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QUICKNOTES

COMMUNITY CPTED

How a community is built, rebuilt, maintained, and managed contributes to its safety and vitality by directly influencing personal behavior. Community Crime Prevention Through Environmental Design or CPTED (pronounced “sep-ted”) is a multidisciplinary and collaborative design approach (between planners, law enforcement, engineers, designers, code enforcement, and community stakeholders) intended to foster positive social interactions and deter criminal behavior within communities. Proponents of CPTED argue that proper design, use, and management of the built environment leads to a reduction in the incidence and fear of crime, while improving community vitality and overall quality of life.

HOW CPTED DIFFERS FROM TRADITIONAL CRIME PREVENTION

Both traditional crime prevention and CPTED share goals of anticipating and preventing injury and loss by initiating actions to remove or reduce risk. Traditional crime prevention, led by law enforcement, tends to focus on organized and mechanical strategies to prevent crime, such as neighborhood watch groups and security equipment. Conversely, CPTED focuses on incorporating “natural” or “passive” strategies that rely upon elements such as lighting, sightlines, entry design, landscaping, and planned social activities into the normal planning, design, and management activities of the built environment.

COMMUNITY CPTED PRINCIPLES

Below are 10 key principles and associated strategies communities should consider when applying the CPTED framework to the design, development, redevelopment, and maintenance of buildings and community spaces. These principles and strategies are most beneficial when used in combination.

1. **Natural Surveillance**—*the design and placement of physical features to maximize visibility and surveillance.* Key strategies include the design, placement, and lighting of doors, windows, walkways, gathering areas, roadways, and structures. The objectives are to eliminate hiding places and increase the perception of human presence or supervision.
2. **Natural Access Management**—*the physical guidance of people and vehicles.* Key strategies include the use of real or perceived barriers such as fencing or plantings, and other wayfinding elements such as lighting, signage, and artwork. The objectives are to provide orientation and a pedestrian-friendly environment and to discourage would-be offenders by making noncompliance obvious.
3. **Territorial Reinforcement**—*the use of physical attributes to delineate space and express a positive sense of ownership.* Key strategies include the use of art, signs, landscaping, and boundary treatments as well as the orientation and strategic placement of buildings. The objectives are to define borders, express ownership, and communicate a space is cared for and protected.
4. **Physical Maintenance**—*the repair, replacement, and general upkeep of a space, building, or area.* Key strategies include the use of low-maintenance landscaping and architectural materials, trash collection and removal, and other programs to maintain a clean and orderly environment. The objective is to allow for the continued use of a space for its intended purpose.
5. **Order Maintenance**—*the attention to minor violations and reduction of opportunities for inappropriate behavior.* Key strategies include posting rules and expectations, using graffiti- and vandalism-resistant materials, and imposing quick, fair, and consistent consequences for violations. The objectives are to foster safe, orderly, and predictable behaviors.
6. **Activity Support**—*the planning and placement of safe activities.* Key strategies include sidewalk and street level activities, such as markets, fairs, and festivals, in key community areas. The objective is to increase the number of people using a space, thereby enhancing visibility, social comfort and control.



An infill affordable housing project in Fullerton, California, demonstrates several CPTED principles including natural surveillance. People on the pathway can be seen from the door as well as multiple windows. (Photo taken by Sherry Carter.)



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7. Social Capital—the social trust, norms, and networks people draw upon to solve common problems, foster civic engagement, and discourage inappropriate behaviors. Key strategies include designated gathering areas, social events, community programs, and communication protocols or equipment. The objective is to encourage communication, trust, and collaboration among stakeholders and also with the governmental agencies that serve them.
8. Land Use and Community Design—the distribution, location, and amount of land for various uses; their density and intensity; and the design elements, strategies, and overall character of a planning area. Key strategies include team training for professionals involved in planning and development activities, solicitation of community public safety concerns and collaboration in problem solving, and incorporation of CPTED principles into planning processes. The objectives are to create, or recreate, and manage built environments in a manner that includes considerations for public safety.
9. Target Hardening—the making of potential targets resistant to criminal attack. Key strategies include the reinforcement of entry and exit features, law enforcement or security presence, and security devices such as locks, alarms, and cameras. The objectives are to increase the efforts that offenders must expend and the risk of their being identified or apprehended in committing an offense.
10. Natural Imperatives—ensuring access to necessary goods and services including natural light, clean air and water, healthy foods, physical activity, employment, and housing. Key strategies include pedestrian amenities, public parks, accessible transit systems, quality food sources, and education and employment opportunities. The objective is to promote healthy behaviors and reduce mental fatigue and associated risky behaviors by meeting the biological, social, and economic needs of the population.

COMMUNITY CPTED APPLIED

CPTED principles provide a common language to help government staff work with the community to identify and respond to multiple issues affecting the well-being of neighborhoods, downtowns, schools, parks, transit centers, and other areas of public use. CPTED can be implemented through a number of plans, programs, and polices, including area and comprehensive plans, land development regulations and guidelines, review and approval processes, and capital improvement plans. CPTED has been most successful in communities where government employees train as a team, collaborate with the public through workshops and community assessments, and address public safety in conjunction with related efforts such as economic development, neighborhood and business revitalization, capital improvements, and public health.

MULTIPLE BENEFITS

In addition to reducing the incidence and fear of crime, the implementation of a CPTED program provides a number of additional benefits. It contributes to more efficient and effective use of staff and monetary resources, improves community and government relations, improves public perceptions, and encourages increased social and economic investments in targeted areas. CPTED can also increase activity and camaraderie among residents and visitors by increasing the number of people utilizing the public realm and by providing safe access to goods, services, jobs, and schools.

CONCLUSION

CPTED is a framework that should be incorporated during the planning, design, and development of the built environment to improve quality of life and increase livability. Incorporating the principles and strategies described above can reduce incidence and fear of crime as well as provide many secondary benefits. Communities seeking to utilize the CPTED framework should involve a variety of stakeholders, incorporate principles and strategies into multiple projects and programs, and seek to address public safety in relation to other community goals and priorities.

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CPTED resources and CPTED in U.S. cities and counties are available at Carter & Carter Resources, www.cccpted.com/index.php/resources.

Line of Sight/Natural Surveillance:

- Stairwells and elevator lobbies should be of open design whenever structurally possible.
- It is highly desirable to design elevator shafts and cabs to be transparent, making occupants of the cab visible from the outside.
- Convex mirrors should be installed in elevator cabs and at stairwell landings.
- Trash enclosures should be located at the perimeter of the parking lot, not adjacent to buildings.
- Other line of sight obstructions (including recessed doorways, alcoves, etc.) should be avoided on building exterior walls, and interior hallways.

Parking Structure:

- The interior of the structure should be painted a light, highly reflective color.
- Metal halide or other bright white light source should be utilized. No dark areas should exist inside the structure.
- Alcoves and other visual obstructions that might constitute a hiding place should be eliminated whenever structurally possible. Pillars, columns and other open construction should be utilized over a solid wall design.
- Whenever possible, stairwells should be of open design. When, by necessity, a stairwell is enclosed, convex mirrors should be placed at each stairwell landing, and the stairwell doors should employ as much transparent material as fire code allows.
- Convex mirrors should be placed inside elevator cabs.
- Bars or grating should be utilized to impede pedestrian access to the structure from ground-level openings.
- Access control should be utilized for vehicular and pedestrian traffic.
- Clearly marked, hands-free emergency phones/panic alarms should be placed throughout the structure.
- No trespassing/loitering signage should be placed at entrances and other appropriate locations.
- CCTV surveillance should be utilized throughout the structure.

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DEPARTMENT OF PUBLIC SAFETY
POLICE SERVICES DIVISION**

Park Project Security Recommendations

Lighting:

- Adequate lighting of parking lots and associated carports, driveways, circulation areas, aisles, passageways and recesses. Grounds contiguous to buildings shall be provided with white lighting which provides adequate color rendering and adequate foot candle coverage, while minimizing light trespass and light pollution; examples would be metal halide and/or LED bulbs. Such lighting should be of sufficient wattage to provide adequate illumination to make visible the presence of any person or about the premises during the hours of darkness. Lighting should provide a safe, secure environment for all persons, property and vehicles on site.

Landscaping/Natural Surveillance:

- Landscaping shall be of the type and situated in locations to maximize observation while providing the desired degree of aesthetics. Security planting materials (also known as hostile vegetation; for example, bougainvillea) are encouraged along fence and property lines and under vulnerable windows. A landscape maintenance program should be in place to ensure the vegetation does not become overgrown. The “2 foot-6 foot” rule should be utilized for proper maintenance of vegetation.

Signage/Parking Lot:

- Readily legible signage should clearly indicate park hours and rules (such as no alcohol, etc.)
- Vehicular access should be controlled by means of a fence, chain or gate during the hours the park is closed.

Fencing/Barriers:

- Whenever possible, open fencing design such as wrought iron or chain-link should be utilized in order to maximize natural surveillance while establishing territoriality.
- Emergency vehicles should have access to the grounds.

Security Systems:

- A clearly marked, hands-free emergency phone/call box should be placed in an easily accessible location of the park.

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Parking Structure Security Recommendations

- The interior of the structure should be painted a light, highly reflective color.
- Metal halide or other bright white light source should be utilized. No dark areas should exist inside the structure.
- Alcoves and other visual obstructions that might constitute a hiding place should be eliminated whenever structurally possible. Pillars, columns and other open construction should be utilized over a solid wall design.
- Whenever possible, stairwells should be of open design. When, by necessity, a stairwell is enclosed, convex mirrors should be placed at each stairwell landing, and the stairwell doors should employ as much transparent material as fire code allows.
- Convex mirrors should be placed inside elevator cabs.
- Marked parking spaces for company presidents/CEOs, etc. should be eliminated for safety reasons.
- Bars or grating should be utilized to impeded pedestrian access to the structure from ground-level openings.
- Access control should be utilized for vehicular and pedestrian traffic.
- Clearly marked, hands-free emergency phones/panic alarms should be placed throughout the structure.
- No trespassing/loitering signage should be placed at entrances and other appropriate locations.
- CCTV surveillance should be utilized throughout the structure.

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Residential Project Security Recommendations

Security Systems:

- Silent and/or audible security alarm recommended.
- Awareness of False Alarm Ordinance.
- If an alarm system is installed, its use must comply with the policies of the Department of Public Safety. The City of Sunnyvale has a burglar alarm ordinance. For more information about the alarm ordinance, contact the Alarm Permit Coordinator at (408) 730-7117. Audible devices must be designed to reset after no more than 10 minutes. Commercial establishments must provide alarm company and responsible party listings.

Lighting:

- Adequate lighting of parking lots and associated carports, driveways, circulation areas, aisles, passageways and recesses. Grounds contiguous to buildings shall be provided with white lighting which provides adequate color rendering and adequate foot candle coverage, while minimizing light trespass and light pollution; examples would be metal halide and/or LED bulbs. Such lighting should be of sufficient wattage to provide adequate illumination to make visible the presence of any person or about the premises during the hours of darkness. Lighting should provide a safe, secure environment for all persons, property and vehicles on site.

Landscaping:

- Landscaping shall be of the type and situated in locations to maximize observation while providing the desired degree of aesthetics. Security planting materials (also known as hostile vegetation; for example, bougainvillea) are encouraged along fence and property lines and under vulnerable windows. A landscape maintenance program should be in place to ensure the vegetation does not become overgrown. The “2 foot-6 foot” rule should be utilized for proper maintenance of vegetation.

Address Numbers:

- Addresses should be clearly marked and visible from the street.

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School/Church Project Security Recommendations

Comments specific to your project can be found on the PRC general comments sheet. Implementation of the applicable items can help to increase security at this location. Please call (408) 730-7140 with any questions.

Security Systems:

- Silent or audible alarm system to be installed.
- Panic alarms and /or emergency phones with outside lines shall be installed in each room
- CCTV security cameras are recommended, covering the building perimeter.
- If an alarm system is installed, its use must comply with the policies of the Department of Public Safety. The City of Sunnyvale has a burglar alarm ordinance. For more information about the alarm ordinance, contact the Alarm Permit Coordinator at (408) 730-7117. Audible devices must be designed to reset after no more than 10 minutes. Commercial establishments must provide alarm company and responsible party listings.

Addressing:

- Address numbers shall be illuminated during the hours of darkness and positioned so as to be readily readable from the street. Numbers that are a minimum height of 12” recommended.

Doors:

- Adequate security hardware, such as deadbolt locks, should be installed. All glass doors shall be secured with a dead bolt.
- Dead bolt locks shall be of the type whose deadbolt and deadlocking latch can be retracted by a single action of the inside door knob-lever/turnpiece.
- Overhead roll-up doors shall be secured from the inside by a cylinder lock or padlock, which cannot be defeated from outside the door.

Windows:

- Louvered windows shall not be used.
- Large display-type windows and any window accessible from the side and rear, but not visible from the street shall consist of rated burglary-resistant glazing or its equivalent. The “lock wrap” type that attaches to the window frame is recommended.

Roof Tops and Openings:

- One of the following shall be utilized on all skylights:
 - Rated burglary-resistant glass or acrylic material

- Iron bars of at least one half-inch diameter or flat steel bars of at least one quarter-inch width, spaced no more than five inches apart under the skylight and securely fastened
- Grill of at least one eight-inch steel and two-inch mesh
- All hatchway openings on the roof of any building shall be secured as follows: if the hatchway is wooden, it shall be covered on the outside with at least 16 gauge sheet steel or its equivalent, attached in a manner making removal difficult. The hatchway shall be secured from the inside with a slide bar or slide bolts. Only a crossbar or padlock provided by the fire marshal shall be used. Outside pin-type hinges on all hatchway openings shall have non-removable pins.
- All air duct or air vent openings exceeding 8"X12" on the rooftop or exterior walls of any building shall be secured by means of:
 - Iron bars of at least one half-inch diameter or flat steel bars of at least one quarter-inch width, spaced no more than five inches and securely fastened
 - Grill of at least one eight-inch steel and two-inch mesh
 - If the barrier is on the outside, it shall be secured with galvanized rounded-head, flush bolts of at least 3/8" diameter.

Lighting:

- Monument signs shall be well-lighted during hours of darkness.
- Interior night-lights shall be used during hours of darkness when school is closed.
- Adequate lighting of parking lots and associated carports, driveways, circulation areas, aisles, passageways and recesses. Grounds contiguous to buildings shall be provided with white lighting which provides adequate color rendering and adequate foot candle coverage, while minimizing light trespass and light pollution; examples would be metal halide and/or LED bulbs. Such lighting should be of sufficient wattage to provide adequate illumination to make visible the presence of any person or about the premises during the hours of darkness. Lighting should provide a safe, secure environment for all persons, property and vehicles on site.
- All exterior doors shall have their own light source which will adequately illuminate entry/exit areas at all hours in order to:
 - Make any person on the premises clearly visible
 - Provide adequate illumination for persons entering and exiting the building.

Landscaping:

- Landscaping shall be of the type and situated in locations to maximize observation while providing the desired degree of aesthetics. Security planting materials (also known as hostile vegetation; for example, bougainvillea) are encouraged along fence and property lines and under vulnerable windows. A landscape maintenance program should be in place to ensure the vegetation does not become overgrown. The "2 foot-6 foot" rule should be utilized for proper maintenance of vegetation.

Line of Sight Surveillance:

- Stairwells and elevator lobbies should be of open design whenever structurally possible.

- It is highly desirable to design an elevator shaft and cab to be transparent, making occupants of the cab visible from the outside.
- Convex mirrors should be installed in elevator cabs and at stairwell landings
- Trash enclosures should be located at the perimeter of the parking lot, not adjacent to buildings
- Other line of sight obstructions (including recessed doorways, alcoves, etc.) should be avoided on building exterior walls and interior hallways.

Signage/Parking Lot:

- Compact parking spaces shall be clearly marked on the pavement
- Specially marked parking spaces for school administrators, staff, etc., should be eliminated.