

# CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED) FOR URBAN VILLAGE CENTERS

San Diego Police Department  
Neighborhood Policing Resource Team  
May 2005

Crime Prevention Through Environmental Design (CPTED) is based on a set of four design and usage concepts that can lead to a reduction in the incidence and fear of crime and an improvement in the quality of life. These concepts are defined briefly as follows:

1. **Surveillance.** Involves the location and use of physical features, electrical and mechanical devices, activities, and people to maximize visibility. It creates a risk of detection for intruders and a perception of safety for legitimate users.
2. **Access control.** Employs people, electrical and mechanical devices, and natural measures to create a perception of risk to intruders and deny them access to targets. It also guides legitimate users safely through the environment.
3. **Territoriality.** Uses physical features and activities to express ownership and control of the environment and promotes pride in the environment. It also discourages presence of outsiders by controlling the movement of people and vehicles, having someone be responsible for maintaining all areas in the environment for their intended uses, and delineating public, semi-public/private, and private spaces, and controlling the movement of people and vehicles.
4. **Maintenance.** Allows the continued use of areas for their intended uses and maintains the effectiveness of measures employed for surveillance, access control, and territoriality.

This paper outlines a set of CPTED guidelines for the design of urban village centers, which are defined in the City of Villages strategy as mixed-use centers of neighborhoods where residential, commercial, and civic uses are all present and integrated. Thus they represent a move away from isolated developments and stand-alone buildings. Village centers are designed to be friendly to pedestrians, linked to public transit, and inviting for neighborhood events. They are also designed to have numerous “eyes on the street” to create a safer environment for pedestrians. Mixed-use residential and commercial developments also make neighborhoods safer by having legitimate activities taking place at night as well as during the day. For example, where some residents may be away during the day, offices and stores would be full. And at night when offices and stores would be empty, most residents would be at home. Thus, mixed-use creates more activity and surveillance opportunities.

The design guidelines developed in this paper are presented for streets and sidewalks, outdoor public places, residences, office buildings, mixed-use buildings, public parking facilities, and shopping centers and malls. The guidelines suggest ways to deter crimes of opportunity by making it more difficult for an offender to commit a crime and escape without being stopped or detected.\* Consideration of these elements jointly in the design of a village is beyond the scope of this paper, e.g., a parking garage next to a public park. This will have to be done separately for each village.

CPTED guidelines for common design elements such as landscaping, fencing and gates, anti-graffiti paints and coatings, skateboarding prevention, alleys and driveways, loading and unloading docks,

---

\* General CPTED guidelines for all types of land development, caveats regarding CPTED, and the importance of the human element in crime prevention are outlined in *CPTED: Concepts and Measures for Use in Land Development in San Diego*, SDPD, March 2001. Specific design guidelines for schools, libraries, and parks are available in separate papers. Security checklists are also available for residences, businesses, schools, religious institutions, and construction sites. Copies can be obtained by calling the SDPD Neighborhood Policing Resource Team at (619) 531-2202.

exterior railings, emergency access, premises identification, viewing windows and peepholes, signs, parking lots and garages, and emergency exits to the street are presented in the last section. They apply to all types of development.

## **I. STREETS AND SIDEWALKS**

Streets, sidewalks, and intersections should be designed to protect pedestrians from vehicles and to encourage walking. They should also be designed to maintain neighborhood street patterns, and have good lighting, natural surveillance, and clear boundaries between public, semi-public, and private areas. The streetscape should be designed to deter vandalism, loitering, and other types of crime and disorder that would discourage people from coming to the village. Barriers or other devices should be installed to prevent misuse of public facilities, e.g., bathing in fountains. And pedestrian tunnels should be well lighted and gated, with the gates being closed at night and other times when there would be little pedestrian traffic.

Design measures that deal with landscaping, alleys, signs, anti-graffiti paints and coatings, skateboarding prevention, parking lots and garages, etc. that are common to all types of development are presented in Sec. VII.

### **A. Vehicle Traffic**

Streets should have two-way traffic. This helps reduce vehicle speeds. The right lanes should be primarily for bikes, busses, loading and unloading zones, and turns into parking lots and garages. There should be very limited on-street parking in areas with high-rise buildings and large shopping centers or malls with on-site parking. On-street parking should be allowed in areas where businesses are located on the street.

### **B. Trolley and Bus Stops, and Bike Racks**

Stops should be located in areas where there is a lot of pedestrian activity and good natural surveillance. They should be well lighted for use after dark. Trolley stops should also have video camera coverage. Bus shelters should be transparent so people in them can be seen from the surrounding area. Bike racks should also be located in area of high foot traffic and good natural surveillance.

### **C. Seating**

Seats should be provided for people to rest and observe activities. They should be designed to be comfortable for sitting but not for sleeping. Their design should also discourage skateboarding.

### **D. Boundaries**

Clear boundaries should be defined between public, semi-public/private, and private areas in the village. They are needed at entrances to office buildings, residential developments, shopping centers and malls, parking lots and garages, etc. Boundaries can be established by signs, walls, fences, landscaping, pavement treatment, guard houses, etc.

Where buildings are set back from the sidewalks, it may be necessary to have a fence or wall along the sidewalks and other property lines in areas where trespassing and associated crimes are likely to be problems. Open ornamental metal fences are preferred in most places because they do not block visibility into the property, are less susceptible to graffiti, and are more difficult to climb. The fences should be at least 6 feet high. Horizontal bars should be located only at the top and bottom. Walls along sidewalks and property lines should be constructed only where there is a need for privacy or street noise mitigation. They should also be at least 6 feet high.

## **E. Building Facades**

Buildings should be oriented to face the street and have entrances and windows that provide natural surveillance of the street. Entry doors and gates should be located near the sidewalk to eliminate entry alcoves that could be used for loitering or hiding places.

The first floor of residential buildings should be at least 3 feet above the street grade where possible. This allows people inside to see the street but prevents people on the street from seeing in. When the first floor is at street grade residents usually keep their window treatments closed to prevent the latter.

Avoid having raised planter boxes along the sidewalks. Have the plants at sidewalk level. If this is not possible, design the tops of the box sides to be uncomfortable for seating, e.g., by installing sharp-pointed fencing, making them very narrow, allowing plants to grow over them, etc.

## **F. ATMs and Pay Phones**

These should be located in areas of high foot traffic and good natural surveillance. They should also be well lighted for use after dark. Phones should be limited to outgoing calls.

## **G. Pedestrian Tunnels**

Pedestrian tunnels are potential entrapment spots, especially if their entrances cannot be seen from the surrounding area. Also, they are often used for shelters and toilets by homeless people. And their walls are often covered with graffiti. Where tunnels are necessary they should be well lighted and gated, with the gates being closed at night and other times when there would be little pedestrian traffic. Signs should clearly state the hours the tunnel will be open. There should also be emergency call boxes and video surveillance cameras at the entrances. And the landscaping should be cleared to make the entrances as visible as possible and eliminate any possible hiding places.

# **II. OUTDOOR PUBLIC PLACES**

Outdoor public places will be key elements of urban villages. They will be used for special events such as art exhibits, concerts, stage shows, etc. as well as for informal gatherings and resting. There may also be neighborhood parks in the villages.

These places should have unobstructed sightlines from the adjacent streets, and like streetscapes, be designed to deter vandalism, loitering, and other types of crime and disorder that would disrupt activities in adjacent developments and discourage legitimate users from coming to these places. For example, public art should be designed to be resistant to vandalism and easy to repair if it is damaged. And barriers or other devices should be installed to prevent misuse of public facilities, e.g., bathing in fountains.

Residential and commercial developments located next to outdoor public places should have their entrances and windows facing the public places to provide natural surveillance, e.g., as around Kensington Park.

Design measures that deal with fencing and restrooms are presented below. Those that deal with landscaping, anti-graffiti paints and coatings, skateboarding prevention, etc. that are common to all types of development are presented in Sec. VII.

## **A. Fences and Gates**

Some outdoor public places may need to be closed at night to prevent loitering, drug activities, illegal lodging, and other conduct that would disturb the peace and make them unsafe for people to enter. These places are typically located in areas with large homeless populations, have poor natural surveillance, or are near bars that are open late at night. They should have perimeter fencing, with openings for vehicle driveways and pedestrian walkways where practical. Open ornamental metal fencing and gates are preferred along streets because they do not block visibility into the area, are less susceptible to graffiti, do not provide hiding places, and are more difficult to climb. They should be at least 6 feet high. The gates would be kept open during the day and evening events, and locked at night.

## **B. Public Restrooms**

Public restrooms should be provided in large village plazas and parks. Their entrances should be visible from the adjacent streets and to people walking by. They should not be located behind buildings or at the ends of corridors. Separate men's and woman's restrooms should have single-door entrances on the same side of the building, with interiors that are as open as possible to eliminate possible hiding places.

The tops and bottoms of toilet-stall doors and partitions should be open to show a standing person's feet and head. Unisex or family-style restrooms with washbasins could be provided in addition to or instead of separate restrooms. Another possibility is a building with individual stalls that can be locked from inside. Washbasins would be outside at one end of the building. This design has the advantage that it does not provide room for multi-person criminal acts. In any case, restroom entrances should be well lighted for use after dark when village businesses are still open. Their doors or gates should be locked when the businesses are closed.

# **III. RESIDENCES**

Many kinds of residences can exist in village centers. They would range in size from high-rise buildings to two- or three-story row houses. Some residential buildings may also have offices and retail stores. The following CPTED guidelines deal with pedestrian and vehicle access, parking, and the location of offices, elevators, laundry rooms, etc. in high-rise buildings, low-rise developments, and row houses. Those for landscaping, parking garages, etc. are presented in Sec. VII.

## **A. High Rise Buildings**

High-rise residential buildings typically have six or more floors, a main lobby with a receptionist or security guard, a gated parking garage, and some on-site visitor parking. Some might also have parking garage attendants and valets. Sites could have more than one building.

Buildings with fewer than six floors are less likely to have a receptionist or security guard in the main lobby, on-site visitor parking, or valet service for resident or visitor parking.

### **1. Building Access**

Residents should have a keycard or proximity card that gives them access to the building, their floor and unit, the parking garage, all common areas in the building, and the stairwell doors to their residence floor and the parking garage level. Stairwell doors should be kept locked on the stairway side to limit the movement of visitors within the building. Cards are better than keys, remote clickers, or numerical keypads because they cannot be reproduced and given to non-residents, their use can be limited to certain doors and gates, they can be invalidated when reported lost or stolen or when the resident leaves, and a record can be kept of their use.

**a. From the Street.** The doors to the main lobby would be unlocked when a receptionist or security guard is on duty. The receptionist should have a good view of the lobby doors and any walkways leading to them, as well as the elevators to the residence floors. Residents would show their access cards to be admitted.

Visitors, including delivery and service people, would be admitted after being logged in and approved by the residents to be visited, who would be responsible for their visitors inside the building. Visitors should be logged out in the main lobby before leaving the building. For additional security, visitors could be required to show a photo ID.

The doors to the main lobby should be locked when a receptionist or security guard is not on duty. Then residents would use their cards to open a door. A telephone-entry system should be installed outside this door to enable residents to “buzz in” their visitors.

**b. From the Parking Garage.** Resident parking should be gated. The gate could be kept open if an attendant is present. Residents would show their access cards to enter and leave. Their vehicles should also be registered with the building property or security manager and display some development ID, e.g., a decal or placard. The attendant would also keep unauthorized vehicles and pedestrians out of the garage. Residents would use elevators or stairs to go from the garage to the residence floors. When an attendant is not present, residents would use their cards to open the entry and exit gates. Design guidelines for gates are presented below. For added security, video cameras could be installed to record all vehicles entering and leaving the garage. This should help to prevent trespassing and vehicle thefts.

If visitors are allowed to park their own vehicles in the garage, they should first get a pass or an access card from the main lobby. Or they could be logged in by the garage attendant, who would contact the resident to be visited before admitting them. Visitors could then use the residents’ elevator to get to the residence floors. If visitors are allowed to park in the garage without being logged in, they should have to exit the garage and enter the building through the main lobby. In this case they would not have access to the resident’s elevator or the resident’s parking areas, which should be located in a secure gated area within the garage.

If self-parking by visitors is not allowed in the garage, a small number of outside parking spaces or valet service might be provided for them. Otherwise visitors would park on the streets or in nearby public lots or garages. In these cases visitors would enter the building through the main lobby, as discussed above.

## **2. Parking Garage Gates**

When an attendant is present, simple swinging-arm gates for entry and exit should be adequate. The attendant would let resident’s vehicles in and out, and keep pedestrians and other vehicles out. For times when an attendant is not present, overhead or sliding gates should be installed. Residents would have to open them to enter and leave. Separate entry and exit gates that are one-vehicle wide are preferred because vehicles cannot exit and enter at the same time when a gate is open. If a single sliding gate is used, it should slide to the driver’s right to allow a vehicle to enter. This would allow a vehicle to leave at the same time. When a vehicle leaves, the gate should open only half way. This will prevent a vehicle from entering when a resident’s vehicle leaves.

To make tailgating difficult, a sensor and control system should be installed to start closing the gate as soon as a vehicle goes through. A sign prohibiting tailgating should be posted. It would

also warn drivers that the gate will begin to close as soon as a vehicle passes through. The sensor system could also be designed to give an alarm if more than one vehicle passes through at a time.

### **3. Facility Locations**

Facilities that attract a few people at a time should be located in areas of high foot traffic and good natural surveillance. These include elevators, stairways, mailboxes, laundry rooms, workout rooms, trash chutes, etc. Laundry and workout rooms, and other common areas should be locked when not in use. Only residents with access cards would be able to enter them.

The rental or property-management office should be located near the main lobby. It should have a window or door opening to the lobby so office workers in it can see people entering and leaving the building.

## **B. Low-Rise Developments**

Low-rise residential developments in village centers are assumed to consist of one or more multi-unit, multi-floor (typically less than six) buildings. They can occupy a part of a city block, a whole block, or extend over more than one block. The buildings would usually not have a receptionist or security guard in their main lobbies, or valet service for resident or visitor parking.

Buildings can be designed to have interior or exterior unit entrances. The latter designs would have exterior elevators, stairs, and upper-level walkways. These are preferred because they provide more opportunities for natural surveillance in the development. The former designs would have interior elevators and stairs, and unit entrances on interior hallways or stairways.

Larger developments may also have on-site swimming pools, tennis courts, fitness centers, laundry rooms, play areas, patios, walkways, and other amenities. On-site parking would be in single-door or multi-vehicle gated garages, open spaces, or in carports. Sections of a development on different city blocks should be considered as separate developments in applications of these guidelines.

### **1. Development Access**

Where buildings are set back from the sidewalks, it may be necessary to have a fence or wall along the sidewalks and other property lines where trespassing and associated crimes are likely to be problems. Where fences are not needed along sidewalks or where a building forms an edge with the sidewalk, fences should be installed between buildings to control access to ground-level courtyards, swimming pools, and other facilities. Fence gates should lock automatically when closed. Signs prohibiting trespassing should be posted at all gates.

If possible, the development should have a single two-way driveway or separate entry and exit driveways. This makes it easier to monitor and control vehicles entering and leaving the development. It also preserves the integrity of the streetscape and sidewalks, which encourages more pedestrian traffic. All driveways to resident parking areas should be gated. These gates could be left open or closed at various times, depending on the amount of crime in the development and when it occurs. A guardhouse at the main entrance is another possibility for larger developments, with a security guard stationed in the house at various times. Video cameras could also be installed to record all vehicles entering and leaving the development.

If it is necessary to have multiple entrance- or exit-driveways for traffic, fire access, or other reasons, the possibility of closing some when they are not needed, e.g., at night, should be considered. Gates or chains on bollards could be used in these cases.

Signs prohibiting trespassing and public parking, and providing directions to the property manager's office and visitor parking spaces should be posted at each entrance

**a. Residents.** Residents should have access cards that enable them to enter the development, their building, unit, and parking garage, and all common areas and facilities. Their vehicles should also be registered with the development property or security manager and display some development ID, e.g., a decal or placard.

**b. Visitors.** Visitors on foot or in vehicles should enter and leave through the main driveway entrance except when the front door or gate to the building or unit they are visiting is accessible directly from the sidewalk. In the latter case they would park on the street or elsewhere outside the development. A telephone-entry system would be installed at all gates that are designated as visitor entrances. This will enable residents to "buzz in" their visitors. Residents would then be responsible for their visitors inside the development.

## 2. Building Access

Buildings with interior corridors may have more than one entrance, depending on their size. An elevator and stairway is usually located inside each entrance. Buildings with exterior walkways may have more than one external elevator and stairway. All building doors and exterior stairways should have gates or doors that lock automatically when closed. Exterior elevators should require an access card to operate. Where possible, building entrances should face the street.

**a. Residents.** For buildings with interior corridors, residents would also use their cards to open the door to their building. For buildings with exterior walkways, they would use them to open the exterior stairs and operate the elevator. In buildings with a multi-vehicle parking garage, residents would use elevators or stairs to go from the garage to the residence floors.

**b. Visitors.** Telephone-entry systems should also be installed at the entrances to buildings with interior corridors, and at the exterior elevators and stairways of buildings with exterior walkways. This will enable the resident to be visited to "buzz in" their visitors.

## 3. Parking

On-site parking would be in single-door or multi-vehicle gated garages, surface lots, or in carports. Single-door garages would hold one or two vehicles. The likelihood of crimes involving vehicles can be reduced with the following design guidelines:

- Parking next to the buildings should be either open or garaged. Vehicles in the open can be seen from the buildings. Garages provide the greatest protection for vehicles. Carports should not be located next to buildings because their roofs block views of vehicles in them from the upper floors of the buildings.
- Parking under buildings should be in single-door or multi-vehicle garages, never in open carports.
- Where possible, entrances to the garages should be from driveways within the development where there is access control and natural surveillance, not from a bordering city street.
- Residents should use their keycards to open the entry and exit gates of the multi-vehicle garages. Design guidelines for them are presented in Sec. III.A.2 above.

- Carports should be located along a perimeter wall or fence where their roofs would not block views of the vehicles from the buildings. Carport roofs should be supported by columns, not by walls. This allows better visibility of the vehicles under them, especially from the ground level.
- The height of plants and fencing next to open parking spaces and carports should be 3 feet or less.

Parking in multi-vehicle garages should be for residents only. This greatly simplifies the design and operation of access controls and makes the buildings more secure for the residents and their vehicles.

Visitor parking should be separated from resident parking, e.g., the former in open spaces and the latter in garages. If visitor parking is allowed in a garage, a secure gated area within the garage should be provided for resident parking and access to the residence floors of the building. In any case, on-site visitor parking should be located in clearly marked spaces. For added security, visitors should obtain a temporary parking pass from a security guard or the resident to be visited and display it in their vehicle.

#### **4. Facility Locations and Security**

Facilities that attract a few people at a time should be located in areas of high foot traffic and good natural surveillance. These include elevators, stairways, mailboxes, laundry rooms, workout rooms, trash chutes, etc. Laundry and workout rooms, and other common areas should have doors that lock automatically when closed. Only residents with access cards should be able to enter them. Amenities should be located along major circulation paths to increase risk of detection for intruders.

The security or property-management office should be located near the entrance driveway. It should have a window or door opening to the driveway so office workers in it can see vehicles and people entering and leaving the development.

#### **5. Pedestrian Walkways**

When one or more developments in a city block deny convenient pedestrian connections to neighborhood destinations, one or more pedestrian walkways through a development or between adjacent developments on a block should be provided. These walkways will need to be safe for pedestrians and not reduce the security or quality of life of the residents who live next to them. For example, the surface might be roughened to discourage skateboarding. No seats should be installed because people could loiter there and disturb the residents. Lights along them should not shine into the adjacent residence units at night. And in some places walls may be needed to protect the privacy of the residents who live next to them; otherwise, open fencing and balconies overlooking the walkways are preferred to provide natural surveillance. If it is not possible to make a walkway safe at night and not have the lights and people using it disturb the residents, gates should be installed at the street entrances and locked at night.

### **C. Row Houses**

Row houses are attached single-family residences. They usually have two or three stories. Each house has an entry door on the ground level that may open onto a public street, an alley, or a private driveway or courtyard. The houses may be part of a high-rise building or a low-rise development, or may be built as a separate development. In the latter case they should have individual garages that are under the house or attached on ground level. Private driveways should be gated. Visitors would park on the streets or in nearby public lots or garages where they are available.



Residents would enter through a front or rear door, or through a garage. Visitors would enter through the front door.

Many jurisdictions in California, but not San Diego, have building security standards. At a minimum, houses should have the following safety features:

- Deadbolt locks on all outside doors as well as the door from the inside of the garage to the interior of the home
- Double-pane glass windows
- Lighted house numbers
- Peepholes with a wide-angle (180 deg) viewer in the front doors
- Deadbolt and secondary locking devices on the sliding-glass porch doors
- Secondary locking devices on sliding-glass windows
- Means to prevent sliding-glass doors and windows from being lifted up in their tracks to defeat their locks
- Door hinges that are accessible from the outside when the door is closed shall have non-removable pins
- Fully tempered glass in doors
- Unbreakable glass or plastic in garage door windows

#### **IV. OFFICE BUILDINGS**

Two kinds of office buildings are considered here. One has interior stairs and elevators with office access from interior corridors. High-rise office buildings are usually this kind. Low-rise buildings can also be designed like this. The other kind has exterior stairs and elevators with office access from exterior walkways. They are usually low-rise. Sites could have more than one building.

Where on-site parking is provided for office workers during workdays, it could be made available to the public in the evenings and on weekends and holidays. Such shared use is encouraged under the village concept to reduce the amount of land devoted to parking. Some design and operational guidelines for this are also included in Sec. V.C.1.

Alternatively, where public parking lots and garages are located near office buildings, parking spaces for office workers could be provided in those facilities and not in the office buildings. This kind of shared parking encourages pedestrian traffic in the village as well as reduces the total amount of parking needed. Security guidelines for this are presented in Sec. V.B.

The following CPTED guidelines deal with pedestrian and vehicle access, parking, and facility locations. Those for landscaping, parking garages, etc. are presented in Sec. VII.

##### **A. High-Rise Buildings with Interior Corridors**

These buildings typically have a main lobby with a receptionist or security guard on duty, especially during working hours. Many of these buildings also have a parking garage. Access to the parking garage could be limited to office workers, or it could also provide spaces for visitors, i.e., clients, patients, and others who do business in the building.

###### **1. Building Access**

Office workers should have photo-ID keycards or proximity cards that give them access to the building, their offices, the parking garage, all common areas in the building, and stairwell doors to their office floors and parking garage levels. Stairwell doors should be kept locked on the

stairway side to limit the movement of visitors within the building. Cards are better than keys, remote clickers, or numerical keypads because they cannot be reproduced and given to non-workers, their use can be limited to certain doors and gates, they can be invalidated when reported lost or stolen or when the worker leaves, and a record can be kept of their use.

**a. From the Street.** The doors to the main lobby could be unlocked when a receptionist or security guard is on duty. The receptionist should have a good view of the lobby doors and any walkways leading to them, as well as the elevators to the office floors. Workers should show their office ID cards to be admitted.

When building security is a major concern, visitors, i.e., clients, patients, and others who have business in the building, should be admitted after they show a photo ID, get logged in, and get approved by the office to be visited. That office would be responsible for their visitors inside the building. Visitors would be logged out in the main lobby before leaving the building. Visitors might also be given badges to wear them in the building and return when they are logged out. The badges could indicate which floors or areas the visitors have access to. For greater security, visitors might be escorted wherever they go in the building.

The doors to the main lobby should be locked when a receptionist or security guard is not on duty. Then workers would use their ID cards to open a door. A telephone-entry system should be installed outside this door to enable visitors to call the office to be visited and get “buzzed in.”

**b. From the Parking Garage.** Worker parking should be gated. The gate could be kept open if an attendant or security guard is present. Workers would show their ID cards to enter and leave. Their vehicles should also be registered with the building property or security manager and display some building ID, e.g., a decal or placard. The attendant would also keep unauthorized vehicles and pedestrians out. Workers would use elevators or stairs to go from the garage to their office floors. When an attendant is not present, workers would use their ID cards to open the entry and exit gates. Design guidelines for gates are presented in Sec. III.A.2. For added security, video cameras could be installed to record all vehicles entering and leaving the garage. This should help to prevent trespassing and vehicle thefts.

To prevent the queuing of vehicles entering the garage in the morning, the entry gate could be left open during the time most workers arrive. An attendant or security guard could be located there to check worker and vehicle IDs. This procedure would be repeated in the evening at the exit gate, which would be left open during the time most workers leave.

When building security is a major concern, visitors should not be allowed to park in the garage unless they are screened as described above. If this is not practical, visitors would have to park on the streets or in nearby public lots or garages. In these cases visitors would enter the building through the main lobby, as discussed above.

## **2. Facility Locations**

Facilities that attract a few people at a time should be located in areas of high foot traffic and good natural surveillance. These include elevators, stairways, mailboxes, restrooms, trash chutes, etc. Doors to workout rooms and other common areas for workers should be kept locked. Workers would use their ID cards to open them.

The property-management or security office should be located near the main lobby. It should have a window or door opening to the lobby so workers in it can see people entering and leaving the building.

## **B. Low-Rise Buildings with Interior Corridors**

These buildings would usually not have a main lobby with a receptionist or security guard on duty. Sites could have more than one building. These buildings often have a parking lot as well as a garage. In these cases visitors should park in designated spaces in the outside lot. Office workers would park in the garage. Some might also park in designated spaces in the outside lot. Both garage and open parking for office workers should be gated. These buildings would usually not have an attendant in the parking garage.

### **1. Building Access**

Office workers should have photo-ID cards that give them access to the building, their offices, the parking garage, restrooms on the corridors, all common areas in the building, and stairwell doors to their office floors and parking garage levels. Stairwell doors should be kept locked on the stairway side to limit the movement of visitors within the building.

*a. From the Street.* The doors to the main lobby would usually be unlocked during business hours. At other times they would be locked and workers would use their ID cards to open a door. A telephone-entry system should be installed outside this door to enable visitors to call the office to be visited and get “buzzed in.”

*b. From the Parking Garage.* With no attendant present, workers would use their ID cards to open the entrance and exit gates. Their vehicles should also be registered with the building property or security manager and display some building ID, e.g., a decal or placard. Workers would use elevators or stairs to go from the garage to their office floors. Design guidelines for gates are presented in Sec. III.A.2. For added security, video cameras could be installed to record all vehicles entering and leaving the garage. This should help to prevent trespassing and vehicle thefts.

To prevent the queuing of vehicles entering the garage in the morning, the entry gate could be left open during the time most workers arrive. An attendant or security guard could be located there to check worker and vehicle IDs. This procedure could be repeated in the evening at the exit gate, which could be left open during the time most workers leave.

### **2. Facility Locations**

Facilities that attract a few people at a time should be located in areas of high foot traffic and good natural surveillance. These include elevators, stairways, mailboxes, restrooms, trash chutes, etc. Doors to workout rooms and other common areas for workers should be kept locked. Workers would use their ID cards to open them.

The property-management or security office should be located near the main lobby. It should have a window or door opening to the lobby so workers in it can see people entering and leaving the building.

## **C. Buildings with Exterior Walkways**

Buildings with exterior walkways usually have exterior stairs and elevators and no lobbies. The stairs should have gates at ground level. The individual offices usually open to the walkways. Sites could have more than one building.

Buildings could have a parking lot as well as a garage. In these cases visitors should park in designated spaces in the outside lot. Office workers would park in the garage. Some might also park in designated spaces in the outside lot. Both garage and open parking for office workers should be gated. These buildings would usually not have an attendant in the parking garage.

### **1. Building Access**

Workers would have a photo-ID card that gives them access to their offices, exterior stairways and elevators, parking garage, and restrooms on the exterior walkways of their building.

*a. From the Street.* There would not be any controls on building access during business hours. Stairway gates and elevators would be open. However, access controls should exist in the individual offices, where receptionists or other workers would screen visitors, patients, clients, etc. Some offices might have a telephone-entry system to allow visitors to be screened before they are “buzzed in.”

After working hours all exterior stairway gates and elevators should be locked. Workers would be able to unlock and use them with their ID cards. A telephone-entry system should be installed to allow visitors to be “buzzed in.”

*b. From the Parking Garage.* Where it is necessary to provide secure parking for worker’s vehicles, the garage should have a gated parking area with a set of elevators and stairs that go between the garage levels and the ground level. Workers would then use the exterior elevators or stairs to go from the ground level to their office floors. The garage gates, and elevators and stairwell doors to the garage would be kept locked at all times. Workers would use their ID cards to open them from the outside. If the exterior elevators for the office floors also go down to the garage levels, controls would have to be installed so that only workers with ID cards could use them to go to the garage levels.

To prevent the queuing of vehicles entering the garage in the morning, the entry gate could be left open during the time most workers arrive. An attendant or security guard could be located there to check worker and vehicle IDs. This procedure could be repeated in the evening at the exit gate, which could be left open during the time most workers leave.

### **2. Facility Locations**

Facilities that attract a few people at a time should be located in areas of high foot traffic and good natural surveillance. These include elevators, stairways, restrooms, mailboxes, trash chutes, etc. Restrooms on the exterior walkways should be kept locked at all times. Workers can use their ID cards to enter them. Offices would give visitors a card to use.

## **V. MIXED-USE RESIDENTIAL AND OFFICE BUILDINGS AND PUBLIC PARKING**

The CPTED guidelines discussed above for residential and office buildings can be applied on a case-by-case basis in the design of buildings that have both residences and offices. Although facilities in such mixed-use buildings should be shared to the extent possible, where safety and security of the residents

and their vehicles are major concerns it may be necessary to have separate entrances, lobbies, elevators and stairs, security systems, and parking areas for them.

### **A. Public Parking Facilities**

Large public parking lots and garages can also provide parking for office workers and store employees. If vehicle security becomes a problem for them because their vehicles are left unattended for many hours at a time and thus are at greater risk, a separate gated parking area could be provided for them during working hours. Workers and employees would be issued ID cards to open the gates, doors, and elevators to their parking areas. After office hours the worker parking area could be opened to the general public.

### **B. Shared Parking**

Some office and residential buildings can also provide public parking. The following design and operational guidelines should be considered when office building parking lots and garages would be opened to the general public when they are not being used by office workers:

- Post signs to clearly indicate the hours the facility is open to the public.
- Have an attendant collect parking fees (or validated ticket stubs) and keep unauthorized pedestrians out.
- Install a separate elevator and stairway for the public to use to go between the parking levels and the street. Locate the street-level entrances within view of the attendant.
- Have an attendant close the vehicle gates and lock the elevators and stairway doors at the facility closing time.
- Have office workers show their ID cards to the attendant to gain entry.
- Install video cameras record all vehicles entering and leaving the garage.
- Designate the elevators and stairs that go between the parking levels and the office floors for use by office workers, who would use their ID cards to operate them.

The design and operational guidelines listed above can also be applied to residential buildings in which an area of the garage is used for public parking during weekdays, and for extra residential and visitor parking in the evenings and on weekends when more residents are at home.

## **VI. SHOPPING CENTERS AND MALLS**

The following design measures apply to areas and facilities that are in the public areas outside the individual stores, restaurants, theaters, and other businesses. Measures that deal with preventing robberies, shoplifting, employee theft, and other crimes inside the businesses are included in the Crime Prevention and Education section of the SDPD's web site at [www.sandiego.gov/police](http://www.sandiego.gov/police).

Where the buildings in the shopping centers and malls also have residences and offices, the CPTED guidelines discussed in Secs. III and IV should also be applied on a case-by-case basis. Although facilities in such mixed-use developments should be shared to the extent possible, where safety and security of the residents and their vehicles are major concerns it may be necessary to have separate entrances, lobbies, elevators and stairs, security systems, and parking areas for them.

### **A. Street Entrances**

Shopping centers and malls would be designed as compact, mixed-use centers of activity under the City of Villages strategy. They should have several street entrances and exits that are designed to facilitate vehicle, transit, pedestrian, and bicycle access within the center and to connect it to the surrounding neighborhood. The vehicle entrances to the areas that are exclusively devoted to retail activity should

have swinging gates or bollards with chain attachments so they can be closed at night or at other times when all the businesses are closed. The location of vehicle entrances and exits that are open all the time would be determined by the location of the open businesses and residences, and the amount of traffic expected. Pedestrian and bicycle entrances would usually be open all the time.

## **B. Parking**

Parking lots and garages should be located behind or under the businesses. This improves pedestrian safety on the streets, encourages walking in the village, and makes the streetscape more attractive. Large surface parking lots should be avoided as they form a barrier to pedestrian circulation and are difficult to monitor. However, because there is relatively little natural surveillance behind or under the businesses, these parking facilities should have gates and attendants. Small parking lots that are not gated or attended should be located where there is more foot traffic and good natural surveillance, e.g., in front of businesses. Vehicle loading and unloading spaces should also be located behind businesses or on designated areas on streets.

Customer parking could be free or discounted for a certain amount of time. The stores and offices in the center could validate the parking tickets for this.

On-site employee parking should be provided in a separate gated area if vehicle security becomes a problem. Employees would be issued ID cards to open the gates, doors, and elevators to their parking areas. Alternatively, employees could park off-site in a nearby mixed-use public facility, as discussed above in Sec. V.

## **C. Locations of Facilities and Activities**

Facilities and activities that attract large numbers of people, e.g., food courts, should be located in areas of low foot traffic so that people in them can provide natural surveillance in the area. In contrast, those that attract a few people at a time should be located in areas of high foot traffic and good visibility so they can benefit from the natural surveillance in the area. These include outdoor pay phones, ATMs, restrooms, bus and trolley stops, bike racks, etc. (Outdoor pay phones should be limited to outgoing calls. Both phones and ATMs should be well lighted for use after dark.)

Restroom entrances should be visible to people walking by. They should not be located behind buildings or at the ends of corridors. Separate men's and woman's restrooms should have single-door entrances, with interiors that are as open as possible to eliminate possible hiding places. The tops and bottoms of toilet-stall doors and partitions should be open to show a standing person's feet and head. Unisex or family-style restrooms could be provided in addition to or instead of separate restrooms.

Restroom entrances should be well lighted for use after dark when businesses are open. Their doors or gates should be locked when the businesses are closed.

Bus and trolley stops should be located on the street or inside shopping centers and malls in front of the business where there is a lot of activity and good natural surveillance. They should also have good lighting for use after dark.

## **D. Seating**

Seats should be provided for people to rest, eat, and observe activities. They should be designed to be comfortable for sitting but not for sleeping. Their design should also discourage skateboarding.

## **E. Lighting**

High-intensity, uniform lighting should be provided in all parking areas, outdoor walkways, plazas, etc. Lighting should not be provided in areas that people should not be in at night. Fixtures should be resistant to vandalism.

## **F. Emergency Communications Systems**

Emergency phones, alarms, or intercoms should be installed in convenient places for people to use to report intruders or suspicious activities, or to call for help. Signs should be posted to show locations of emergency communications systems.

## **G. Preventing Crime and Disorder**

All outdoor areas should have a designated use. Activities in each should be supervised by the adjacent businesses and controlled by the shopping center or mall security force. Barriers or other devices should be installed to prevent misuse of public facilities, e.g., bathing in fountains. Public art should be designed to be resistant to vandalism and easy to repair if it is damaged. If video cameras are installed, signs should be posted to indicate where the coverage exists.

A Code of Conduct should be developed and posted to define prohibited conduct. The sign should state that persons engaged in such conduct will be asked to leave the property, and that failure to cease the conduct or leave the property will result in a call to the SDPD. Prohibited conduct would include: trespassing, fighting, threatening others, panhandling, vandalism, skateboarding, littering, soliciting, loitering, illegal lodging, prowling, loud noise or music, consumption of alcoholic beverages, drug activities, etc.

Design measures to deal with graffiti and skateboarding are presented in Sec. VII below.

# **VII. COMMON DESIGN ELEMENTS**

CPTED guidelines for landscaping, fencing and gates, anti-graffiti paints and coatings, skateboarding prevention, alleys and driveways, loading and unloading docks, exterior railings, emergency access, premises identification, viewing windows and peepholes, signs, parking lots and garages, and emergency exits to the street are presented in this section. They apply to all types of development.

## **A. Landscaping**

Canopies of mature trees should be maintained at least 8 feet above the ground. Bushes should be trimmed to less than 3 feet except where privacy or environmental noise mitigation is a primary concern, or where higher plants would not block any views or light, video camera coverage, or provide hiding places. For example, higher bushes or trees with lower canopies could be planted next to a blank wall or the side of a building. Also, mounds and other terrain features should not block views or create hiding places.

Trees should be planted away from walls, fences, and buildings so they cannot be used to enable someone to climb over or onto them. They should also be planted away from light poles so they do not block illumination on the ground, and from video cameras so they do not block their fields of view.

Additional protection against graffiti can be obtained by planting vines and thorny bushes next to the sides of buildings, walls, and other design elements that could be vandalized.

## **B. Fences, Walls, and Gates**

Separate fences or walls are not needed when building walls are located along street sidewalks. When buildings are set back from the sidewalks, fences or walls along sidewalks and other property lines may be needed in areas where trespassing and associated crimes are likely to be problems. Open ornamental metal fences are preferred in these cases because they do not block visibility into the property, are less susceptible to graffiti, and are more difficult to climb. Horizontal bars should be located only at the top and bottom. The fences should be at least 6 feet high. Where fences are not needed along sidewalks, they may still be needed within the property to control access to ground-level courtyards, swimming pools, and other facilities.

Walls along sidewalks and property lines should be constructed only where there is a need for privacy or noise mitigation. They should also be at least 6 feet high.

Openings for pedestrian walkways would define safe paths in and out of the development. Exit gates that are opened by a handle or knob should have shields that prevent a person from reaching in to open them. Also, if a gate has a beveled latch, it should be shielded so a person cannot insert a wire or bar between the frame and the gate and push in the latch. Or, the lock should have a cylindrical latch. Exit gates that are opened by a push bar should have a solid metal or plastic shield on the inside of the gate that extends at least two feet above and below the push bar. The shield will prevent a person from opening the gate from the outside by looping a wire through the gate and pulling on the push bar.

Exit gates should have springs that close them after a person goes through. Sensors should also be installed to warn the security office or management that a gate has been left open.

Shopping centers and malls should have fences or walls along their perimeter with openings for vehicle driveways and pedestrian walkways. This will limit entrances and escape routes of persons who might commit crimes in the development. Fences or walls would not be needed where buildings are located on the perimeter.

## **C. Anti-Graffiti Paints and Coatings on Buildings, Walls, Etc.**

Graffiti-resistant paint or anti-graffiti coatings should be used on the sides of the building, walls, and any other design elements that could be vandalized. The anti-graffiti material approved by the San Diego Park and Recreation Dept. as of November 2001 is Dunn Edwards *Ultrasield* clear with *Okon* sealer.

Murals are encouraged on buildings, walls, and other design elements to promote neighborhood pride and identity. They also help to deter graffiti.

Also, various protective films are available that can be installed on the outside of windows to prevent window damage from graffiti, knife gouging or scratching, and acid etching.

## **D. Skateboarding Prevention**

Physical damage and noise from skateboarding is a serious problem in many developments, especially shopping centers, malls, and parks. In addition to posting signs to prohibit skateboarding, various design measures can be taken to discourage it. These include:

- Rough pavement surfaces or grass in front of benches, planter boxes, low walls, steps, and railings
- Pavement cutouts instead of raised planter boxes for trees and bushes
- Small metal discs or strips on the edges of benches, planter boxes, and other flat surfaces that skateboarders abuse
- Small metal discs or bolt heads on tops of railings



- Height variations, arm rests, or seat dividers on the tops of seating surfaces
- Breaks, bumps, or height variations on low walls, curbs, and planter boxes

### **E. Alleys and Driveways**

Crime often occurs in alleys and driveways behind buildings because of the lack natural surveillance. The chances of such crime in these areas can be reduced by the following measures:

- Good lighting at night
- Doors and windows of residences and stores facing the alley
- No landscaping that obstructs clear lines of sight into the development
- No alcoves that provide hiding places
- Signs prohibiting parking, trespassing, etc.
- Speed bumps or humps
- Video surveillance

### **F. Loading and Unloading Docks**

The parking spaces at loading and unloading docks should be gated. A gate would be opened only after a building security guard checks the driver and vehicle.

### **G. Railings on Exterior Stairs, Walkways, Balconies, and Patios**

Exterior stairs, walkways, balconies, and patios should have open ornamental metal railings, not solid walls. This provides visibility into these areas and prevents their use as hiding places.

### **H. Emergency Access**

Provisions need to be made for emergency access by Police Department personnel at times when a receptionist or security guard is not on duty at a gated entry driveway or pedestrian walkway, or a locked building lobby. Because patrol cars do not carry gate or door keys or remote-control gate openers, the Department prefers access by a numerical keypad or telephone-entry system. An entry code should be provided to the Department for use at driveway, pedestrian, and garage gates, exterior elevators and stairs, and other building entrances. It would be stored in the Department's computer system and transmitted in dispatch messages to officers who need to enter the development or building. The development or building property manager should contact SDPD Communications at (619) 531-2000 to have the code entered in its PAC (Prior Activity Code) file.

### **I. Premises Identification**

Good premises identification is needed to enable the police, fire, and other service providers to find a development and a particular unit quickly in an emergency. Building address numbers must be easy to read from either direction of approach from the street fronting the property. They must be on a high-contrast background and at least 12 inches high on commercial, industrial, and multi-unit residential buildings. Numbers at least 6 inches high must be used to indicate a range of apartment numbers. These numbers should also be located where they are easy to see and read.

Also, on multi-unit housing developments and multiple commercial building sites an illuminated directory and map should be located on the right side of the entry points. The map must show the name of the development, all driveways and gates, alleys, building locations with addresses and unit or suite numbers, business names, and a YOU ARE HERE reference point. Directional signs should be located within the development.

## **J. Viewing Windows and Peepholes**

Like peepholes, viewing windows next to doors enable a person in the house to see a person at the door. However, when the viewing window is next to the lock side of a door, a burglar can break the window and reach in to unlock the door. The problem can be avoided in several ways: (1) eliminate the window, (2) locate the window on the hinge side of the door, (3) hinge the door on the side next to the window, (4) locate the window at least 40 inches from the lock, or (5) make the window of some unbreakable material.

## **K. Signs**

Signs should be legible and unambiguous, with symbols used wherever possible. They should be located in strategic places and well lighted so they can be easily read at night.

In commercial developments open to the public they should indicate opening and closing times, define prohibited conduct, and direct people to restrooms, ATMs, pay phones, exits, means of calling for help, etc.

No loitering signs should cite Cal. Penal Code Sec. 647. No trespassing signs should cite Cal. Penal Code Sec. 602. Signs prohibiting trespassing on privately operated business premises should cite San Diego Municipal Code Sec. 52.80.01. Signs prohibiting public parking or limiting parking to visitors or customers, and indicating that vehicles will be removed at the owner's expense should cite Cal. Vehicle Code Sec. 22658(a) and contain the phone numbers of the local traffic law enforcement agency. The general SDPD number is (619) 531-2000; the number for towing impounds is (619) 531-2844. Other requirements for this sign are specified in Sec. 22658(a)(1).

If a business has a retail package off-sale alcoholic beverage license to sell alcoholic beverages it must post signs stating that OPEN ALCOHOLIC BEVERAGE CONTAINERS ARE PROHIBITED ON THE PREMISES, as required by San Diego Municipal Code Sec. 56.56(b). These signs must be clearly visible to patrons of the licensee and parking lot and to persons on the public sidewalk immediately adjacent to the licensed premises, and should cite SDMC Sec. 56.56(a).

## **L. Parking Lots and Garages**

Parking lots and garages are known to be likely settings for crime. In general, property owners have a duty to provide protection from foreseeable crimes by third parties. The scope of this duty is determined in part by balancing the foreseeability of the harm against the burden of the duty to be imposed. A high degree of foreseeability is usually required where the burden is high, e.g., in hiring of security guards. A lesser degree of foreseeability may be required when there are strong policy reasons for preventing the harm or when the harm can be prevented by simple means, e.g., good lighting and visibility, video surveillance cameras, etc. that would provide a first line of defense.

Large public parking lots and garages should be gated and have an attendant like the ones at Lindbergh Field and Horton Plaza. Drivers would take a ticket to open the entry gate. They would give their tickets to an attendant to compute the fee and open an exit gate, or prepay at a machine or cashier and get a ticket to open an exit gate. Stores and offices in the area could validate tickets for a certain amount of free or discounted parking for customers and office visitors, respectively. Video cameras could provide additional security.

Smaller facilities may not be gated or have attendants. Some security can be provided by video cameras that record vehicles entering and leaving the garage. Cameras could also be located within the facility to keep parked vehicles under surveillance, and observe any trespassing and loitering.

Individual parking spaces should be numbered so that the exact location of vehicle thefts and break-ins can be reported. (Unit numbers in residential developments should not be used because an empty space might indicate an empty unit.) This information will help in improving security, e.g., by installing additional lighting and surveillance systems.

### **1. Parking Lots**

Street-level parking lots should be fenced or bordered by stores or offices. There would be a limited number of openings for people who park in the lot to leave and enter on foot. These openings should be in places of high pedestrian traffic and good natural surveillance. Landscaping along the fence and in the lot should not block visibility into the lot from the adjacent streets and light within the lot, or provide hiding places. Canopies of mature trees should be at least 8 feet above the ground. And bushes should be trimmed to less than 3 feet.

### **2. Parking Garages**

Garages should have glossy white or light-colored walls and ceilings, good interior visibility, and open stairways and elevator lobbies. Additional security measures include emergency alarms and mirrors to allow people to see around corners into any hidden spaces that cannot be eliminated in the design. Street-level elevator and stair entrances to garages should be visible to an attendant.

Enclosed elevator lobbies in parking garages are potential entrapment spots. People waiting for and leaving elevators are safer if they are visible from the garage itself. Lobbies should be eliminated unless required by the Building or Fire Codes. And the elevator doors should face the interior of the garage. Bollards or rails can be used to protect people from vehicles. Signs and floor treatments can be used to designate waiting areas. If enclosed lobbies are required, transparent materials for walls and doors should be used to provide visibility of people in them. And if permitted by the code, the doors should normally be kept open. They would be designed to close automatically when a fire alarm occurs or a smoke detector is activated.

### **M. Emergency Exit Doors to the Street**

Control measures are needed at stairway and other exit doors to prevent them from being propped open for reentry or unauthorized entry, but still open quickly in an emergency. These include audible alarms that also notify building security or management that the door is open, video cameras that are activated by the alarm, delayed-egress hardware, etc.