

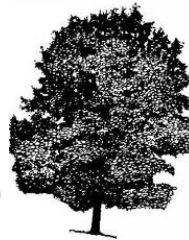
Oshkosh Police Department

Crime Prevention Unit



CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

WISCONSIN
CPTED



CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN



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INTRODUCTION

Whether we are aware of it or not, we are constantly responding to our surroundings and our environment. How we respond to our surroundings can assist us to relate safely in our neighborhoods. An effectively designed environment supports and helps us feel safer and reduces the opportunities for criminal acts to occur.

Crime Prevention Through Environmental Design or CPTED is based on the belief that 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.

Crime Prevention is defined as, “The anticipation, recognition and appraisal of a crime risk and the initiation of some action to remove or reduce it.” CPTED takes crime prevention one step further by studying the site design and working with planners, engineers, landscape designers, landscape architects, arborists, and end user/owners and public development agencies in an attempt to create safer designs in new and existing developments.

The following guidelines were prepared by the Crime Prevention Office of the Oshkosh Police Department to be used as a tool for planners and design professionals to build quality development with the idea of reducing the opportunity for crime to occur. CPTED reviews are becoming standard practice in the planning process throughout the United States and the City of Oshkosh Police Department applies the principles of CPTED in their review of site plans.

Design professionals have always integrated into their work planned resistance to natural threats such as fire, earthquakes, floods and other bad weather. In recent years, design professionals have begun to recognize crime as a man-made hazard that can be mitigated through quality design.

USING THIS DOCUMENT

This document is designed to help design professionals, law enforcement personnel and anyone involved in or concerned with development of a single family or multi-family residence, public buildings, office buildings and commercial uses. The concepts and strategies are discussed and illustrations are provided for various applications of CPTED measures in a variety of developments.

The concepts and strategies of CPTED can be applied to both existing and new development. Ideally, CPTED concepts and strategies should be applied during the design phase to more fully benefit from the applications, as well as avoid costly changes later.

DISCLAIMER:

- *This document is a guide providing techniques and strategies. In a few areas this guide may conflict with the Wisconsin Statewide Building Code in some occupancy types, and the Wisconsin Statewide Building Code will always be the prevailing document.*
- *While our recommendations do not guarantee a crime-free environment, it is our experience that the application of the concepts of CPTED will reduce the opportunity for crime to occur and will enhance the quality of life.*
- *Local and state ordinances: Please refer to the proper county, city or town agencies before implementing any recommendations to assure conformance with county, city, town and state codes.*

HISTORY OF Crime Prevention Through Environmental Design

As early as 1961, Elizabeth Woods, who was at the time working at the Chicago Housing Authority, began noticing that public housing residents wanted and deserved a quality of life that was consistent with other areas of the City of Chicago. Woods began developing guidelines as to how a public housing area should be designed where residents had visibility to neighbor's and that there were gathering areas where residents could keep watch in the area.

Jane Jacobs, in her book "The Death and Life of Great American Cities", discussed the interaction of the physical environment with its inhabitants and how important this is in the life and vitality of a street or neighborhood. Jacobs listed the three attributes needed to make a city street safe: a clear demarcation of private and public space; diversity of use; and a high level of pedestrian use of the sidewalks. She also wrote "the basis for community security is a strong sense of social cohesion and a feeling of control over one's home turf."

In 1969, "Defensible Space" was a phrase made up by Oscar Newman and later in 1972 a book authored by Newman. Newman placed emphasis on the specific design features of buildings and the neighborhood. Defensible space had two parts: First, defensible space should allow people to see and be seen continuously. Second, people must be willing to intercede or report a crime to police.

In 1971, C. Ray Jeffrey wrote his book titled, "Crime Prevention Through Environmental Design" when he began investigating the physical environment and the incidence of crime. Jeffrey created the term "CPTED" and his works included interviewing inmates as to the correlation of crimes committed and the environment where the crimes occurred.

In 1982, James Wilson and George Kelling wrote "Broken Windows". The concept of broken windows is one where in no matter what type of neighborhood, if a building is left with a broken window, graffiti, trash, etc., long enough, disorder and decline of the building or area surrounding it will spread.

In 1985, the first CPTED training program began at the University of Louisville in Kentucky. An instructor at the school, Criminologist Timothy Crowe wrote "Crime Prevention Through Environmental Design, Applications of Architectural Design and Space Management Concepts" which presented the building community and law enforcement a solid base on the concepts of CPTED.

Between 1994 and 2002, Sparta Consulting Corporation managed the U. S. Government's largest CPTED training program. The Sparta-led CPTED projects, that were focused on public and assisted housing, showed reductions in FBI Part 1 Crimes (aggravated assault, forcible rape, murder, robbery, arson, burglary, larceny-theft and motor vehicle theft) ranging from 17% to 76% in specific high crime, low income areas.

Since 2004, the basics of CPTED have gained international renown and more and more communities throughout the world continue to embrace the concepts and ideas of Crime Prevention Through Environmental Design.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

CPTED is the proper design and effective use of the built environment and can lead to a reduction in the fear and incidence of crime and an improvement in the quality of life.

Timothy Crowe (1950-2009), author of the book, CPTED, explains that “The physical environment can be manipulated to produce behavioral effects that will reduce crime. These behavioral effects can be accomplished by reducing the propensity of the physical environment to support criminal behavior.”

There are four interconnected concepts of CPTED: ***Natural Surveillance, Natural Access Control, Territorial Reinforcement, and Maintenance.***

NATURAL SURVEILLANCE

Natural Surveillance is the observation of areas by people. A criminal is less likely to commit a crime if they can be seen by others. The proper placement of windows, landscaping, lighting and buildings, as well as areas that are used by people, are beneficial not only in preventing a crime from being committed, but also has a reverse effect on other people who feel secure knowing they can see and be seen by others.



NATURAL SURVEILLANCE-
TO SEE AND BE SEEN.



NATURAL SURVEILLANCE?
WHAT IS HAPPENING INSIDE AND WHO
IS ENTERING THE STORE?

NATURAL ACCESS CONTROL

Natural Access Control is a means of controlling the access to a building by means of fencing, landscaping, sidewalks, lighting, walkways or signage. Natural Access Control is not necessarily a means of keeping criminals out, but ensures that entrances are visible, well lit and overlooked by windows. Clearly defining entranceways and controlling other points of access to a building is important to Natural Access Control.



TERRITORIAL REINFORCEMENT

Territorial Reinforcement is the use of physical barriers that show ownership of a property by the use of fences, landscaping, signage, pavement designs and lighting. Territorial Reinforcement should be designed to clearly show private spaces.



MAINTENANCE

Maintenance is very important to CPTED. The “Broken Windows Theory” is the basis for the Maintenance principal. Unkempt properties with broken windows, nuisances, graffiti, abandoned vehicles, etc. lead to further properties being unkempt and the image that the area is in decline and not being owned by the occupants. The criminal element sees the decline as a greater acceptance of disorder and begins to move in. Proper maintenance protects the Quality of Life in an area and promotes “Ownership” of a property.



Broken Windows Theory- Which business neighborhood will flourish and which one will bring in the criminal element? When an area is run down and maintenance is non-existent, this leads to further problems and the criminal element moves in.

ACTIVITY SUPPORT

Another idea used to support CPTED is Activity Support. This idea places events or activities in public areas where the intended use is for residents, customers and other users which discourages criminal activity. Having these events or activities at a time when the space has limited use is most beneficial.



Using N. Main Street for the Farmer's Market in Oshkosh is a prime example of Activity Support.



One area that is usually overlooked is a park, which can be used year round.

The four CPTED principles are applied through the 3 D's: ***Designation, Definition, and Design***

Designation - All human space has some designated purpose.

What is the designated purpose of the space? Or what is it supposed to be used for?

What was the original intended purpose for the space?

How well does the space support its intended use or its current use?

Is there conflict?

Definition – There are social, cultural, legal or physical definitions for all human space that prescribe the desired and acceptable behaviors.

How is the space defined?

Is it clear who owns the space?

Where are its borders?

Are there social or cultural definitions that affect how the space is used?

Are the rules, legal or administrative, clearly set out and reinforced in policy?

Are there signs?

Design – All human space is designed to support and control the desired behaviors.

Is there confusion or conflict in the manner in which the physical design is intended to control behavior?

How well does the physical design support the intended function?

How well does the physical design support the desired or acceptable behaviors?

Other issues that should be addressed when considering a site design or use in an area include:

CONTEXT: All CPTED recommendations must be viewed in relation to how the built or natural environment will be used. What cultural definitions, outdoor recreational disposition versus indoor activities, do the users bring to the space? If we design a space that does not address the way the intended users will use the space then intended users may bypass security measures. Context (image and milieu) is every bit as important to CPTED as the other core principles.

DESIGN CONFLICT: Occurs when two incompatible activities are located next to one another and are forced to compete for the same space. Example: Sidewalks for elderly housing that take residents by teenage recreation areas may cause elderly residents to feel intimidated by the rough play that they see, even though no direct threat is intended.

UNASSIGNED SPACE: Occurs when a site is built with areas that have no design purpose and no one to exercise control over them. Such space lacks environmental clues that suggest how the area is to be used and who should control it. Example: A vacant lot next to multiple housing unit may become the territory for local youth and be used in an undesirable way.

TARGET HARDENING: Target Hardening creates a “Fortress” mindset. Target hardening is the concept of placing excessive physical barriers in place such as locks, fences, electronic alarms and security patrols in place to guard a residence or business. Target hardening is actually working against CPTED concepts that rely on Natural Surveillance, Natural Access and Territorial Reinforcement. In addition, some target hardening implementations can diminish the benefits offered by aesthetic surroundings.



CRIME ORIGINS: Settings that have a tendency to generate crime in the surrounding area. (Example: Recurring problems at the same location that may sell alcohol without monitoring to whom it is sold to and the use of alcohol.)

When checking an area, follow the safety checklist below to answer some questions for CPTED:

SAFETY CHECKLIST
<ul style="list-style-type: none">• How maintained is an area? Is the area clean?• Is there pride of ownership in the area?• Can you see into businesses and onto a property? Can they see you from inside the business?• Do you feel comfortable walking alone in the area?• What are your concerns for the area when it comes to safety? What are the positives of the area?• Is there proper lighting in the area? Can you identify someone from 50 feet during hours of darkness?

SINGLE FAMILY RESIDENCES

Residential neighborhoods remain the most vital part of a city. Getting to know your neighbors is the most important aspect of a neighborhood revitalization plan. To accomplish this, homes and streets should be designed to promote relations within the neighborhood. Front porches on homes, pedestrian friendly sidewalks and property lines that are open to a neighbor's view rather than tall landscaping and fences that prohibit interaction.

From the 1940's through the 1960's, the main gathering spot at a residential home was the front porch. Neighbors met with neighbors. People walked through their neighborhoods and self-policed themselves.

In the 1970's with the evolution of technology, the inception that everyone had at least one television in the home took hold. No longer was the main gathering place the front porch. Sitting in front of a TV in the living area with a TV dinner took over where the porch once reigned as the meeting place of the home. The decline of the porch as the gathering place at the home meant the neighborhood was not being "watched" all the time. Neighbors had little contact with other neighbors and an increase in crimes, such as burglary, began to rise in neighborhoods throughout the United States.

Today in many areas around the world, technology continues to evolve bringing the world closer to each other. Although technology is a great asset for many, it does not replace the richly needed interpersonal dialogue between neighbors to make a neighborhood flourish and become crime free.

A challenge to each and everyone in a neighborhood: Get to know your neighbors!



DESIGN APPROACH: SINGLE FAMILY RESIDENCES

NATURAL SURVEILLANCE

- Fully illuminate all doorways that open to the outside.
- The front door should be at least partially visible from the street.
- Install windows on all sides of the house to provide for full visibility of the property.
- Provide appropriate illumination to sidewalks and areas of the yard.
- The driveway should be visible from either the front or back door and at least one window.
- Select and install appropriate landscaping that will allow unobstructed views of vulnerable doors and windows from the street and other properties.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- Use walkways and landscaping to direct visitors to the proper entrance and away from private areas.
- Install shrubbery to control access to a private area. Fences may also be used to control access, but allow for surveillance opportunities as the type of fence is considered.
- Install walkways along the street to provide a safe location for pedestrians, while clearly defining public and semi-public areas. Sidewalks help to guide people.
- SEE TARGET HARDENING beginning on page 57.



A natural stone walkway with plantings guides a visitor to the front door of a residence.

TERRITORIAL REINFORCEMENT

- Use front stoops or porches 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, (at least 3 inches high and reflective at night.)
- Promote Neighborhood Watch Programs



Providing territorial reinforcement by plantings or fences give a subtle reminder of where someone should be and shouldn't be.

MAINTENANCE

- Maintain clear sightlines around the home by pruning vegetation. (See Landscaping Section)
- Keep lawn cut and edged, indicating clearly that someone cares about this area.
- Use exterior lighting at night and keep it in working order.
- Keep litter and trash picked up and the yard neat and free of items that might attract theft.
- The house, garage and storage buildings should be kept in good repair.

ACTIVITY SUPPORT

- Locate playgrounds, picnic areas or natural common areas in the center or front of a neighborhood to offer surveillance opportunities to these areas and a feeling of ownership.
- Encourage block parties, etc. to create more activity around the street and home.



This home in Oshkosh, WI has all of the strategies in place- Natural Surveillance, Natural Access Control, and Territorial Reinforcement and is well maintained.



What are some of the CPTED strategies that could be used on this home?

MULTI-FAMILY RESIDENCES

Multi-family residences, including townhomes, duplexes, triplexes and apartment complexes, all present the same type of problems as single-family residences, although the number of units and residents can compound issues.

Public areas in a multi-family residence, such as shared hallways, elevators, laundry rooms and parking areas can be a design challenge. CPTED concepts and strategies need to be considered as the complex or site is being planned.

Multi-family residences do not always mean multiple problems. The saying, “There is power in numbers” is true when it comes to multi-family residences. Multi-Family Residence managers need to generate the opportunity for neighbors to meet one another whenever possible. When neighbors take responsibility for themselves and each other, multi-family dwellings may be safer places to live.

DESIGN APPROACH - MULTI-FAMILY RESIDENCES

NATURAL SURVEILLANCE

- Design buildings so that the exterior doors are visible to the street or neighbors.
- Have proper amount of lighting at all entrances/exits.
- Illuminate hallways properly.
- Windows should be installed on all four sides of the building allowing for observation of the parking lot.
- Parking spaces should be assigned to residents and as near to the resident’s unit as possible. Although parking spaces should be assigned, they should not be marked with the unit number.
- Visitor parking should be separate from residence parking.
- Parking areas and pedestrian walkways should be adequately lighted.
- Position recreation areas—pools, tennis courts, clubhouses and playgrounds, to be visible from as many of the units as possible, centrally located within the property and not directly next to parking lots or streets.



Windows looking out from every apartment allow for natural surveillance of the parking lot.

- Screen or conceal dumpsters, but avoid creating blind spots and hiding places.
- Elevators and stairwells should be located where visible from doors and windows and should be open to viewing while in the elevator or stairwell by using windows.
- Locate buildings so that the windows and doors of one unit are visible from another (although not directly opposite).
- Use open railings and open risers whenever possible.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- Keep balcony railings and patio enclosures views open by using a see-through material such as wrought iron railings.
- Define entrances to the site and each parking lot with landscaping, architectural design or symbolic gateways.
- Discourage loitering by non-residents and enforce occupancy provisions by the use of signs.
- Use doors that have self-closing devices that automatically lock upon closing on common building entrances.
- Allow no more than four apartments to share the same entrance (individual entrances are recommended.)
- Centrally locate elevators and stairwells where many users may observe them.
- When the design has apartment entrances off internal corridors, limit the access into the corridors to one point.
- Complexes with shared laundry facilities or an area where there is fenced storage facilities should have keyed security doors. Doors to these areas should have self-closing mechanisms and signs to ensure proper closure of the door.
- Address should be located on both the front and rear of a unit's entrance.
- SEE TARGET HARDENING beginning on page 57.



This apartment complex in Oshkosh, WI has many CPTED Design Strategies implemented. Windows looking onto the parking lot, balconies that are visible, and landscaping that is properly maintained.

TERRITORIAL REINFORCEMENT

- Define property lines. Consider perennials, slow growing (“dwarf”) varieties of shrubs, decorative fencing and hostile vegetation such as thorny shrubs around the building.
- Encourage a building design that provides individual entrances to units from the outside. The entrances should each have a stoop and an overhang to promote a sense of ownership.
- Emphasize building entrances with architectural components, lighting, landscaping and signs.
- Clearly identify all building and residential units using building numbers that are a minimum of 6 inches in height or larger, high and well-lit at night. Building numbers should be 12 inches in height, conspicuously located and be well-lit at night.
- Locate locking mailboxes next to the appropriate units or in a conspicuous place.

MAINTENANCE

- Maintain the lighting. Checks should be made periodically to make sure the lights are working.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.
- Frequently empty trash receptacles.
- Keep the grounds clean and well-maintained.
- Keep lines of sight open by maintaining landscaping.

ACTIVITY SUPPORT

- Locate post office boxes, clubhouses, pools, playgrounds, picnic areas and other amenities in a central location to encourage use, promote safety for the user and to be observed from residential units.



Locating the gathering area in the center of the Multi-Family Residence complex provides security to those using the area by natural observation, territorial reinforcement and activity support.

- Promote Neighborhood Watch programs.

NEIGHBORHOODS

Keeping people out of a neighborhood may not be a positive in some cases. Having gates, guards, video cameras and patrols sounds more like a prison than it does a neighborhood. Implementing CPTED guidelines can create a safer neighborhood without the extra security measures.



The most common problem in a neighborhood is traffic. Having vehicles speeding through a residential street to cut through traffic while there are children playing and where the street is narrower all lead to problems that could be avoided. “Traffic Calming” measures such as speed bumps, corner bump-outs, one lane roundabouts and short medians can be used in residential neighborhoods to slow traffic or to divert the traffic to major roads that are relatively inexpensive and easy to create.

Another common problem in neighborhoods is burglary and thefts from vehicles. Criminals look for easy opportunities in neighborhoods. When homes and vehicles are being left unlocked with valuables ripe for the taking, the responsibility falls upon the owner for the theft or burglary when it occurs.

Having the mindset that locking doors to homes and vehicles is a hassle or “I will only be gone for a short time and nothing will happen” is a fast invitation for a criminal to take what they please. The small amount of time it takes to lock one’s door to the home or vehicle will prevent time-consuming calls to the police, insurance agency, running around replacing what was taken and repairing things that may break during the crime.

NEIGHBORHOOD CPTED STRATEGIES

NATURAL SURVEILLANCE

- Avoid landscaping that might create blind spots or hiding places.
- Centrally locate open green spaces and recreational areas, so that they are visible from nearby homes and streets.
- Use pedestrian scale street lighting that is glare-free, in high pedestrian traffic areas to help people recognize potential threats at night.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.



These neighborhoods in Oshkosh, WI have many CPTED strategies implemented.

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 columned gateways, to guide visitors to desired entrances and away from private areas.
- Install walkways in locations safe for pedestrians and keep them un-obscured.



Traffic Calming Measures implemented in a residential neighborhood.

TERRITORIAL REINFORCEMENT

- Design lots, streets and homes to encourage interaction among neighbors.
- Accentuate entrances by creating a “gateway” effect. This may be done with the subdivision name, different paving materials and changes in street elevation and architectural and landscape design.
- Clearly identify homes with street address numbers that are a minimum of 3 inches high and reflective at night.

- Define property lines. Use fencing, landscaping, gates, etc. to define property lines, distinguish between public and private property, direct pedestrian traffic to only desired points of access, etc.
- Promote Neighborhood Watch programs in your community.



Providing territorial reinforcement by plantings or fences give a subtle reminder of where someone should be and shouldn't be.

MAINTENANCE

- Maintain all common areas to very high standards, including entrances and right of ways.
- Use low maintenance or maintenance-free building products in your construction.
- Use low maintenance plants and shrubbery in your landscape design.
- Maintain a healthy and attractive landscape. Prune trees and shrubs to promote Natural Surveillance. Keep grass cut, eliminate weeds and shovel snow. If leaving on vacation, arrange to have someone maintain the property.



Well-maintained homes and landscaping promote welcoming neighborhoods and promote quality of life issues.

- Contact the electrical department if a street lamp is not working and ensure it is being fixed in an appropriate length of time.

- Install dusk to dawn sensors on lighting fixtures on homes. Lighting is the least expensive and one of the most effective crime prevention methods.
- Remove inoperable vehicles, trash, and debris regularly. Organize a street clean up monthly with neighbors.
- Enforce all local and state codes.

ACTIVITY SUPPORT

Provide areas that will be supported by the neighborhood. A park, playground, sports courts, swimming pools or other public gathering areas will only enhance a neighborhoods character, provided it is being utilized by the neighbors.



Parks and playgrounds abound in Oshkosh, WI that support neighborhoods and provide gathering locations for residents to enjoy.

PUBLIC/MUNICIPAL BUILDINGS

LEAD BY EXAMPLE!

Keeping public or municipal buildings updated and looking refreshed has a positive influence on neighborhoods. Updating or keeping a building and its surroundings well-kept is a sign of ownership that the community can take pride in. In turn, the area is reinvigorated by the notion that the city entity cares and is a precursor to others in the area taking pride in their own properties.

In the short documentary film, “Back from the Brink,” Suisun City, CA had many problems and needed a starting point in a redevelopment project. In 1986, James Spering, the mayor of Suisun City, CA, suggested starting with a new city hall and city offices building. At the time, the city hall and city offices were housed in trailers. The new city hall and city offices were built, leading to a momentous turn-around for Suisun City, CA and a new beginning for its citizens. Crime was reduced by 34% after the redevelopment and Suisun City, CA continues to be a destination location for many.

DESIGN STRATEGIES – PUBLIC BUILDINGS

- Designate a main entrance point into the facility that is easily observable from both inside the building and the parking area or roadway.
- Designate a main area for secure bike racks that is easily observed from a normally occupied area of the building.



The entrance to the Safety Building is well-defined with a pedestrian walkway and sign.

- Avoid landscaping that might create blind spots or hiding spaces.
- Secure all outbuildings and locate them in areas that are easily observed.
- Provide uniform lighting without glare for scheduled nighttime activities and to permit good observation by neighbors and patrol units during non-business hours.
- Interior offices should offer surveillance opportunities into the corridors.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- Locate the building site so all areas can be observed during off-business hours to detect unauthorized activities whenever possible.
- Limit access to only one controlled entrance into the facility that is easily observable from inside and out.
- Lock unused areas off from the public.
- Employee only areas should be locked so that the public can't gain entry without assistance.
- Secure bike racks so they can't serve as a climbing aid.
- Define the property using fencing, landscaping or a type of open design barrier to control access.
- Provide signs indicating where a person is in relation to the rest of the property. Signs should also direct a visitor to the main entrance.
- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Locate the main entrance so it is easily identified when approaching the building.
- Locate the welcome center as near the main entrance with plenty of glass to allow observation of entrance doors as well as the visitor parking areas.
- Locate signs on and around the premises stating No Trespassing, etc.
- Use signage or pavement markings to identify traffic patterns, employee and visitor parking areas, entrances, etc.

MAINTENANCE

- Maintain the lighting. Checks should be made periodically to make sure the lights are working.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.
- Frequently empty trash receptacles.
- Keep the grounds clean and well maintained.
- Keep lines of sight open by maintaining landscaping.

ACTIVITY SUPPORT

- Encourage the Neighborhood Watch in the surrounding neighborhoods to 'own' the public facility by reporting any suspicious activity to the Police or Sheriff's Department after-hours.
- Use of buildings after hours by a civic group, neighborhood watch, etc. will offer additional activity support.



SCHOOLS

The well known Columbine High School incident that occurred in 1999 changed everything everyone knew about school safety. Although there were school shootings before Columbine, the Columbine incident opened many eyes with respect to school safety. Since 1996, there have been more than 65 assaults on schools, teachers and students worldwide, with the majority of these assaults occurring in the United States.

A school that is poorly designed will be difficult to secure even with the installation of the most technologically advanced security and safety equipment. Planners and law enforcement owe it to faculty, parents, and students to design and build the safest schools possible.

DESIGN APPROACH – SCHOOLS

NATURAL SURVEILLANCE

- Designate a main entrance point into the facility that is easily observable from both inside the building and the parking area or roadway.



Roosevelt School in Oshkosh, WI has a well-defined front entrance with sidewalks and landscaping directing people to the front door.

- Designate a main area to secure bike racks that are easily observed from a normally occupied area of the building.
- Interior offices should offer surveillance opportunities into the corridors.
- Design hallways to be easily observed with very few offsets.
- Locate visual panels in all classrooms to allow teachers to observe the hallway with minimal visual distractions to the seated students.

Classroom doors should have glass panels to view who is outside in the hallway.



- Avoid landscaping that might create blind spots or hiding spaces.
- Secure all outbuildings and locate them in areas that are easily observed.
- Provide adequate lighting without glare for scheduled nighttime activities and to permit observation by neighbors and police patrol units during non-business hours.
- Design open access to restrooms with no need for a hallway door or modify existing doors so they are locked in the open position.
- Classroom entry doors should not be recessed, but flush mounted with the hallways. Classroom entry doors should open out to the hallway and not to the inside of the classroom. All doors should have a side light see through panel placed on the opposite side of the door handle and a lock making them unreachable from outside the classroom.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- Locate the site so all areas can be observed during off-school/business hours to detect unauthorized activities whenever possible.
- Limit access to only one controlled entrance into the school that is easily observable from the main office during the school day.
- Limit access to school during sporting, community, or other after school events.



Limiting access to hallways and classrooms during after-school activities can be accomplished by a barrier such as a scissor gate.

- Eliminate or design covered walkways to restrict access to the roof and avoid other structures (such as door overhangs, fences or landscaping) that may provide roof access.
- Arrange student lockers to allow casual observation, with plenty of room between rows and no dead-ends.
- Provide two-way communication throughout the building.
- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Position the main entrance so it is easily identified when approaching the building.
- The office should be near the main entrance with plenty of glass to allow observation of entrance doors as well as the visitor parking areas.
- Secure the parking area when the school is not in use.

- Signs should be located in the parking lot and at all entrances stating all visitors must check in at the office. The signs should also direct visitors to the main entrance of the school.
- Locate signs on and around the premises stating Drug Free Zone and No Trespassing.
- Use pavement markings to identify traffic patterns and faculty, student and visitor parking areas.
- Require maintenance personnel, contract workers, etc. to wear uniforms and/or photo-ID badges plainly visible.

MAINTENANCE

- Maintain the lighting. Checks should be made periodically to make sure the lights are working.
- Frequently empty trash receptacles.
- Keep the grounds clean and well maintained.
- Place proper number of refuse containers on site to encourage keeping the marina clean.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.
- Keep lines of sight open by maintaining landscaping.

ACTIVITY SUPPORT

Encourage after school activities in designated areas of the school for community groups and organizations.



Whether a sporting event, meeting place, play, or a concert, schools should be utilized whenever possible for after-hour activities during periods when the school is not being used.



PARKS AND TRAILS

Parks and trails are very important in the sustainability of a community. Oshkosh has over 35 parks, recreation trails and boat launches. Throughout the year, these parks and trails hold many events. It is important to continue the development of these parks, making them more people friendly and safe for people to enjoy now and in the future.

A very popular recreation spot for area visitors is the WIOUWASH Trail that begins in downtown Oshkosh and traverses through the City of Oshkosh north 22 miles to Hortonville, WI. The Oshkosh River Walk is being developed at this time and soon will open to the public.

In designing parks and trails for safety, it is important to concentrate on areas where there is parking, restrooms and isolated areas.

DESIGN APPROACH – PARKS AND TRAILS

NATURAL SURVEILLANCE

- Parking lots, picnic areas, trailheads and buildings used at night should be placed near streets and other activity areas so they are easily observable by police patrols and other park users.
- Locate children's areas and public restrooms near staffed areas to make observation of these areas easier.
- Bike trails and walking paths should be placed near areas of activity or at places where parks meet commercial or residential uses, or have the trails and walking paths parallel with active streets to make users observable by others.
- Some park areas cannot be observed or made safe during night hours. Attempt to make all areas visible when possible.
- If parks are used at night, provide good lighting for areas that can be safely used at night. When the park closes, all lights should be turned off at buildings and gathering areas.
- Position benches in areas where intended users will be able to provide Natural Surveillance and demonstrate territoriality. Benches provide a time for rest for trail and open space users. Benches should be designed to prevent someone from lying down. A center arm rest deters someone from getting too comfortable.



- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- Gate off vehicular entrances when parks are closed or are designed for non motorized vehicle use, other than official vehicles.
- Provide clearly visible entries to park buildings. Light the park buildings if used at night.
- Provide a 10 foot clearance between the trails and wood-lines on each side of the trail to offer sight lines and distance from potential attacks.
- Provide a clear separation between regional trails and private property. The separation should permit leaving the trail in an emergency.
- If a particularly attractive portion of the trail is isolated, making its users vulnerable, create and clearly mark an alternate, observable path that gives users a choice for safer mobility.
- Clearly mark the hours the park or trail is open to the public. Well-placed entrance signs or gates should be used to notify the public and to control access into the park or area.
- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- When checking specific facilities of a park, people have a relatively good idea what the park area was designed for. Providing a children's play area encourages family use of a park.
- Paths between parking lots and other facilities should be properly delineated.
- Place maps at entrances to the park that inform a person where they are and how to get to a location in the park. The maps should clearly identify trail names, facilities, play areas, phones and how to contact the parks department.
- Along with the maps, park rules should be posted at the entrances to the park or trail. Rules give the acceptable uses and unacceptable uses of the park.



- Trails should have signs with trail names, directional signs to areas of public activity and even mile markers to help orient users. Trails should have signs that promote safety and awareness. *Signage example:* Trail/Pathway traverses heavily wooded and secluded area. Visitors are encouraged to travel with a partner.
- Trails need to be marked for use, such as biking or walking.

MAINTENANCE

- Keep trees and shrubs cut back to keep paths open and to eliminate the ambush, entrapment, and concealment areas.



The WIOUWASH Trail off of River Mill Rd. in Oshkosh, WI. The public trail and private property are kept delineated by fences and the vegetation is cut back for ease of viewing. Trash is non-existent which makes it user friendly.

- Provide enough vandal-resistant trash receptacles that are properly secured in areas where people congregate.
- Remove trash, graffiti and other nuisances such as invasive landscaping species.
- Park benches should have seat dividers to discourage sleeping or skateboarding.
- Maintain the lighting. Checks should be made periodically to make sure the lights are working.

ACTIVITY SUPPORT

- Planned activities should be held in isolated areas of recreation areas and parks. Add programs in areas and at times when the space is not busy or typically used.
- Lighting should be turned off when the park closes. A lighted park after hours invites and encourages illegal use.

OFFICE BUILDINGS

The safety design of an office building is dependent on many different levels. The size of the office building, the number of businesses that are incorporated, the type(s) of businesses and how many people are working are some of the concerns to be addressed.

Controlling access to an office building where there is only one business is easier than having multiple businesses housed in one building. Common hallways where bathrooms and waiting rooms are shared by multiple businesses need to be observed by one of the businesses.

In office buildings with multiple tenants, a need to identify a person is vital to the security of the building. ID cards, separate entrances for employees, a building host station with security person and/or familiarity of co-workers and other employees assist in identification.

DESIGN APPROACH – OFFICE BUILDINGS

NATURAL SURVEILLANCE

- Position restrooms that can be observed from the business greeter or other nearby offices. Restrooms should have a maze entrance and no doors.
- Design interior windows and doors to provide visibility into hallways by office staff or visitors in waiting areas. Windows should have no opaque coverings on them.
- Install and use effective 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 corrals or garages.
- Design windows and exterior doors so that they are visible from the street or by neighboring buildings.
- Place parking lots where they are visible from the building.
- Do not obstruct views from windows.
- Avoid creating hiding places in alleys, storage yards, loading docks, etc. by the proper use of windows on the building.
- Design stairwells and elevator foyers to be more open and locate them in a central location within the building. Whenever possible, avoid locating stairwells at the ends of corridors and hallways. Doors and walls should have glass leading into the stairwells and elevator foyers for visibility from inside and outside the foyer.



This office building has windows on all four sides providing observation to parking lots and entrances.

- Alarm exterior stairwell doors as emergency exit(s) only or equip the doors with a card access system or some other similar system to control access. Doors that do not have ingress uses should have all door hardware removed from the outside and panic hardware attached to the inside for fire or emergency exit only.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

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

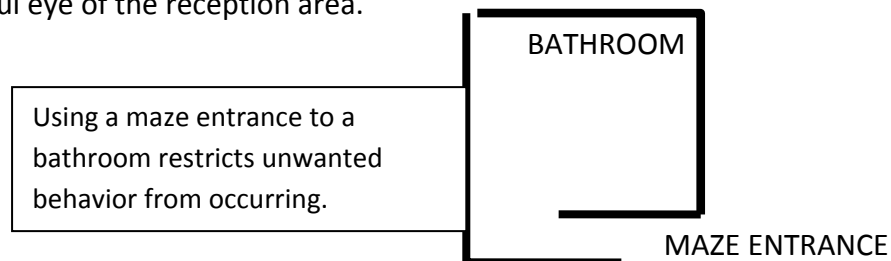


Having a front reception area is important in keeping a business safe. The person at the desk greeting visitors is the first line of defense in alerting employees or visitors if there is a potential problem.

- Require employees to wear photo ID badges identifying which company they are employed with. Visitors to the business should also wear an ID badge when on the premises.
- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Define perimeters with landscaping or fencing.
- Design fences to maintain visibility from the street.
- Differentiate exterior private areas from public areas.
- Public restrooms should be located as near the entrance as possible and under the watchful eye of the reception area.



- Position security or reception areas at the main entrance, if not at all entrances.

MAINTENANCE

- Keep all exterior and interior areas clean.
- Place proper number of refuse containers on site to encourage keeping the area clean.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.
- Maintain all plantings inside and out.
- Maintain the lighting. Checks should be made periodically to make sure the lights are working.

ACTIVITY SUPPORT

- Public buildings are smoke free environments. Locate the smoker's area where the employee will be the safest, but also offer "eyes on the street" for parking lots and other sensitive areas of the site.
- Locate accessory activities such as picnic tables, fountains and other gathering areas where they are easily observable and offer visibility to secluded areas.



Locating the picnic or break area outside during warm weather offers visibility of the parking lot and surrounding area to suspicious activity.

Placing a break or picnic spot in an area that is not observable from inside the building is advantageous for all employees in keeping the area safe.



COMMERCIAL PROPERTIES (RESTAURANTS, SHOPPING CENTERS, CONVENIENCE STORES)

Businesses such as convenience stores, restaurants and gas stations are vital to the success of any community. Citizens look for clean, well-kept properties to do their shopping that is close by. Crime free areas are another main concern for local shoppers. If an area has been targeted by criminals, shoppers may go elsewhere for their shopping needs.

Multi-use development has taken on new interest in many communities of the United States. Multi-use is having neighborhoods with residential and commercial properties intertwined. A building may house a store on the first floor while the one or two floors above are residential, such as the 100 N. Main St. building in Oshkosh.

DESIGN APPROACH – COMMERCIAL PROPERTIES

NATURAL SURVEILLANCE

- Windows should not be tinted. This is to allow surveillance from inside and outside of the business.
- Advertisements and product displays should not be located in or around windows. If advertisements must be used, they should be small in size and located in an area where observation will not be blocked to the inside or outside.
- Cashier stations shall be placed at the front of the store on a raised floor overlooking the sales floor and the parking lot.
- Have at least two employees on duty at all times. If it is not feasible for two employees to be on duty all the time, have at least two employees on duty during the opening and closing of the business.



Having very few advertisements on the windows allows for observation from inside and outside the building.

Products placed in front of the window as this service station prohibits employees from observing who is entering.

- Convex mirrors should be used to allow employees to monitor blind spots and unmonitored areas located inside the building.
- The shelving should be in line with the cashier counter for maximum observation. Items should not be stacked so high that it restricts observation by store employees.
- Restrooms should be located to the front of the store for employee observation and to deter retail theft.
- Outdoor dining areas enhance natural surveillance while giving comfort to customers.

While providing customers the opportunity to eat outside, the outdoor seating allows for natural observation of the parking lot and surrounding businesses.



- Peep holes should be inserted into exterior doors with no windows.
- Loading docks or delivery door areas should be designed to eliminate hiding areas for people and merchandise.
- Parking lots should be visible from the store and the building. All entrances should be physically or electronically observed. If there is a customer parking lot to the back of the building, an entrance to the rear of the building should be provided to customers and windows should be installed on the back of the building for observation of the parking lot.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- A cashier station shall be enclosed by installing bullet resistant glass with a pass-through window tray.
- The access for deliveries and customers into the building should be limited. Side and rear doors should not be unlocked or propped open for any reason.
- Post hours of operation in visible locations for customer safety.
- Main entry doors shall have height markers.
- Signage indicating that little cash is kept on hand shall be visible and in a conspicuous location at the entrance and at cash registers.
- Prevent access to the roof or the fire escape from the ground.
- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Use signs to define the entrances.
- Use fences or landscaping that can easily be viewed through to delineate property lines.
- Identify the site from nearby businesses by using different signs and landscaping.

MAINTENANCE

- Keep the store and outside areas clean.
- Place proper number of refuse containers on site to encourage keeping the area clean.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.



To limit rodents, do not stack pallets, crates or boxes on top of each other and keep them away from the building. Dispose of properly when time allows.

- Maintain the lighting. Checks should be made periodically to make sure the lights are working.

ACTIVITY SUPPORT

- Do not create areas where loitering can easily begin.
- Sign your area “no loitering” or “no skateboarding” and limit the number of young people in your building by signs.
- Form a business watch or join the nearest Neighborhood Watch.

PHARMACIES

Pharmacies have become a major target for robberies, primarily due to the prescription drug abuse taking place in the United States. In Oshkosh alone since 2006, there have been numerous armed robberies, prescription frauds, and burglaries committed at pharmacies and residential homes where prescription drugs have been the target. This trend is most likely going to continue unless a position is taken on securing prescription medications.

Providing a safe and secure location at pharmacies and residences with prescription medication is vital to deter these crimes from occurring. Pharmacies and home owners must take the lead in securing their prescription drugs. For pharmacies, it is not only the prescription medications that need protecting, but more importantly it is in protecting their employees and customers.

DESIGN APPROACH – PHARMACIES

NATURAL SURVEILLANCE

- Windows should be installed looking out onto the parking lot and should not be tinted. This is to allow surveillance from inside and outside of the business.
- Advertisements and product displays should not be located in or around windows. If advertisements must be used, they should be small in size and located in an area where observation will not be blocked to the inside or outside.
- A cashier station shall be placed at the front of the store on a raised floor overlooking the parking lot.
- Have at least two employees on duty at all times. If two employees on duty all the time are not feasible, have at least two employees on duty during the opening and closing of the business.
- Convex mirrors should be used to allow employees to monitor blind spots and unmonitored areas located inside the building.
- The shelving should be in line with the cashier counter for maximum observation. Items should not be stacked so high that it restricts observation by store employees.

Having shelves at lower levels provides employees the opportunity to view who is in the store and the activity that is occurring.



- Restrooms should be located to the front of the store for employee observation and to deter retail theft.
- Outdoor dining areas enhance natural surveillance while giving comfort to customers.

- Peep holes should be inserted into exterior doors with no windows.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- The pharmacy area should be enclosed by installing bullet resistant glass with a pass-through window tray and voice transmitter for customer service.

Placing a security window and pass through drawer at the customer counter in the pharmacy provides many levels of security and prevents someone from jumping over the counter.



- The pharmacy area should have a separate access point other than from the sales floor. The door to the pharmacy should be steel and be wired for key pad access or a double-cylinder lock. Signs should be posted stating “authorized personnel only.”
- The access for deliveries and customers into the building should be limited. Side and rear doors should not be unlocked or propped open for any reason.
- Post hours of operation in visible locations for customer safety.
- Main entry doors shall have height markers.
- Signage indicating that little cash is kept on hand shall be visible and in a conspicuous location at the entrance and at cash registers.
- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Use signs to define the entrances.
- Use fences that can easily be viewed through to delineate property lines.
- Identify the site from nearby businesses by using different signs and landscaping.

MAINTENANCE

- Keep the interior and exterior of the store clean.
- Place proper number of refuse containers on site to encourage keeping the parking lot and outside of store clean.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.
- To limit rodents and insects, do not stack boxes or pallets and dispose of properly.
- Maintain the lighting. Checks should be made periodically to make sure the lights are working.
- Replace signs, displays or posters if broken, torn or faded.

- Parking lots should be free of potholes and trash.
- Keep landscaping in healthy condition.



Note the differences in the two pharmacy designs. The pharmacy on the left has windows for individuals to look inside and outside while the pharmacy on the right has limited views to the inside and outside. The proper design of buildings should have windows that allow observation to the inside and outside.

ACTIVITY SUPPORT

- Do not create areas where loitering can easily begin.
- Sign your area “no loitering” or “no skateboarding” and limit the number of young people in your building by signs.
- Form a business watch or join the nearest Neighborhood Watch.

HOTELS AND MOTELS

During the summer season, events such as EAA, Rock USA and Country USA fill hotels and motels to capacity with vacationers in the Oshkosh area. The remainder of the year, most patrons are business travelers.

Some hotels and motels in the Oshkosh area are known to be rendezvous points for illegal activities, such as prostitution. Hotel and motel owners and employees need to identify actual guests from those who are involved in criminal activity and report the criminal activity to the police. Hotel and motel owners and employees who fail to maintain the integrity of their business and allow criminal activity to take place are more likely to bypass CPTED strategies. This may lead to a reduced quality of life in the area of the hotel or motel affecting other businesses and promoting the “Broken Windows” theory.

DESIGN APPROACH – HOTELS AND MOTELS

NATURAL SURVEILLANCE

- The front lobby and guest rooms should have windows looking out onto the parking lot area. Windows in the lobby should not have any opaque materials on them including blinds, advertisements, etc.



Windows looking out onto the parking lot and a property properly landscaped is inviting to those visiting Oshkosh.

- The front check-in desk should be on a raised platform and be as near the entrance as possible. The front desk should have staff posted behind the desk 24 hours a day, 7 days a week.

The front desk should be staffed 24 hours a day. Front desk staff should be greeting everyone entering the hotel to check on why they are visiting.



- At least two hotel/motel staff should be working at the same time 24 hours a day.
- If there is a convenience area for guests, it should be attached to the front desk area. If the convenience store is separate from the front desk, the store should be staffed during open hours.
- The parking lot should have proper lighting and be designed to be seen by all guests from their rooms.
- Design stairwells and elevator foyers to be “open for viewing” and locate them in a central location within the building. Whenever possible, avoid locating stairwells at the ends of corridors and hallways. Doors and walls should have glass leading into the stairwells and elevator foyers for visibility from inside and outside the foyer.



Being able to view what or who is inside an elevator before entering is comforting to people. People outside the elevator are also able to see what is happening inside.

- Bicycle racks should be placed near the front door for viewing.
- Public restrooms should be located near the front entrance and observable by front desk employees.
- Front lobby furnishings should not block the view of front desk staff.
- Design the hotel that will avoid creating hiding places in alleys, loading docks, etc.
- Place outdoor seating to view obstructed or hidden areas.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- The front lobby and guest room area should be designed restricting access to non-guests. This may be accomplished by monitoring electronically or by hotel/motel staff those that have access to the guest rooms. Checking to see if those entering the hotel/motel have keys to a room is a way to identify actual guests.
- Public bathrooms should not have doors. Maze entrances should be used.
- All guestrooms shall have electronic key card access. Swimming pool, game room, exercise room, business/internet room, etc. should have electronic key card access.
- Exterior doors should be monitored at all times. Exterior doors not used for ingress should have exterior door hardware removed and be used for emergency exit only.

- Patio doors on all levels shall have interior auxiliary security locks.
- Doors to conference rooms and restaurants should be properly secured when not in use.
- Key control should be restricted to essential personnel only.
- Signs or policies in writing from the hotel/motel stating that there are to be “no visitors” should be visible or be signed on an agreement by the guest when they check-in.



The placement of signs is very important when it comes to restricting or limiting access to any given area. Signs should be kept simple, clear, and to the point.

- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Use signs to define the entrances.
- Use fences or landscaping that can easily be viewed through to delineate property lines.
- Identify the site from nearby businesses by using different signs, pavement and landscaping.

MAINTENANCE

- Maintain the lighting. Checks should be made periodically to make sure the lights are working.
- Keep the grounds clean and well-maintained.
- Place proper number of refuse containers on site to encourage keeping the hotel/motel clean.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.
- Maintain all plantings inside and out.
- Keep lines of sight open by maintaining landscaping.
- Manager or designee should walk the grounds daily and note defects to be corrected.
- To limit rodents and insects, do not stack boxes or pallets and dispose of properly.

ACTIVITY SUPPORT

- Do not create areas where loitering can easily begin.
- Sign your area no “loitering” or “no skateboarding” and limit the number of young people in your building by signs.
- Form a business watch or join the nearest Neighborhood Watch.

BANKS AND ATMS

Although security and electronic monitoring equipment continue to advance, banks and ATM's will always be targets of crime. Opportunities abound for the criminal if a bank or ATM is not properly designed or located. Customers arriving at or leaving the bank for the most part, will either have money or securities in their possession. For customers and employees alike, being visible should be emphasized when designing a bank.

DESIGN APPROACH – BANKS AND ATMS

NATURAL SURVEILLANCE

- Install a check-in desk that is raised off the floor, but not obstructing the view of other employees to the front doors. Have an employee at this check-in location during all open hours to meet and greet customers.
- All entrances should be monitored by employees or by electronic monitoring.
- Windows should not be tinted. This is to allow surveillance from inside and outside of the business.
- Advertisements and product displays should not be located in or around windows. If advertisements must be used, they should be small in size and located in an area where observation will not be blocked to the inside or outside.
- Design interior windows and doors to provide visibility into hallways by office staff or visitors in waiting areas. Windows on office walls should have no opaque coverings on them.



Glass offices provide observation into the waiting room and into other offices. This will assist all employees in determining if there is a problem in the office or building.

- Design stairwells and elevator foyers to be “open for viewing” and locate them in a central location within the building. Whenever possible, avoid locating stairwells at the ends of corridors and hallways. Doors and walls should have glass leading into the stairwells and elevator foyers for visibility from inside and outside the foyer.
- Install and use effective lighting at all exterior doors, common areas and hallways.
- ATM's should be located near roadways and main intersections.
- Do not locate ATM's near a corner of a building or on the back of a building where observations cannot be made. This provides an ambush area for a customer.
- Lighting should be in place and should be uniform around the ATM, drive-through window and the queuing lane.
- Avoid fencing, landscaping and walls that might provide hiding places for criminals.

- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- Clearly define public entrances with architectural elements, lighting, landscaping, paving and/or signs.
- Reduce the number of public access points to those that are watched by guards, receptionists, nearby tenants or passing traffic.
- Require employees to wear photo ID badges.
- Remove all exterior door hardware from doors not used for ingress.
- Limit the access around an ATM or a drive-through area.
- Locate bank ATM's in the first drive-through window to offer safety for the bank employee or on the outer-most part of a drive-through for safety to the patrons.

Locating the ATM is essential in keeping both customers and employees safe. ATM's should not be located on the back of a building out of sight from streets and pedestrian traffic.



- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Use lighting that does not blind the customer but displays the ATM and property ownership.
- Create a well-defined entrance or gateway with landscaping, walkways, etc.
- Create traffic lanes with multi-surface colors or materials.

MAINTENANCE

- Keep buildings and walkways clean and repaired.
- Place proper number of refuse containers on-site to encourage keeping the area clean.
- Parking lots should be free of potholes and trash.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.
- To limit rodents and insects, do not stack boxes outside and dispose of properly.
- Replace signs, displays or posters if broken, torn or faded.
- Landscaping should be kept healthy and manicured.
- Maintain the lighting. Checks should be made periodically to make sure the lights are working.

ACTIVITY SUPPORT

- Promote use of the ATM by locating it in very visible areas.
- Place employee outdoor eating, smoking or break areas where observation of the entrances to the building is utilized.
- Do not create areas where loitering can easily begin.
- Sign your area “no loitering” or “no skateboarding.”



Private property should be signed to stop loitering and skateboarding preventing possible damage or other criminal activity in the area.

- Form a business watch or join the nearest Neighborhood Watch.

MANUFACTURING AREAS

Manufacturing areas are a concern for safety and security reasons due to isolation, low light, and are usually not under constant observation by passer-bys or customers. Some manufacturers are open 24 hours a day and seven days a week, while neighboring manufacturers are only open 8-16 hours in a day and not open every day of the week.

Added to this aforementioned environment are the loading docks, large parking areas for employees and shipping vehicles, and other isolated areas where observation may not be made for a week. This adds to the possibility of a security breach or safety issue.

DESIGN APPROACH – MANUFACTURING AREAS

NATURAL SURVEILLANCE

- Light and identify all entrances so that they are visible to the public and patrol vehicles.
- Make parking areas visible to patrol cars, pedestrians, parking attendants and building personnel.
- Position parking attendants for maximum visibility of property.
- Create a reception area that has visibility of parking areas, especially visitors parking.
- Offices should be placed with windows looking out over the parking lots.
- No window coverings or tints should be used on windows or doors.
- Avoid creating hiding places in alleys, storage yards, loading docks, etc.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

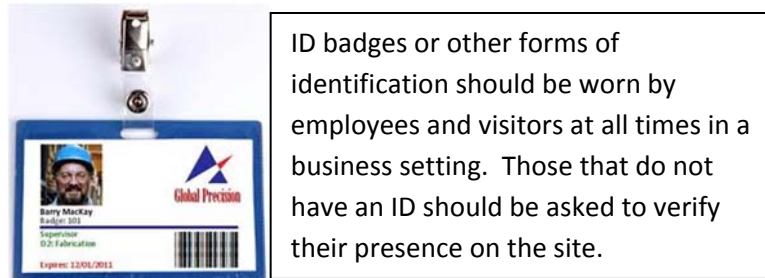
NATURAL ACCESS CONTROL

- If a driveway is installed on the property, do not “dead-end” it. Design driveways to increase observation from passers-by and police patrols.
- Separate customer/visitor parking from service areas, shipping vehicles and employee parking.



- Secure employee parking areas by installing a fence, gate or attendant. Have a separate employee entrance close to employee parking and work stations.
- Assign parking by shifts and provide late-night workers with the closest parking spaces in the parking lot.

- Restrict direct pedestrian and vehicular access to railroad tracks.
- Have all employees wear ID badges, unless there is a safety factor in the manufacturing process.



- Control access to roofs by removing dumpsters and pallets from the sides of the building and secure ladders for authorized personnel by locking or installing outrigger systems.
- Minimize the number of entrances and use personnel to observe or use electronic monitoring devices.
- Use a separate, well-marked monitored entrance for deliveries.
- Have a separate employee entrance close to employee parking and work stations.
- Restrict access between different areas internally and externally.
- Use separate docks for shipping and receiving.
- SEE TARGET HARDENING beginning on page 57.

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 employee parking from shipping and receiving areas.

MAINTENANCE

- Keep buildings and walkways clean and repaired.
- Place proper number of refuse containers on site to encourage keeping the area clean.
- Parking lots should be free of potholes and trash.
- Replace signs, displays or posters if broken, torn or faded.
- Landscaping should be kept healthy and manicured.
- Maintain the lighting. Checks should be made periodically to make sure the lights are working.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.

ACTIVITY SUPPORT

- Schedule operating hours to coincide with those of neighboring businesses.
- Place employee outdoor eating, smoking or break areas where observation of the entrances to the building is utilized.
- Do not create areas where loitering can easily begin.
- Sign your area “no loitering” or “no skateboarding” and limit the number of young people in your building by signs.
- Form a business watch or join the nearest Neighborhood Watch.

MARINAS

Marinas, much like manufacturing areas, have unique safety and security concerns. First, many marinas are isolated and are dark. Someone may not be at the marina 24 hours a day or 7 days a week. Second, marinas for the most part are fenced in and have limited access from land. Last and most important, the marinas, although secured for the most part on land, have waterway access to the marina. This last point has significant safety and security concerns due to the lack of passers-by and police patrol observation opportunities and lack of response by police on the water.

DESIGN STRATEGIES – MARINAS

NATURAL SURVEILLANCE

- The picnic area or shelter should be open to view.
- Place picnic tables, benches or other seating arrangements in areas that are close to the entrance to the marina from the water or land.
- Use wrought iron “look” or chain link fencing around a marina. The fence permits observation into the marina from passers-by and police patrols.



Marinas pose special security issues as there is access from land and the water. Special attention should be paid attention to fencing, signage and electronic monitoring.

- When at all possible, have marina personnel on duty or have the marina electronically monitored, especially at entrance and exit points, including waterways.
- Light and identify all entrances so that they are visible to the public and patrol vehicles.
- Avoid creating hiding places in the marina.
- Create a reception area that has visibility of parking areas, especially visitors parking.
- Dumpsters should not allow for easy concealment, nor create blind spots or hiding areas. All gates on dumpster enclosures should be locked and secured.
- Bicycle racks should be placed near the front entrance.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- A gate should be installed with a key pass card for vehicle access. This entrance should be restricted to owners of a boat and their guests. All other vehicles should be directed to a parking lot outside the marina. A separate pedestrian gate should be used by these visitors.
- Boat access via waterway should be restricted only to boats registered to the marina.
- All marina boat slips should be numbered and a control list identifying boat slip owners should be on site with the marina manager.
- All doors on building that are not used for ingress should have hardware removed from the exterior of the door and have security hinges in place on doors opening to the outside of the building. Panic hardware should be placed on the interior of these doors for emergency exiting.
- Exterior garage doors should have latch locks in place and locked when not in use.
- The fuel tank storage area should have restricted access.
- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Create a well-defined entrance or gateway with plantings, fences, gates, etc.
- Limit deliveries to daylight hours only, if possible.
- Define marina area with different plantings, driveway materials, fence, etc.

MAINTENANCE

- Keep buildings and walkways clean and repaired.
- Place proper number of refuse containers on site to encourage keeping the marina clean.
- Parking lots should be free of potholes and trash.
- Replace signs, displays or posters if broken, torn or faded.
- Landscaping should be kept healthy and manicured.
- Maintain the lighting. Checks should be made periodically to make sure the lights are working.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.

ACTIVITY SUPPORT

- Do not create areas where loitering can easily begin.
- Sign your area “no loitering” or “no skateboarding” and limit the number of young people in your building by signs.
- Hold events on evenings when the marina is less likely to be used.
- Form a Marina Watch or partner with the nearest Neighborhood Watch group.

PARKING GARAGES

Isolation is the biggest concern when dealing with designing parking garages. There are usually blind spots and hiding areas that are incorporated into the building of these structures.

Using high intensity lighting, placing holes in structure walls and installing glass surrounding stairwells and elevator foyers will limit isolation and make the parking garage a more secure and safe place to park.

DESIGN APPROACH – PARKING GARAGES

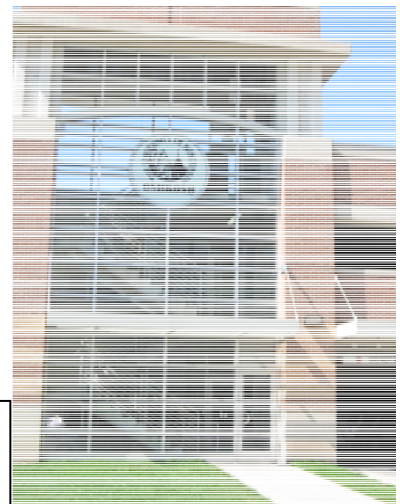
NATURAL SURVEILLANCE

- Solid walls should be replaced with stretched cable railings for maximum observation. Use see-through materials for the car walls whenever possible.



This parking ramp is properly illuminated. The stairwell is observable from the ground and on every level.

- Illuminate all parking areas and driving lanes with high intensity lighting.
- The design concept of the parking structure should be open, which allows for:
 - Natural light into the parking structure.
 - The ability to be heard throughout the deck and surrounding area.
 - The removal of hiding places.
 - Design stairwells and elevator areas to be open or use glass walls where you can see into and out of the stairwell. Having open or glassed walls assists one to see from one landing to the next from within the stairwell.



Glass enclosed stairwells promote safety for the user.

- Other design concepts that should be installed are:
 - Video cameras.
 - Emergency phones on each level and on opposite corners of the garage.
 - Light fixtures located where you get in and out of your car versus where you drive.
 - The fixtures should not be flush against the ceiling, but should hang down at least to the crossbeam to provide as much light spread as possible.
 - Signage throughout the deck directing you where to go and indicating where you are, i.e. floor level, exit, do not enter, etc.
- Use white dyed concrete for walls or paint walls white to enhance lighting and visibility within the parking structure.



Parking garage ceilings, walls, and posts dyed white reflect the light from above making it easier for vehicle owners to see.

- Incorporate architectural holes in concrete that allow more natural light to show through and fewer blind or hiding places.
- Use electronic surveillance to monitor stairwells and elevators.
- SEE LIGHTING AND LANDSCAPING section beginning on page 53.

NATURAL ACCESS CONTROL

- Use parking lot personnel or video cameras to monitor the entrances and exits. Install signs warning of patrols and cameras in use.
- Pedestrian entrances should be adjacent to vehicle entrances/exits and near parking lot personnel common areas. Use barriers to distinguish between vehicle and pedestrian traffic.
- Elevators should be located as close to the main entrance as possible. One wall of an elevator should be installed with glass for viewing into the elevator from the outside.
- Access should be limited to one or two designated locations in the parking structure and have electronic monitoring systems or parking lot personnel on hand to monitor.
- Divide the parking structure into public, private, leased or business areas. Limit parking to the public to the lower levels or one-half of the structure. Private, leased, or business parking vehicles should have a sticker, tag or other identification label or have assigned stall. Signs should alert the various areas and warnings to violators.
- Limit access to other building entrances attached to the parking structure by electronic pass card, key, personnel or other authorized means.

- SEE TARGET HARDENING beginning on page 57.

TERRITORIAL REINFORCEMENT

- Create a well-defined entrance or gateway with plantings, fences, gates, etc.
- Define vehicle and pedestrian entrances with different paving materials and signage.
- Signs should indicate the different levels for public, private, business or leased stalls.

MAINTENANCE

- Keep buildings and walkways clean and repaired.
- Place proper number of refuse containers on site to encourage keeping the marina clean.
- Parking lots should be free of potholes and trash.
- Signs should indicate level, exits, traffic direction and business entrances. Replace signs, displays or posters if broken, torn, or faded.



- Landscaping should be kept healthy and manicured.
- Maintain the lighting. Checks should be made periodically to make sure the lights are working.
- Report graffiti to police as soon as it appears and remove immediately after police take the report.

ACTIVITY SUPPORT

- Do not create areas where loitering can easily begin.
- Sign areas "no loitering" or "no skateboarding."
- Schedule operating hours to coincide with those of neighboring businesses. After-hours entrance should be limited to leased or private vehicles and by use of an electronic pass card.

LIGHTING AND LANDSCAPING

LIGHTING

Whether it is for residential, commercial or any type property in between, properly maintained and effective lighting continues to be one of the most cost effective crime prevention techniques.

When properly utilized, lighting can make a difference in how a person feels in an environment. Having shadowy, dark locations tells a person that this is an area where they shouldn't be. Having a properly lighted area where people are readily identified from 50 feet away at night can bring calm to a person walking alone.

DESIGN APPROACH – LIGHTING

- Use of metal halide lamps has better color clarity and permits a person to identify a person more clearly than with high pressure sodium lighting. Metal Halide lamps are more compatible with video cameras than other types of lighting.



Metal Halide lamps have more color clarity than other types of lamps. The cost of Metal Halide lamps is becoming less expensive each year.



High Pressure Sodium lamp has less color clarity although it is widely popular in the United States.

- Lighting should be located at all building entrances, pedestrian walkways and alongside of every building.
- Street and parking lot lamps should have full cut-off fixtures directing the light to the ground and not into air.
- Lighting outside a building should provide a person with a sight line out to the parking lot where a possible threat can be identified.
- Wall packs installed on building should be full cut-off and not produce glaring.
- Lighting should be located at least 30 feet from trees to reduce shadowing effects.

- Lamps that are used should be consistent throughout the project, i.e. metal halide, high pressure sodium, LED, etc.
- Lighting should be located at least 30 feet from trees to reduce shadowing effects.

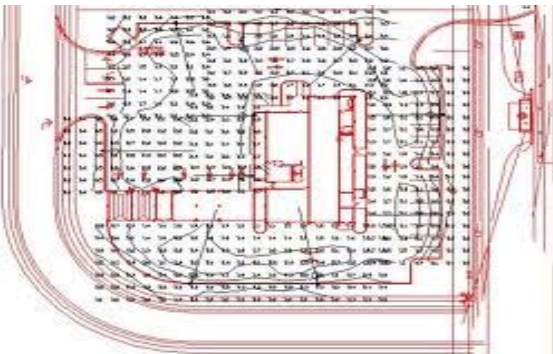


Lights above tree causing shadows. Someone standing under the tree may not be observed.



Trees and lights should be separated from each other, especially in parking lots, to avoid causing shadows.

- Maintenance of the lamps, fixtures and light poles should be checked regularly and be replaced or cleaned immediately upon inspection if found to be defective or dirty.
- A photometric or lighting plan should be conducted prior to the design of the building. A building that is being renovated should have a photometric plan developed for updating the lighting.



Photometric plan of a business.

- Motion lights should be placed in areas that are consistently dark.
- Porch lights should be installed at entrances to residences and left on during the night.
- Purchase decorative light fixtures that will direct the light to the ground.

- Use lighting in landscaping to maximize aesthetics and provide observation over a given dark area.
- Using lights to illuminate a business cash register or safe provides observation from the outside of the business when closed.

LANDSCAPING

Landscaping is an essential component of CPTED. As discussed earlier, landscaping provides natural access control to define and control entrances and territorial reinforcement that delineates property lines without using target hardening ideas. Properly placed and maintained landscaping assists in natural observation, is aesthetically pleasing and promotes the quality of life in a neighborhood.

DESIGN APPROACH – LANDSCAPING

- Two Foot/Seven Foot Rule: Shrubs and low growing plants should be kept to a height of two feet or less and trees should be trimmed up to seven feet from the ground. This promotes natural observation and inhibits one from concealing themselves in overgrown and unkempt vegetation. Forgo trimming newly planted or smaller trees until they are well established.



Seven feet from the ground to the tree canopy should be clear.



Bushes should be two feet or less from the ground.

- Plants that have thorny or prickly stems or branches work particularly well around building foundations or other areas where people are not wanted. These plants include, but are not limited to, the following:

Creeping Juniper	Juniper	Blue Spruce	Barberry
Common Holly	Mountain Pine	Giant Rhubarb	Blue Pine
Golden bamboo	Spirea	Chinese Jujube	Barberry Bushes
Firethorn	Pencil Christmas Tree		Shrub Rose

Other plantings that would not be comfortable to hide behind.

- All plants and trees should be kept away from windows, especially basement windows and entrances to buildings.
- Trees should be kept at least 30 feet from overhead lights to prevent shadowing.
- All plants and trees should be kept at least 20 feet from pedestrian walkways, walking paths or trails. This prevents a person from lying in wait and gives the person a chance to observe their surroundings.
- Use natural materials in landscaping a specific area.



A well-manicured lawn, natural materials and plantings located in the right position make this home CPTED approved for landscaping.

- Park benches or seating areas, if used in the landscaping, should promote the intended use for the benches. A center arm rest will prohibit sleeping on the benches. Benches with different heights or anti-skateboarding tabs prevent skateboarding on the benches and possibly damaging them.

Although not often thought of as a security or safety risk, overgrown trees and shrubs present just that. Unkempt vegetation affords criminals concealment and an ambush point to commit an assault.



TARGET HARDENING

As explained earlier, target hardening is the concept of placing excessive physical barriers in place such as security doors, locks, fences, electronic alarms and security patrols in place to guard a residence or business.

There are certain materials that should be used to assist in stopping someone from getting into a residence or business. The following recommendations should prevent someone from gaining entry into a building or slow their progress long enough to be identified or deterred, but are not a guarantee to stop someone from entering.

DOORS

Doors and locks can be a deterrent to criminals, but are not invincible. Hollow core wood doors can be kicked through. Door pins can be removed and access gained by removing the door. Patio doors can be lifted off the rails to gain entry. Windows can be smashed, removed or screens can be cut to gain entry. Padlocks can be easily defeated by a bolt cutter, hacksaw or other metal cutting tool. Locks on door handles can be broken off.

Burglars look for an easy target and will check out a neighborhood prior to making their move on the target. Most burglaries in the U. S. occur at back or side doors to a home or business.

DOOR - RESIDENTIAL

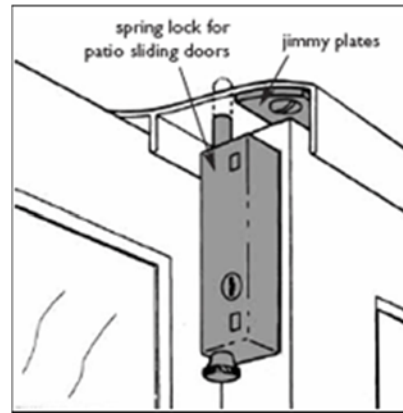
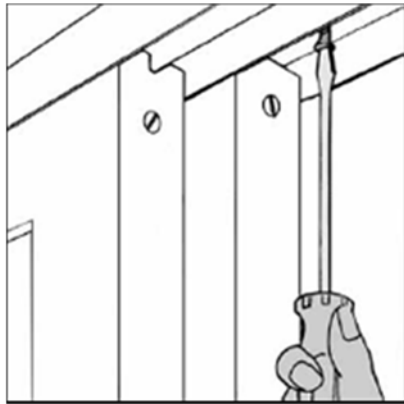
In the United States, 80 % of residences have the most secure door on the front of the home, although most residential burglaries occur on the rear or side door of the home.

- All residential entry doors should be solid wood core or metal hollow core. This includes the door from the garage into the home.
- Residential homes that have a window or side window on the door should make sure the window cannot be broken so that the lock on the door can be accessed through a broken window. If a side window is installed with the door, the lock on the door should be on the opposite side of the window.
- When installing these doors, it is important to fasten the door jamb to the rough opening 2x4's with at least 3.5 inch large diameter wood screws. This includes using the large wood screws when installing the door or deadbolt strike plates. Using the ¾ inch screws that come with the door lock kit will not stop an intruder and the door can be easily kicked in.

Using 3.5 inch wood screws will delay a burglar from kicking in a door.



- Patio doors may be heavy, but a burglar has little difficulty in removing the door from the track and frame if it is not secured properly. To secure a patio door, install a machine screw in the top track that will prevent the door from being raised or place a Jimmy Plate and a spring lock on the door .



- The screw should be used in conjunction with a patio door bar lock that is in place. The patio door cannot be moved side-to-side or up and down.

DOOR - BUSINESS

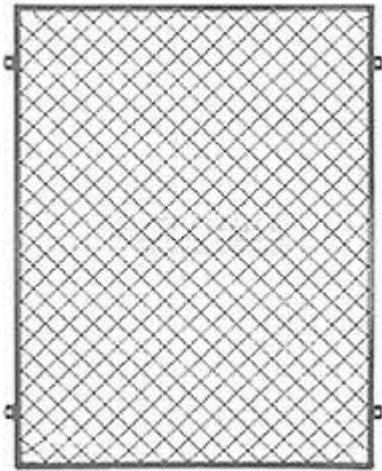
- Business exterior doors, other than the main entrance door, should be metal-clad hollow core doors.
- Exterior opening doors have exposed hinges. The hinges should be U. L. rated security hinges with a set screw installed to prevent removing the door pins.



UL rated security hinge with a setscrew should be used on all business exterior opening doors.

- The exterior doors should also include a door viewer to allow observation of what is outside before exiting.

- Business front doors should have reinforced glass to prevent smash and entries. There are many different commercial security window coatings that may be installed on or in the glass to prevent breakage or to prevent entry into a building.
- Garage or overhead doors can be used for entry at a residence or a business. To secure a garage door, use a sliding bar lock on each side of the door. Lag bolt the garage door strike plate to the wall, making sure the bolt goes through the 2 by 4 lumber in the wall.
- The door should also be locked, when not in use, by a UL listed lock.
- Garage doors that have a window installed should have either a wire mesh carriage bolted to the interior side of the window or have a security coating placed on the window to prevent breakage.



- Exterior business doors should have self-closing mechanisms or hinges. The self-closing feature should be tested to make sure it is adjusted to latch the door at all times.
- Offices that house safes, money counting rooms or other important paperwork or equipment should have a solid wood core or hollow steel core door.

WINDOWS – RESIDENTIAL OR BUSINESS

Windows can be smashed, lifted, removed or screens can be cut to make entry into a residence or business. There are different ways to secure windows or to prevent windows from being smashed.

- One of the ways previously mentioned is apply a window coating on or into the glass to prevent breakage or to prevent entry into a window.
- Securing a window by using the manual lock that is installed on the window can be defeated. It is recommended that a supplemental lock or method be used to secure the window, if possible.
- **Casement windows** are the most secure windows, only if the window is closed and the locking mechanism is engaged.

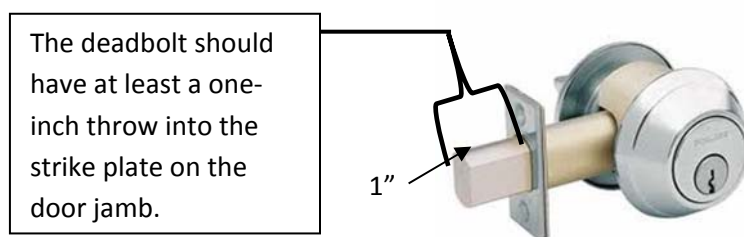
- **Sliding windows** are like patio doors in that the window can be removed from the guide and entry can be made. A cam lock is installed on the window by the manufacturer, but the cam lock cannot stop the window from being removed all together. In conjunction with the cam lock, a spring tension bar can be installed on the window to prevent the movement of the window from side to side or up and down.
- **Double-hung windows** can also be removed if it not properly locked in place. Double hung windows that are not used for ventilation or as an escape route can be secured by using a machine or wood screw to attach the top window to the bottom window. In order to do this, you pre-drill a hole on an angle from the top sash to the bottom sash and install the screw.
- There are also tabs being installed on some windows by manufacturers that prevent the bottom sash from being opened, preventing someone from climbing through the window.
- There are other methods to secure windows. Before checking out the local hardware store for these other methods, look at the window to see how it operates and what would be the best way to secure the window.

LOCKS

Whether it is for a door, window or other opening that needs securing, using the proper lock may save a lot of time and money. There are many locks on the market. Some locks can be easily defeated by a bolt cutter, hacksaw or other metal cutting tool. Locks on door handles can be broken off by smashing with it with a hammer or having it punched out. Window locks installed by manufacturers are not the strongest and can be by-passed. When selecting a lock, choose a lock that will serve the purpose for what it is intended. Placing a bicycle lock onto a storage shed will not protect valuables as well as a UL listed lock.

LOCKS - RESIDENTIAL

- All residential entrance door locks should have deadbolts in addition to the door handle or knob lock. The deadbolts need to have a minimum of a 1 inch throw, which means at least 1 inch of the dead bolt should extend into the deadbolt strike plate installed on the door jamb.



- The deadbolt strike plate, as well as the door latch strike plate, should be installed with at least 3.5 inch large diameter screws.
- Other means of securing residential doors include installing a steel plate that wraps around the door knob or handle and also the deadbolt can strengthen the door and dissuade someone from kicking a door in or having the door pried open.



- Installing a sliding bolt lock into the upper part of the door into the header and/or the lower part of the door into the floor can prevent someone from prying the door or kicking the door in. This may assist in stopping someone from getting in, but may also stop someone from exiting in the event of an emergency when time is of the essence.
- Installing a door chain can be done, but usually this alone does not stop someone from kicking the door in or using a bolt cutter to cut the chain.

LOCKS – BUSINESS

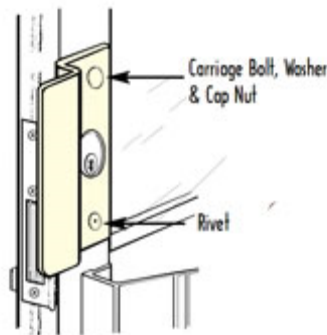
Businesses have special needs when it comes to locks. During closed hours, businesses sit idle and natural observation is not always present. Burglars look for targets where it is dark, isolated and no one is around to hear if there is an attempt to break in. Having the proper locks on a business will deter a burglar from attempting to enter.

- All business entrance door locks should have deadbolt locks or mortise locks installed. The lock should be double cylinder so that it can be opened by a key only.



Commercial door with a type of mortise lock installed.

- Exterior doors should be equipped with security hinges and should be reinforced with a case hardened strike plate. Glass perimeter doors should be equipped with case hardened guard rings to protect the mortise lock cylinder. Exterior doors should be made of steel and equipped with security hinges and should be reinforced with a case hardened strike plate. Exterior out swing doors should have security hinges and security latch guards.
- All pedestrian doors should have a single deadbolt cylinder with a 1" hardened bolt, 5-6 pin tumbler, and exterior revolving collar.
- Pedestrian doors should also have latch protection plates in order to prevent prying of the latch.



- Installing sliding bolt locks to the bottom or the top of the door should be considered during closed hours.
- Offices having safes, money counting rooms or other important papers and/or equipment should have deadbolt locks installed on the door.
- Business overhead doors should have sliding locks and be locked with a padlock at all times when not in use.
- Storage buildings should have padlocks that are UL listed and have shrouded shackles for extra resistance to cutting.



FENCES

Fences are usually used to define a space, control access and provide privacy. It is important to choose the proper material, height and design to make the fence work for the area. In some locations, fences overwhelm an area and announce to intruders that something “valuable” is inside. As with any building project, check local building codes on the proper placement and building of the fence.

CHAIN LINK

Although a good choice for those on a limited budget, chain link fencing detracts from the aesthetics of a residential area. There is little privacy given by a chain link fence, but viewing through the fence is a plus when it comes to unwelcome guests. If pets are in the home, chain link fencing provides a great barrier to prevent a pet from exiting or another animal from getting in. There are many different sizes and materials that make up a chain link fence. Chain link fences provide security and territorial reinforcement to an area, but the links also provide a step for an intruder to get over the fence.

WROUGHT IRON/DECORATIVE FENCING

Decorative fencing such as wrought iron or aluminum wrought iron fences is long-lasting and, provided it is made of aluminum vs. actual iron, may be affordable. Not only is the decorative fencing attractive, it also provides natural observation from inside and out. If privacy is wanted, this may not be the fence that should be installed. There are many different patterns that can be incorporated into the fencing itself. As a pet or animal barrier, this fence may not be as useful. Depending on the height and the design, this fence may provide good protection from someone getting in.



WOOD FENCES

Wood fences can be eye-catching, provide privacy and security. Wood fences are expensive and over time, if not properly cared for, can rot and break down requiring repairs. Depending on the design of the fence, natural observation may be reduced or nil. From a security aspect, this may not be the best fence as someone may climb over the fence and not be observed. As for privacy, this is one of the better materials to build a fence.

VINYL FENCES

Vinyl fences are much like wood fences: eye appealing, providing privacy and for the most part, security. Vinyl is susceptible to breaking or having mold issues if not taken care of. From a security aspect and depending on the design of the fence, natural observation may be non-existent, although privacy would be adhered to. An intruder may still be able to climb the fence and go unnoticed.

ALARMS

Alarms can be one of the most effective crime prevention methods if the alarms are maintained, are operational and are used in the correct area. Many alarm systems are basic, having motion detectors or door and window sensors. Some alarm systems are much more diverse having glass breakage sensors or vibration sensors. The more elaborate the system, the more it is going to cost.

DOOR SENSORS

Door sensors are installed on exterior doors and are made up of two magnets. When the door is opened, the magnets pull apart and the alarm is activated. These alarms should be installed on every exterior door and can also be used during open hours to alert when someone has entered the business.

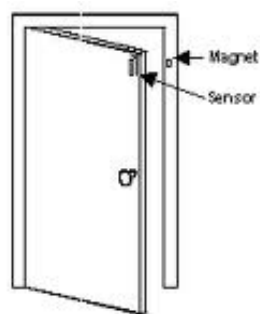


Figure 1

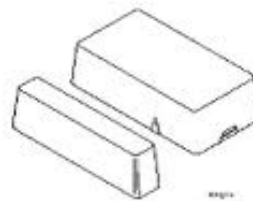


Figure 2

WINDOW SENSORS

Window sensors are installed on all first floor windows of a business or home and like the door sensors are made up of two magnets. The window sensors are visible in the window and may deter someone from trying to enter the building. Window sensors can be hidden, but it is not recommended as the window would need to be hollowed out to install the sensor, thereby causing air leaks in the window and causing unnecessary alarms.



MOTION SENSORS

Motion sensors detect movement in a given area. Motion sensors should be installed on the first floor of a business or home in rooms that have valuables that are to be protected. The area of coverage for a motion sensor is usually 90 degrees and it is best to have the sensors in the corners of a room. Limitations can be placed on the sensors if there is a pet in the home.



VIBRATION SENSORS

Vibration sensors can be placed in different locations, but are usually placed on fences where there are items of great value that are stored. The vibrations sensors are activated when someone attempts to climb or cut the fence. The vibration from the climbing or cutting is transferred to the sensor and the alarm is activated. This alarm is very expensive, but the cost is offset by protecting valuables that are being stored.

GLASS BREAKAGE SENSORS

There are two different models of glass breakage sensors. The first sensor attaches to a window, such as a business plate glass window and detects the window breaking or vibrations from the cracking window. The second sensor can be placed in the center of a room with many windows and detects the sound of glass breaking which activates the alarm.



APPEARANCE

The most affordable target hardening concept is the upkeep of your business or home. Cutting the grass, shoveling the snow, picking up newspapers or collecting mail is important in preventing a crime. An unkempt property parallels the “Broken Window Theory” described earlier. Burglars and thieves will monitor a neighborhood for some time and will begin noticing subtle oddities before choosing their target. A home or business that is not properly kept will signal to the burglar or thief that this is an easy target and will wait for their opportunity to commit the crime.

- Cut the grass.
- Shovel the snow.
- Have someone pick-up your newspapers from the front stoop if you are gone or cancel the paper until you get back. Also, have the mail stopped while away from home.



A sure sign that no one is at home is to have newspapers stacked on the stoop in front of a home.

- If gone on vacation, have someone cut the grass, shovel the snow and remove refuse.
- Make the home or business appear as though someone is always home by using light timers or leaving lights on all the time.



- Vary your schedule. Don't leave home or the business at the same time every day. Have someone stop by to check on the home or business.
- Have someone use the driveway at home or the business for the appearance of “someone's home.”

SUMMARY

Crime Prevention Through Environmental Design is only in its infancy when being implemented into the designs of buildings, neighborhoods and gathering places. CPTED has had many positive influences on cities throughout the world. Each year, more and more public and private entities are seeing these positive influences from CPTED and are moving toward instituting the concept and the strategies into developments being designed and built.

The City of Oshkosh, Wisconsin has implemented a Site Review Planning Committee for all new business construction and renovation projects. CPTED is the driving force for these reviews by the Oshkosh Police Department and the many design strategies discussed are forwarded to the design companies and owners of the proposed new or renovation projects. Residential and commercial security surveys conducted by the Crime Prevention Unit are available to anyone in the City of Oshkosh.

CPTED is not a guarantee to eliminate all crime in a particular area. The implementation of the strategies mentioned in this handbook will greatly reduce the likelihood for a crime to occur in a given area and will have a positive influence on neighborhoods and neighbors.

REFERENCES

CPTED Guidelines

Safety By Design: Creating a Safer Environment in Virginia

Virginia Crime Prevention Association

P. O. Box 134

Chesterfield, VA 23832

(804) 318-1279

Video

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