should be clearly visible from the street with numbers a minimum of 5" high.

- ● **Subdivisions**

  - ✓ **Natural Access Control**
    - ❏ Streets should be designed to discourage cut-through traffic.
    - ❏ Traffic calming measures should be employed.
    - ❏ Paving treatments, landscaping and design features such as gateways should guide visitors away from private areas.
    - ❏ There should be un-obscured walkways to direct pedestrian traffic.
  - ✓ **Natural Surveillance**

    - ❏ Subdivision landscaping should not create blind spots or hiding places.
    - ❏ Open green spaces and recreational areas should be located so they can be observed from nearby homes.
    - ❏ Subdivision walkways should be well lighted.

  - ✓ **Territoriality**
    - ❏ Entrances (vehicle and pedestrian) into the subdivision should be accentuated with different paving materials, changes in elevation, landscaping, etc.
    - ❏ Property lines should be defined with landscaping or see through fences.

- ● **Multiple Family Dwellings**
  (apartments & condos)

  - ✓ **Natural Access Control**
    - ❏ Balcony railings should never be a solid opaque material or more than 42" high.
    - ❏ Entrances into parking lots should be defined by landscaping.
    - ❏ Building windows should face parking lots
    - ❏ Dead end spaces should be blocked by a fence or gate.
    - ❏ Building entrances and interior hallways should be well lighted.
    - ❏ For buildings with interior common hallways, access should be limited to no more than two points.
    - ❏ Elevators and stairwells should be centrally located.
    - ❏ Common building entrances should have door locks that automatically lock when the door closes.

  - ✓ **Natural Surveillance**
    - ❏ Exterior building doors should be visible from the street or vehicle access way.
    - ❏ All doors that open to the outside should be well lighted.
    - ❏ All exterior sides of the building should have windows
    - ❏ Parking spaces should be assigned to each unit and located adjacent to the unit but not designated by unit numbers.
    - ❏ Visitor parking should be designated.
    - ❏ Parking areas should be visible from building residence windows

❏ Recreational areas should be visible from building residence windows.
❏ Trash dumpsters should not create blind spots or hiding areas.
❏ Plant growth and landscaping should not be more than 3' tall.
❏ Buildings should be sited so that windows and doors of one unit are visible from another.

✓ **Territoriality**
❏ Entrances into the multiple family dwelling should be accentuated with different paving materials, changes in elevation, landscaping, etc.
❏ Property lines for the multiple family dwelling should be well defined.
❏ All building and residential units should be clearly identified by address numbers that are a minimum of 5" high and well lighted.

- **Storefront Businesses**

✓ **Natural Access Control**
❏ Public pedestrian pathways should be clearly marked.
❏ Signs should direct patrons to parking and entrances.

✓ **Natural Surveillance**
❏ Window signs should cover no more than 15% of window space.
❏ Interior shelving and displays should be no higher the 5' tall.
❏ Loading areas or docks should not create hiding places.
❏ All building entrances should either be under natural visual surveillance or monitored electronically.
❏ Exterior of buildings should be well lighted on all sides.

✓ **Territoriality**
❏ Property boundaries, where possible, should be well defined by landscaping or fences.
❏ Private areas within the store should be easily distinguishable from public areas.
❏ Storefront businesses should be clearly identified on all visible sides – front, back and sides.

- **Shopping Malls**

✓ **Natural Access Control**
❏ Signs should clearly mark public entrances
❏ Sidewalks should be clearly marked by way of special paving and/or landscaping

✓ **Natural Surveillance**
❏ Mall public restroom doors should be visible from main pedestrian areas and away from outside exits.
❏ Parking areas should be well lighted.
❏ Loading areas should not create dead end alleys or blind spots.

✓ **Territoriality**

- **Office Buildings**

✓ **Natural Access Control**
❏ Building entrances should be clearly defined by walkways and signage.
❏ Building entrances should be accentuated through architectural elements, lighting, landscaping and/or pavement treatments.

- ✓ **Natural Surveillance**
  - ❏ Entrances to restrooms should be visible from nearby offices.
  - ❏ All exterior doors should be well lighted.
  - ❏ Hallways should be well lighted.
  - ❏ Light controls for hallways and restrooms should not be accessible to the public.
  - ❏ Building dumpsters should not create blind spots or hiding places.
  - ❏ Office windows and doors should have views into hallways.
  - ❏ Parking lots or areas and building entrances should be visible to as many people as possible.
  - ❏ Visitor parking spaces should be clearly marked and designated.

- ✓ **Territoriality**
  - ❏ Private areas should be easily distinguishable from public areas.

- **Industrial Facilities**

  - ✓ **Natural Access Control**
    - ❏ Dead ends should be avoided.
    - ❏ Site entrances should be easily securable.
    - ❏ Entrances to parking areas should be controlled by fence, gate or attendant.
    - ❏ Parking should be assigned by shifts and planned to favor late workers with close-in places.
    - ❏ Storage yards should be planned for vehicle access by patrol car.
    - ❏ Access to roofs via dumpster, loading docks, stacked items, etc. should be restricted.
    - ❏ Building entrances should be kept to a minimum.
    - ❏ Employee entrances should be close to employee parking and work areas.
    - ❏ Delivery entrances should be separate, well marked and monitored.
    - ❏ Vehicular access should be provided to both the front and the back of the building for vehicular patrol.

  - ✓ **Natural Surveillance**
    - ❏ All building entrances should be well lighted, well defined and visible.
    - ❏ Reception areas should view the building entrance.
    - ❏ If there is a parking attendant, he/she should be positioned for maximum visibility of the property.

  - ✓ **Territoriality**
    - ❏ A formal property entrance should be defined by landscaping, fence, gate, etc.