CPTED STRATEGIES

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

SAN DIEGO COMMUNITY COLLEGE
POLICE DEPARTMENT

SAN DIEGO COMMUNITY COLLEGE POLICE DEPARTMENT
CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN
C.P.T.E.D.

TABLE OF CONTENTS

SECTION

San Diego Community College Police Department
Crime Prevention Through Environmental Design
C.P.T.E.D.

0.0 PURPOSE

The San Diego Community College Police Department recognizes the need for the following crime prevention strategies and design recommendations. These crime prevention strategies and design recommendations have been developed to deter crime and disorder problems, and where practical, to create an environment in which problems do not arise. This means that crime prevention measures should be incorporated in the initial design of all new land development projects. These measures are intended to make colleges safe, secure, and resistant to vandalism.

The San Diego Community College District has properties, campuses and administrative buildings throughout the City of San Diego. These sites are located in residential, commercial, and urban communities within the city. Most of the current SDCCD locations have been established landmarks in their communities for decades. In most cases the communities have grown and developed around the SDCCD locations. The function and purpose of each building should factor into their locations in the site layout. SDCCD properties in communities with higher risk of criminal activity should be designed with special consideration. Bookstores, cafeterias, financial aide offices or locations that normally handle money have a greater probability of theft. Areas that are potential targets for theft related crimes will not be accessible to quick escape routes. When designing the college master plan, it is imperative that the community it serves be taken into account.

1.0 INTRODUCTION

1.1 Crime Prevention Through Environmental Design

Definition

Crime Prevention Through Environmental Design (CPTED) is a multi-disciplinary approach to deterring criminal behavior through environmental design. CPTED strategies rely upon the ability to influence offender decisions that precede criminal acts.

Overview

Crime Prevention Through Environmental Design (CPTED) is a practical concept that has received considerable interest during the past four decades. It is based upon the theory that the proper design and effective use of the built environment can lead to a reduction in the incidence and fear of crime, and to an improvement in the quality of life. This concept is supported by the fields of geography, psychology and criminology, where it has long been known that:

The design and use of the physical environment affects the behavior of people which influences the productive use of space, leading to an increase or decrease in exposure to crime and loss.

CPTED has been used to reduce crime, premises liability and fear in a variety of settings. These include schools, neighborhoods, convenient stores, malls, shopping centers, parking structures, transit sites, hotels, hospitals, office buildings and parks. There are state statutes, regulations and safety standards that have been developed to promote the use of CPTED concepts. It is important to note that CPTED does not replace traditional approaches to crime and loss prevention. Moreover, it is a tool that helps to remove many barriers to social and management control.

The use of CPTED concepts requires that *human activities and spaces be designed or used to incorporate natural strategies*. In the past crime prevention exclusively relied on labor intensive or mechanical approaches. Guards, hall monitors and police patrols are examples of labor intensive strategies. Security cameras, locks, alarms and fences are examples of mechanical approaches. Although very effective in specific situations these methods incur costs that are additional to the normal requirements for personnel, equipment and buildings that are needed to carry out human activities.

The four most common CPTED concepts are:

- **Natural Surveillance**
- **Natural Access Control**
- **Territoriality/Management**
- **Target Hardening**

2.0 NATURAL SURVEILLANCE

Natural Surveillance refers to areas where people and their activities can be readily observed and potential offenders are made to feel at greater risk of scrutiny. Such areas can be created by:

- *Designing landscapes that allow a clear, unobstructed view of surrounding areas.*
- *Improving visibility with lighting or transparent building materials.*
- *Avoid the creation of building entrapment areas.*
- *The placement of windows to overlook sidewalks and parking lots.*

Natural Surveillance is said to be natural if it comes from people and activities in the area.

2.1 Site Design

- Locate site entry points in areas of high visibility where they can be easily observed and monitored by members of our community in the course of their normal activities.
- When designing SDCCD properties avoid blocking lines of sight with solid fencing, signage, and landscaping.
- Drinking fountains should be placed in highly visible and well traveled locations to increase the perception that these locations are being monitored by users. Placing drinking fountains at restroom entries promotes criminal surveillance.
- Vending machines and public telephones will be installed in monitored patios, lobbies, reception and administrative areas that allow for natural surveillance.
- When possible vending machines will be recessed into alcoves to prevent hiding places and tampering.
- Install benches or other types of seats where they are visible from buildings. The users of the bench extend the natural surveillance to adjacent areas such as activities on streets, sidewalks, open spaces, etc. Design the seats to be comfortable for sitting and not for sleeping or skateboarding.

2.2 Building Design

- Buildings should have windows or material that promotes natural surveillance for the surrounding grounds, parking lots, break areas, pedestrian walkways, campus entries, adjacent buildings and into children's outdoor play areas.
- Entry ways will be designed to eliminate hiding spaces.
- Exterior walls will be designed without blind corners and dark niches. This promotes natural surveillance and reduces places for unwanted users to hide and commit criminal activity.
- Utilize extensive interior glazing (windows) in lobby area to encourage natural surveillance.
- When applicable, lobbies and reception areas should also have positive joint uses. Promoting seating and waiting area as study areas for the students would promote natural surveillance and ownership.
- Offices and classrooms that have interior walls inside lobbies or reception areas should have windows which allow for natural surveillance.

- Classrooms, faculty offices and administrative areas should have interior windows that promote natural surveillance into the hallways and corridors. Where applicable materials that allow for one way visibility out into the hallway should be used to allow privacy in the classrooms, faculty offices and administrative areas.
- Exterior stairs, balconies, ramps, and upper level corridors should be designed with open or see-through type handrails and guardrails to allow natural surveillance.
- When possible exterior stairwells will not be designed with enclosed exterior walls. Material that allows visibility into the stairwell will be used to promote natural surveillance.
- Convex Security Mirrors will be installed in stairwells to eliminate blind spots and hiding spaces.
- Where applicable, computer rooms will have network monitoring systems that allow faculty and staff to monitor the content of the material being viewed to ensure it is not inappropriate or criminal in nature.

2.3 **Bookstores/Cafeterias/Libraries**

- Bookstores/Cafeterias will be designed with an unobstructed line-of-sight of the entire designed space. Maximize observable space from cash registers and office space by arranging shelves and display areas.
- Design serving line and cashier area to be visible from dining area to allow for natural surveillance between staff and customers.
- Storage bins for backpacks or book bags will be located near the front of the bookstore and before passing the cashier to prevent thefts. Monitored or secured storage bins may also be located outside of the bookstore near the entrance.
- Libraries and media centers will be designed and organized in such a way to maximize lines-of-sight throughout the library/media center and from the media specialist's office.

2.4 **Restrooms**

Restrooms are common sites for illegal and illicit activity. The design of restrooms is the critical element in promoting user safety. An increase in crime potential may occur in a poorly designed restroom. The normal user needs a safe environment created by a design which makes the abnormal user feel uncomfortable and ill at ease when contemplating committing a crime. The following recommendations are highly encouraged:

- Restrooms should be designed with maze entries rather than double-door entries. Restroom entries without doors increase user convenience, sanitation and safety. Door entries create many issues such as producing a warning sound and transitional time that is an advantage to abnormal users. Reduce sanitation issues by designing restrooms with touch less and automated devices.
- Restrooms designed for security reasons with outer doors will be locked in an open position.
- Exterior restrooms should be designed to be secured after hours and when the campus is closed.
- Men's restrooms shall always be designed to the right side of the Women's restrooms.
- To allow for natural surveillance, restrooms should be located in the most convenient and accessible location to increase use, which increases the perception of safety. They should be designed near well monitored and heavily traveled pedestrian walkways.
- Restrooms shall not be designed in remote areas of buildings or at the end of a long anonymous hallway or on campus grounds with a blocked line-of-site.
- Avoid placement of restrooms near rear building exits or interior stair systems to reduce the perception of easy escape of potential offenders.

2.5 **Doors**

- Design doors with view panels or sidelights to increase visibility of adjacent circulation spaces.
- When designing doorways avoid blind corners and dark niches which can provide places to hide.
- When doors are recessed off hallways the safety concerns from blind spots are reduced by:
  1. pairing doors with the adjacent classroom's door to make a common inset
  2. widening the inset with an adjacent window
  3. cutting off one or both corners at a 45 degree angle
  4. proportionately place more light in these insets areas 24 hours / 7 days a week.

2.6 **Parking Structures**

- Parking structures shall be constructed with barrier of stretched cable railings for maximum visibility. Yellow wheel stops will be placed in front of protective tension cabling which would otherwise go unnoticed and struck by less observant motorists.
- Design parking areas in close proximity to campus buildings or activity areas to facilitate natural surveillance.
- Walls which are whitewashed reflect natural light and increase illumination. It is much harder for abnormal users to hide in parking structures with white washed walls.

- Openings which are formed into the wall allow a better view of parking garage areas, increase natural light and allow sound to travel.

- In parking structures construct highly visible stairwells by minimizing solid walls around them. The under portion of stairwell is to be equipped with lighting, secured full height gate, and fire equipment. This will prevent improper use and allow for secured storage of traffic controlling and parking management equipment.

2.7 **Pedestrian Walkways**

- Campuses and buildings will be designed to minimize hiding spaces along pedestrian routes and provide pedestrians with a "zone" of safety.
- Exterior pedestrian routes will be designed to maximize surveillance from and into adjacent spaces.

2.8 **Bike Racks**

- Minimize hiding spaces around bike racks. Locate bike racks adjacent to windows, doorways and high traffic areas to allow for natural surveillance.
- Place bike racks in areas which will minimize riding bikes between buildings and on pedestrian walkways.

2.9 **Trash Enclosures**

- Trash enclosures will not be located in remote areas because they create hiding spaces for criminal activity. Reduce hiding spaces around trash enclosures.
- Locate trash enclosures near windows to enhance natural surveillance.
- Trash enclosure will be designed with material that allows for acceptable visibility into the enclosure for security purposes while still providing aesthetic appeal. The entry gate shall be secured with a locking device.

2.10 **Landscaping**

- Design landscaping to minimize hiding spaces and shadowed areas at night.
- Use pedestrian avoidance bushes when possible and position bushes at or around windows (example of types of bushes are roses, bougainvillea)
- Avoid blocking line-of-sight with landscaping. Use the 2'- 7' rule for landscape planning. As a rule, visual surveillance corridors can be maintained by limiting shrubbery to a maximum height of two feet and trim tree foliage up to a minimum height of seven feet. This approach ensures that visibility and light transfer between two and seven feet from the ground will always be relatively unimpaired. Visual corridors must be maintained in open, park-like areas as well as densely planted areas.

2.11 **Lighting**

- Illuminate all exterior areas that people use at night so they can see where they are going and identify others along their route.
- Avoid lighting isolated areas that people should not use at night.
- Don't rely on streetlights or lights from adjoining properties for illumination at night.
- Use timers, photoelectric cells, or motion sensors to turn lights on where appropriate. These items are valuable tools and are a good example of enhancing natural surveillance and displaying territorial management.
- Provide interior lighting where adequate natural light does not exist, e.g. in hallways, stairwells, parking garages and structures.
- Lighting on the exterior of buildings will be designed to promote natural surveillance.
- Design uniform and consistent levels of lighting to allow for maximum visibility and prevent blind spots, glare, or contrast.
- Vestibules will be designed with lighting that allow for surveillance at night.
- The lighting around elevators will be designed to allow for the maximum visibility into and around elevators to eliminate dark areas and blind spaces.
- Pedestrian routes will be well lit for use after dark
- Metal halide lighting is used, as it provides excellent color rendition and witness identification potential. Lighting in parking garages should be placed where the users require the light, over the vehicles and not in the aisles, so the users can see door locks, and inside their vehicles.

3.0 NATURAL ACCESS CONTROL

Natural Access Control means controlling access to a site. This concept increases the perception that people can be seen by others and that there is a clear difference between public and private spaces. It can be achieved by:

- *The use of hedges, planters, decorative fences and landscaping humps will guide users or vehicles to preferred points of entry.*
- *The use of transparent weather vestibules at building entrances to divert persons to reception areas.*

- *The placement of employee work stations in open areas to increase the perception that these locations are being monitored.*
- *The use of maze entrances in public restrooms to decrease the isolation that is produced by an anteroom or double door system for entry.*

3.1 **Site Perimeter**

- Community College campus property lines will be clearly established and defined by the use of signage, naming of streets and marked entry ways. Signs establish ownership and any limits on use.
- Community College campus properties will be designed with primary and secondary securable entry points that can be used to secure the entire location when necessary.
- Set perimeter boundaries by changes in elevation, landscaping or variation in paving or flooring materials. There will be clearly defined boundaries between areas that have joint ownership and may need to be opened for the public when the campus is closed. The design should provide cues about who belongs in a place and what they are allowed to do.
- Define campus borders by a transition in types of trees, lighting equipment, architecture, trash cans and identification of buildings.

3.2 **Building Design**

- Campus master plans need to take into consideration each individual building design and consider allowing the free movement of its users between entrances and exits to the campus.
- Design particular entrances to meet the needs of emergency personnel response, opening and closing procedures, and after-hour users. Needed hardware at this type of entrance are solid doors (no large glass panels), easily unlocked and locked door hardware (night latch style preferred), intrusion system keypad, and lighting system override switch for turning common area lights on. The best location for this type of entry is at the end of a hallway near stairwells, and near most commonly use after-hours parking area and approaches of emergency personnel. Police desire the approach to the building that minimizes risk factors. Grand entries to buildings rarely meet the needs of police, custodial, and after-hours user.
- Provide adequate building identification for all its users, guest, responding public safety personnel such as; police, fire and other emergency and non emergency personnel.
- Building signage must be easy to read from any direction. Signage should always be on contrasting surfaces per district standards. When practical, lettering or numbering should be either reflective or illuminated. Lettering should be at least 24 inches in height.
- Roof signage should be placed at the highest point of its structure in an adequate and visible location for responding airborne law enforcement and fire department units.
- Special considerations will be applied to Child Development Centers (CDC) located on SDCCD properties. Facilities will have easily monitored reception

areas that aid staff with limiting access of unwanted persons. Each building design must provide easily monitored and highly visible play areas for children. Access points should be fenced and locked unless utilized as an exit only emergency door. These gates should be equipped with buzzers to alert staff of the perimeter breech.

- Exterior walls, screening, window sills, fences and architectural features will be designed not to allow footholds or handholds for climbing.

3.3 Lobby/Reception Areas

- SDCCD buildings will be designed with a primary control point or main entry in the lobby between the main entry and all other areas of secure buildings.
- Building will be designed to direct visitors through a single control point at the main entry.
- When applicable, lobbies and reception areas will be staffed with district personal to assist with way finding at the primary control point.
- A staff area or desk adjacent to the main entry and connected to the lobby will also be used to assist visitors or limit access.
- Building maps and signs will be installed on the exterior of the main entry and in the lobby/reception area to assist with way finding.
- Lobbies will be designed to be secured after hours to limit access to the building.

3.4 Elevators

- Elevators will be designed in locations adjacent to heavy pedestrian and vehicle traffic to promote natural surveillance and to deter illegal activity.
- In larger elevators vandal resistant Convex Security Mirrors will be installed in elevator cabs to allow for greater visibility before entry into elevators.
- When possible elevator entrances will be located in areas that can be secured to limit access when the campus is closed.
- When elevator shafts are visible to the public it is recommended that all shaft walls be painted black.

3.5 Stairwells

- Areas under stairwell will be closed to remove hiding places and limit access.
- Interior entry doors to stairwells will be located in monitored lobbies and reception areas.
- Exterior doors to stairwells will be designed to be secured during after hours and when campus is closed. The key system can limit access to specific authorized employees. All doors must be accessible to district facilities, police and fire personnel.

3.6 Doors

- Tamper resistant doors and locks will be installed on all perimeter and interior doors. Classroom doors will be designed with locksets that allow the door to be locked with a key from either side and always opened from inside.

- Exterior doors will be secured with a key system that can limit access to specific employees.

3.7 **Roofs**

- When designing roofs and roof lines no building materials or architectural elements will be installed that provides unauthorized access to roofs.
- Avoid planting trees or placing trellises next to buildings that can be used for climbing.
- Apply smooth finishes or coatings to exterior pipes and columns to limit access to roofs.
- All roof hatches and skylights will be designed with locks to limit the access into the building.
- Glass break and/or burglar alarms will be installed on all roof hatches and sky lights.
- Roof equipment such as air conditioning units, ventilation shafts, utility rooms, telephone and electrical connection boxes should all be secured to limit access.
- Staircases, exterior stair doors, fire escapes, and roof access points should be secured to prevent the use by unauthorized users.

3.8 **Cafeterias/Bookstores**

- Design cafeteria to eliminate traffic-flow conflicts and overcrowding.
- Bookstores will be designed with entrances and/or exits that can be monitored from staff work stations such as cash registers, supervisor's workstations and information counters.
- Cashiers will be located near the exits to assert control over customers that would exit without paying for merchandise.
- Except for buy back or refund windows all exterior windows should have limited openings to prevent access and deter theft.
- Design delivery areas for the bookstore in secure locations. Delivery access doors will be equipped with peep holes or cameras for visual security.

3.9 **Libraries**

- Circulation desks and/or reception areas will be located near main entrance to limit access.
- Design a secured area for audio-visual and computer equipment for authorized users only.

3.10 **Vending Machines/Public Telephones**

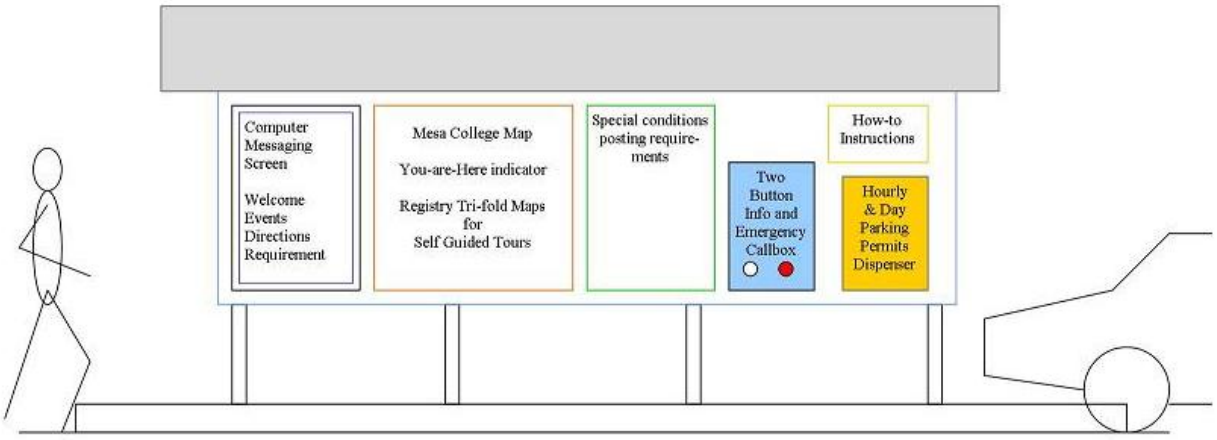
- Design vending machines in areas that can be secured to limit access after school hours or when the campus is closed.
- Public telephones will be designed in open centralized areas.

3.11 **Walls, fences, and gates for perimeter security**

- Install open fencing, i.e., chain link or wrought iron, unless solid walls are needed for privacy or street noise mitigation. Open fencing does not obstruct visibility, is harder to climb, and is less susceptible to graffiti.
- Plant thorny vines along walls to deny access and prevent graffiti.
- Fences, walls, and gates should be at least 6 feet high and have no horizontal elements that a person can use to climb over them.

3.12 **Pedestrian Paths**

- Pedestrian routes will be designed to encourage pedestrian movement through selected or limited entry points. Access control can be combined with natural surveillance; landscaping and other such natural barriers to channel the flow of pedestrian movement in a path of the designers choosing. Using covered walk ways as well as pathways encompassed by gardens can aid in directing public traffic.
- Clear signage with large bold graphics and simple directions should be installed to provide for way finding and access control.
- Post signs along main pedestrian routes for continuity and reinforcement of way-finding.



3.13 **Trash Enclosures**

- Trash enclosures will be designed in locations for maximum usability and function.
- Trash enclosure will not be designed to allow access to roof tops or building entry points.
- Trash bins will be placed in areas which are easily accessible for trash trucks.

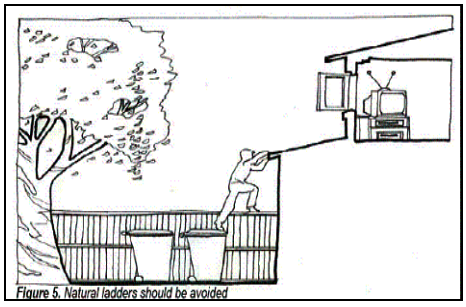
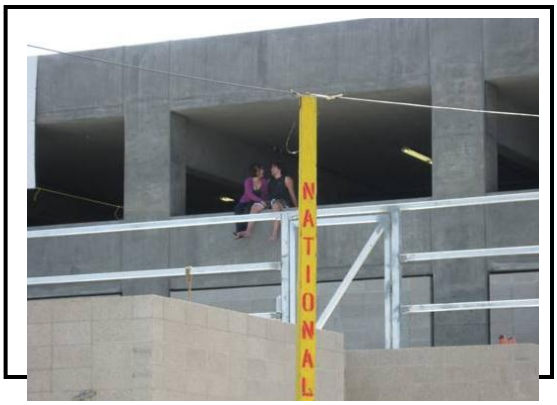


Figure 5. Natural ladders should be avoided

3.14 **Parking Structures**

- Design elevators and stairs both inside and outside a parking structure that will minimize pedestrian and vehicle interaction.
- At vehicle/pedestrian intersections, views will not be blocked by signage, landscaping, walls and steep or angled driveways. Posting space for mandatory lot description, and authority sections will be provided at entrances to parking structure.
- Parking structure elevators shall be placed close to the main entrance with the entire interior in view when the doors are open.
- Speed limits, warning signage, mirrors, and stop signs will be used to avoid accidents.
- 5 miles per hour, posted at all entrances to lots or structures and at each level in a straight section of driveway.
- Directional arrows will need to be painted at the start of each drive path as needed to maintain traffic flow.
- Wall or pole signage indicating motorist path of travel will be consistent with floor markings.
- Speed bumps when possible should be plastic or rubber types that are multicolor and highly visible. They will securely bolt in place. If removed the mounting hardware will be flush and not become a trip hazard. Speed bumps will not be placed within 30 feet of a turn, crosswalk, or limit line, as it could affect motorist control of their vehicle.
- When structures are not in use, all gates, pedestrian doors should be locked.
- Reflective material needs to be positioned on vehicular gates to minimize vehicle/gate collisions.
- External access to parking areas will be restricted to a limited number of controlled entrances.
- Unsupervised vehicle and pedestrian entrances will be designed to be secured during non-use times, yet permit out bound traffic.
- Areas under interior stairs with enclosing walls should be equipped with lights, fire sprinklers, and gates for storage.
- Interior and exterior signage needs to explain to parking users what must be done to recover a car or exit the garage after the garage is secured.
- Crash wall design will deter use of the top surface for risky behavior. The easiest method of solving this issue is by angling the inside edge in at a 45 degree angle limiting the top flat surface to 6 inches. Another method is to place a rail or tension cable on the surface that would make the ledge uncomfortable to sit on.



3.15 **Outdoor parking lots**

- Securable gates that lock open and lock shut shall be installed at each entrance of a parking lot which prevents vehicle access during non-use hours.
- Gates are secured with a Best padlock that is keyed to a district GMP key unless instructed otherwise by police.
- When a gate is closed, a reflective gate closed sign needs to be visible on the gate from the exterior and interior of the lot.
- Promote Natural Barriers:
  1. knee high shrubs
  2. trees that can maintain a canopy that stays over 7 feet
  3. one foot and bigger boulders
  4. open fencing design
  5. curbs and sidewalks
- Design parking lots that reduce opportunities for high-speed activity.
- Where necessary speed humps, speed limits, warning signage, mirrors, painted markings and stop signs will be used to avoid accidents.

4.0 TERRITORIALITY/MANAGEMENT

Territoriality/Management refers to people's sense of ownership. It promotes social control through a variety of means. In CPTED it refers to the development of areas or places where the users feel a strong sense of ownership. It is an umbrella concept, embodying all natural surveillance and access control principles. These objectives may be achieved by incorporating the following:

- *Using a distinct architectural design plan which incorporates landscaping, signage and information, celebrated entry points, and facilities which are unique to the campuses, all can aid in territorial definition. Territorial definition will create a sense of ownership. Clearly defining the territory of the campus allows the students and staff to take a proactive approach to crime prevention and contribute to a safe and secure environment.*
- *Desired users of the campus, who participate in the routine maintenance of the campus's property, increase their proprietary concern through "sweat equity".*
- *Placing amenities, such as seating or vendors, in common areas helps to attract larger numbers of normal or desired users of these areas.*
- *Scheduling activities in common areas increases the proper use, attracts more people and increases the perception that these areas are under control. This makes the normal user feel safe and the potential improper or undesired user feel at greater risk of scrutiny*.

4.1 **Site Design**

- Design and maintain campus to help establish pride and a sense of ownership.
- SDCCD properties shall be designed to encourage activities that promote community ownership and territorial integrity.
- Fencing materials shall be designed to prevent vandalism.

4.2 **Restrooms**

- Vandal resistant materials, fixtures, and hardware will be installed in all SDCCD restrooms and toilet areas.
- Maze entries should replace double door entries, for many reasons: alarming sounds are more apt to be noticed from outside; escaping from predators is much easier; offenders cannot count on the sound of the outer door opening to warn them when an authority figure is entering; cigarette smoke is no longer masked; and as an added benefit, fewer un-sanitized hands have to share the same door knob or plate.
- Full length solid walls will be used between toilet stalls to prevent lewd and criminal activity.
- Design large spaces under doors so users can see if someone is sleeping, in distress or involved in lewd or criminal behavior.
- Tissue holders and napkin dispensers removed from bathroom stalls shall not allow direct access between stalls.

- **TOUCH-LESS and AUTOMATED DEVICES**
  Automated devices reduce the spread of disease and cost by controlling product usage. Touch-less and automated devices include:

  - door openers,
  - toilet flusher,
  - faucets,
  - liquid soap dispensers, hand dryers, paper towel dispensers, and toilet paper dispensers.
  - Particularly on commodes, it is important that the sensor be installed so that it does not prematurely initiate the flush cycles.

4.3 **Parking Structures**

Doors - Gates

- Doors that are exit only will have a keyed release/access from the outside.
- Gates without sensor loops must have signage to direct motorist to gates properly equipped for after hour exiting.
- The after-hours vehicle entrance gate needs a wireless gate controller (Linear MDT-4B wireless remotes and AP-5 wireless receiver) that are consistent with existing District parking structure gate controllers. The antennas need to be out of reach of the closed gate and preferably out of sight.
- The after-hours vehicle entrance gate needs a secondary or backup keypad (Linear AK-11) entry system that opens the garage doors for facilities personnel, employees arriving at work, after hours patrol, and response to police calls. Conduit (3/4”) is required to the keypad.
- Gates auto-closing override switch need to be able to receive a Best Key System core and which is keyed to the District PD-0 key unless directed otherwise by police.

- All exterior gates/doors and surfaces on the first floor to be non-climbable up to 10 feet.
- Entry gates to structures need a height indicator bar. Bar should be located so approaching vehicles have an alternate path of travel when the vehicle exceeds height limit.
- Gates should have a manual opening roll-up mechanism in the event of electrical failure. This mechanism must be capable of being operated by a 120 pound person. All locking switches for gates and perimeter doors, and all manually securing gates to parking structures need to be keyed to work with the standard issued PD-0 key of the Districts Best Key System unless instructed otherwise by police.

Painted markings

- Caltrans painted marking specifications are used in District parking areas.
- All "STAFF", "STAFF / FLEX", "METERED", "VISTOR" and "CARPOOL" parking spaces will be marked at the entry of the space with the 5 inch lettering in all capital letters.

Parking space dimensions

- 9 foot parking space width (center on center).
- It is common that parking lot painters deviate from whatever width they are given.
- There is not a difference in the width of a parking space needed in a structure and in an exterior parking lot.
- Wheel stops should be place 3' away from any solid non-movable object such as post, tension wire and crash walls.

Drive lane width

- 24 foot driving passage, if the parking space depth is 18 feet.
- 20 foot driving passage, if the parking space depth is 20 feet.

Traffic obstructions

- Items near those areas the motorist commonly use while driving, either forward or reverse, shall be painted contrasting or reflective colors to reinforce motorist avoidance.
- All obstructions should be at a height which is visible from the back window of common size vehicles.

Safety devices

- Bollards should be high enough that they can be seen out the back window of a standard vehicle.
- Bollards should be bolted down to an affixed plate. If removed the plate should be flush and not present a trip hazard.
- Bollards should not be placed in entrance areas where light levels are transitioning and bollards are not seen.

- Single color bollards are frequently a problem. Reflective strips often solve this problem if they are a different color.
- The background of a bollard determines the appropriate contrasting color needed.
- Bollards should be placed around transformers, call boxes, and permit dispensers when the possibility of injury could occur due to vehicular traffic.
- Cabling is preferred over interior walls because of improved light, air, sound, and vision permeability.
- For safety reasons Gorilla Posts should be used to guide traffic and prevent illegal parking.

Wheel Stops

- Will be used to protect areas from slow speed collisions into cabling, pipes, and other items needing protection.
- Will not be placed where they will become likely trip hazards.

5.0 TARGET HARDENING

Target Hardening is any concept that makes it more difficult for criminals to succeed in committing criminal acts. Target hardening can be accomplished by implementing the following:

- *Standard lighting around perimeter and interior as needed.*
- *Motion activated non-safety lights.*
- *Video surveillance.*
- *Upgrading hardware on doors.*
- *Alarm systems*
- *Remove landscaping which may conceal criminal acts, used to climb buildings and fences, and remove landscaping materials which could be used as a weapon or as a means to vandalize property.*

5.1 Cameras

- Use safety cameras in parking structures and parking lots, placing them so they are highly visible.
- Each building should be evaluated for video camera installation to monitor campus entries, emergency call boxes, and parking lots.
- Placement of conduit for cameras at a level between 15’ to 20’ in height. Roof line conduits may be required. Camera positioning should cover parking structure entries, elevators, parking permit dispensers and emergency call boxes.
- Safety cameras should be installed in Cafeterias and Bookstores at locations which are directed at entry/exit points and cashier register areas.
- Cameras are Internet Protocol (IP) based and need to be within 280 feet of a telecom room or a switching unit. Special arrangements can be made on a limited basis for high value camera locations beyond the 280 foot length. Conduit for data is needed to the closest telecom room. Conduit for 120 volt will be included to a constant power source for exterior cameras.

5.2 **Lobby Style Reception Areas**

- Reception areas will be designed with territorial boundaries to distinguish between personal space and non-personal space. The intent is to protect the employee from unwanted or unlawful intrusions across boundaries. Types of boundaries vary based on the use of the building and required safety factors.
- Physical boundaries vary from counters, desks, walls with sliding window, bullet proof cashier windows, doors, or gates.
- Perceived boundaries vary from entries that are set back from service areas, by utilizing an easily released chain and or changes in design such as the placement of personal property, pictures, and plants.
- Minimally a phone and computer, and potentially a panic button tied to the intrusion system are required.
- If full time coverage of reception is not possible during hours of operation, securable areas are required. Even with full time coverage a securable cabinet or safe is required.

5.3 **Building Design**

- Exterior building doors will be secured electronically or manually by use of a key system. Only authorized employees should have access through secured perimeter.
- First floor windows will not open or will only have limited openings to prevent unauthorized access.
- Exterior corridor, hallway, and stairwell doors will be designed with a key system that can allow access to specific employees.
- Classrooms will be designed to be locked quickly by faculty who possess a key from inside the classrooms during an emergency situation.

5.4 **Parking Facilities Electronics:**

- Many of these parking structures or parking lots require enough data / signal wiring in them to justify a passage way for the grouping of wiring as they travel between floors and across lots. In parking structures a system of gang boxes meet the following needs:

    1. Containing a data switch,
    2. Contain a transformers for DC power
    3. Works as a junction box for wiring on a certain level of the structure and as a path for wires to other levels.

- Signal wiring is for theft detection sensors, phones, call boxes, Wide-area Emergency Broadway System (WEBS), hardware, cameras, permit machine data transfer, and interactive signage. Signal wiring such as Heliax cabling for bidirectional antennas must not be used in this pathway.

  Similar wiring systems can be used in parking lots. Conduit is a minimum of 1 1/4” in ground. With underground runs for larger groupings of data/signal wiring

4" conduits may be required. Conduit in concrete must be rigid enough to resist collapsing while concrete is being poured around it.

5.5 Call Boxes

- Easily identifiable emergency call boxes will be installed in areas of high concentration of users and parking areas on SDCCD properties.
- District call boxes are Talk-a-Phone products and have the operating panel ETP-400D. The emergency buttons are set to call SDCCD Police Dispatch on an unpublished phone number. The information buttons are set to call the local campus operator.
- Open areas use a Talk-a-Phone tower system. It is painted "Safety Blue" with "CALL BOX" on each side in white reflective letters.
- Parking garages use the Talk-a-Phone wall mounted system (EPT-WM). It is stainless steel with black lettering with the word "CALL BOX" on both sides.
- The conduits for the phone lines run to a telecom room. A power conduit is required for power from a dedicated circuit.

5.6 Emergency Broadcasts

- Emergency broadcasts are through an amplified speaker placed in specific areas such as parking structures or in open areas of the campus using the Wide-area Emergency Broadway System (WEBS). The controller(s) for these products are installed in the telecom rooms.

5.7 Parking Permit Machines

- Permit machines are used in parking lots for one day users who do not use an issued District parking permit. The machine is a Ventek M400 pay station. Conduit for 120 volt will be provided from a constant source. Conduit for data/signal will be included to a telecom room. This data conduit will also provide a path for a tamper alarm sensor wire to an intrusion alarm system.

- Metered spaces are controlled by the Duncan VS Pay-by-Space Meter. Conduit for 120 volt will be provided from a constant source. Conduit for data/signal will be included to a telecom room. Signage needs to limit usage to a set length of time and to none student users.

5.8 Alarm Systems

- Hold up alarms will be installed at cash register stations.
- Classroom will be designed with burglary alarm, projector alarms and call boxes (when applicable), to SDCCD Police Dispatch.
- Glass break alarms will be installed on lower exterior windows. Motion and burglary alarms will be installed in corridors and hallways. (when applicable)

5.9 Signage

- Tamper resistant hardware, i.e. anchoring bolts, brackets and banding.
- Place signage at a height which would reduce vandalism and theft.
- Signage posts are pined into a ground sleeve.

- All signage is approved through District Parking Supervisor.

5.10 **Windows and Doors**

- Provide two-way visibility in areas open to the public.
- Provide one-way visibility from inside to outside in areas not open to the public. Use mirrored glass or see-through curtains to maintain inside privacy, and glare-proof glass to enable occupants of a lighted building to see out at night.
- Install peepholes in doors to view people seeking to enter secure areas.

5.11 **Landscaping**

- Plant trees and bushes away from light fixtures so they do not block illumination on the ground.
- Don't plant anything along pedestrian paths that a person could hide in or behind.
- Grade land where practical without substantially altering the natural terrain to provide unobstructed sight lines within the developed area and from adjacent streets and areas.
- Locate trees to avoid providing access to roof.

5.12 **Maintenance**

- Design school facilities which can be affordably maintained and used. Both use and maintenance are necessary for a safe environment.
- Design features and use materials that cannot easily be vandalized, stolen, or used to damage the property, e.g., don't use loose rocks.
- Graffiti-resistant paint or anti-graffiti coatings on walls, benches, light poles, signs, etc.
- Screens, wired glass, or other protection for light fixtures and bulbs.
- Shiny aluminum or shatter-resistant glass for mirrors.
- Protective film on the outside of windows to prevent window damage from graffiti, knife gouging or scratching, and acid etching.
- Materials such as, decorative landscaping rocks, that can be easily picked up or thrown shall be avoided to prevent vandalism and civil liability. It is our recommendation that all 1" – 9" hand size rocks be removed and replaced with pea gravel.

5.13 **Prevent skateboarding**

- Roughen pavement surfaces or plant grass in front of benches, planter boxes, low walls, steps, and railings.
- Plant trees at ground level and not in raised planter boxes.
- Shape the edges of seat benches and low walls.
- Install arm rests or seat dividers on flat seating surfaces.
- Design low walls, curbs, railings, and planter boxes with breaks, bumps, or height differentials.
- Install circular picnic tables and curved benches instead of rectangular tables and straight smooth benches on concrete paving.

- Anti-skateboarding devices will be installed in courtyards and patios to prevent vandalism. Anti-skating devices could be uneven hand rails, segmented benches and angle irons attached to the edges of surfaces.

Example of anti-skateboarding bench