

# CPTED Crime Prevention Through Environmental Design MANUAL

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CONNECTICUT  
HOUSING FINANCE  
AUTHORITY

*The Key To Affordable Housing*

## INTRODUCTION

The Connecticut Housing Finance Authority (CHFA), consistent with the tenets of its Vision Statement, maintains a commitment to providing safe housing throughout the portfolio. To that end, our housing authority partners continue to be an essential component in ensuring that properties are maintained in a manner promoting a commitment to safety and security and ensuring that they remain an attractive place to live.

Crime Prevention Through Environmental Design, more commonly referred to by the acronym 'CPTED' (sep-ted) is a decades old project design concept with proven results in the housing industry. It is a collaborative process that includes relevant stakeholders to a specific project; owners, architects, engineers, planning and land use boards, law enforcement officials, security professionals, and citizens, all working together to ensure that the built environment maximizes desirable use of the property while simultaneously impeding potential undesirable use and opportunities for criminal activity. While CPTED is often included as a critical component of project design, it provides value when applied to the normal maintenance routines of existing housing. CHFA is pleased to provide this reference guide to provide an additional tool to local housing authorities, executive directors, and property managers to use in formulating maintenance plans that enhance the level of security and perception of safety for your residents and staff.

CHFA intends this guide as a resource only. CHFA assumes no liability for any use of this guide beyond its purpose as a reference guide only. CHFA makes no representations that the use of this guide will reduce or eliminate crime or undesirable activity. Users of this guide should ensure that any actions taken do not conflict with applicable laws, codes, ordinances or legal agreements governing property use, modifications, or maintenance.

Your local law enforcement agency may be able to assist in answering questions regarding security at a particular site.

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## Part 1: Introduction

CPTED, while not in extensive use in Connecticut, has been in use elsewhere in the United States for decades. The fundamental tenet of CPTED is that project architecture, design, and maintenance can influence crime and behavior.

At its core, CPTED has four key components – natural surveillance; territoriality; access control; and maintenance. Each of these four components works collectively to encourage desirable activity and a sense of responsibility and ownership among staff and residents. At the same time, and just as importantly, CPTED helps discourage undesirable uses of your property by increasing the likelihood that persons will be seen on the property, day or night. Persons seeking to engage in undesirable activity will often seek out areas of concealment, areas of darkness, and areas of opportunity in which to comfortably go about activities detrimental to the safety and security of your residents. Elimination of safe havens for undesirable activity increases the level of discomfort for illegitimate users of the property while increasing the perception of safety among legitimate and lawful occupants of the property. This guide will provide a brief overview of CPTED so that you, your maintenance staff and maintenance providers will see how normal maintenance impacts security and perceptions of safety.

## Part 2: CPTED's four key components within the context of a maintenance routine

### 2.1 NATURAL SURVEILLANCE

Is the ability of persons to see and be seen without the assistance of technology, such as security cameras and monitors. Things that diminish this ability should be avoided or minimized.

#### General Landscaping

- Trimming ornamental plantings below first floor window level increases a resident's ability to see what is going on outside and decreases opportunity for forced entry from a place of concealment.



*This property is undergoing extensive renovation but does provide a good illustration of an overgrown ornamental almost completely obstructing the window on the right of this unit. CHFA Photo*

- Similarly, ensuring trees on the property have a clear vertical clearance of at least six feet from ground level eliminates a potential area of concealment.



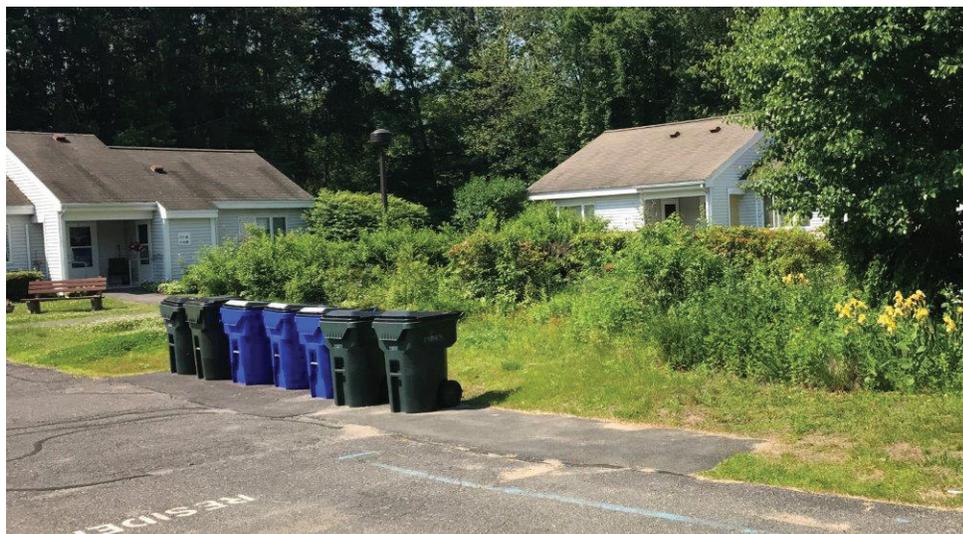
*Note the high vertical clearance afforded by this tree work done by the Wallingford Housing Authority. This provides good sight lines and minimizes opportunities for concealment. CHFA photo*

- Overgrown trees of any type that appreciably diminish the ability of residents to monitor exterior activity from their residence should be trimmed. Trees that block or diminish security lighting should also be trimmed.



*The effectiveness of this light fixture has been seriously compromised by an overgrowth of tree branches surrounding the fixture. CHFA photo*

- Vegetation near entryways and corners of buildings should be trimmed to provide clear lines of sight, eliminate concealment, and enhance the comfort level of legitimate users.
  - Residents walking to and from parking areas, mail areas, laundry areas, or common areas should have a clear field of vision unobstructed by vegetation that may offer concealment and lessen the perception of safety.



*The height of vegetation and ornamentals here might be viewed as desirable screening but seriously compromises sight lines both to and from the nearby units and provides an extensive area of concealment. CHFA photo*

- Large or tall planted areas that diminish visibility in common areas should be reduced in scale or height to increase visibility.
- Certain types of vegetation may offer security advantages, as well. The use of a thorny vegetation screen can discourage trespass or the property being used as a “shortcut.”

## Lighting

- Maintaining lighting in an operable condition, appropriate for the intended purpose, is essential.
- Lighting in common areas, both interior and exterior, should be photocell activated and should provide sufficient light to avoid shadows and afford a person the ability to identify the facial features of a person from a distance of thirty feet.
  - This should not translate into a sense that “brighter is better.” Too much light can be harsh, offensive to the eyes, contribute to “light pollution,” and may in fact afford an area of concealment for persons behind the light. Advances in lighting technology, including LEDs, can provide a more natural lighting, minimizing shadows, with the added benefit of better energy efficiency and longer service life.
- **A cautionary note:** when replacing existing bulbs or fixtures to increase or improve lighting, be aware that light bulbs come in different “colors” or “temperatures” of white. Installing the wrong kind of bulbs may result in residents complaining that the lights “make this place look like an operating room!” or similar. So it may be worthwhile to evaluate different colors of lighting and gauging resident feedback while observing the overall effectiveness of the lighting, (i.e., is it doing what I want it to do?) prior to conducting a large scale replacement of bulbs or fixtures.



*This light fixture will project light skyward, contributing to light pollution and light trespass. CHFA Photo*



*This light fixture at a North Haven HA site provides directed lighting to a specific area, limiting potential light pollution or light trespass. CHFA Photo*

- Lighting over entryways should not be so bright as to blind a person approaching the door and should at a minimum allow an interior occupant using a peephole\* to see and identify a person on the exterior within the full field of vision afforded by the peephole.  
*\*Peepholes, new or replacement should be of the “wide angle” variety.*
- Lighting should be installed with appropriate hoods or caps so that lighting is focused downward and evenly illuminates a specific area. Avoid lighting that causes light trespass onto neighboring properties or lighting projecting skyward.
- Lighting installed in isolated areas not intended to be occupied at night may be protected by lighting activated by motion sensors – the activation of a motion sensor light may startle a trespasser, causing them to leave, and may draw the attention of residents who observe the light activate.
- Ensure compliance with any local regulation or ordinance regarding lighting type and placement.

### **Amenities**

- When planning the addition of or reviewing the placement of amenities, such as playground equipment, mail areas, community gardens, gazebos and the like, consider placing these in common areas where residents and users can observe activity on the property.
- Proper placement, while affording enhanced visibility, can encourage higher levels of use into early evening and will enhance security and can foster resident engagement and an increased sense of responsibility to the property. For safety, playgrounds should not be located adjacent to parking areas, streets, or driveways.

## 2.2 Territoriality

Alternatively referred to as territorial reinforcement, is a cue that signals a transition from public to “owned” space. Persons entering should know that they have entered “our property.” These cues can consist of pavement treatments, sidewalks, signage, fences, and objects or landscaping. Persons entering the property would know that they were no longer on public space and had entered onto property cared for by others, where undesirable activity would likely be observed.

- Signage should be prominently displayed and easily legible.



- Graffiti should be immediately removed.
  - Consider using graffiti resistant finishes on surfaces plagued by graffiti. It will be more expensive initially, but removal of graffiti will be more easily accomplished at a lower cost.
- Vegetation and plantings should be maintained.
- The transition onto a maintained property should be apparent to anyone entering.
- Pedestrian paths should be maintained as such, and the placement of large planters, boulders, or bollards will discourage intentional or unintentional use by vehicles – it is always important to ensure that these paths are not required for emergency vehicle access.

## 2.3 Access Control

Can consist of fences, doors, signage, gates, bollards, planters and the like positioned to effectively guide users in navigating about the property in a proscribed manner while simultaneously discouraging or preventing undesirable encroachment.

- Users of the property should not be confused in attempting to safely navigate the property. Unit numbers and wayfinding signage should be prominent and clearly legible. Emergency responders should be able to quickly locate building and unit numbers. Signage displaying property rules, towing policies, and the like, if necessary, should be prominently placed and clearly legible.
- Building and unit numbers should be consistently located and easily read. Check to ensure compliance with any local ordinance or regulation pertaining to numbering requirements. If there are no local requirements, the use of non-reflective characters no less than five inches in height is generally within industry standards. Proper markings will assist emergency responders and outside maintenance contractors in rapidly locating units.



*This signage used by the Middlefield HA clearly displays the building number and units in that building. CHFA Photo*



*This wayfinding signage used by the Derby HA can assist First Responders in locating a unit in an emergency. CHFA Photo*

## Fencing and Walls

- Fencing is a commonly used method of access control. Using the proper kind of fencing assists not only in access control, but as a means of identifying a property as “owned” space.
- Chain link fences may be cost effective to install, but it is also very easy to climb over or scale.
- In certain applications, aluminum or other metal vertical fencing may provide an enhanced visual cue to an owned space and be more difficult to scale.
- Chain link, though, may be a better option in securing the perimeter of individual spaces, such as playgrounds, (preventing small children, balls, etc. from easily leaving the space) or yard areas assigned to particular units.
- While opaque or solid fencing may have certain applications in screening or security a perimeter, it does not allow a person on either side to see through it so its use should be weighed carefully.
- Walls may provide clearly defined property boundaries, but there are things to consider.
- Walls should not be of a height that affords easy concealment.
- Low walls may become an attractive place to sit, which may or may not be desirable.
- Sturdy, low picket type fences provide definition and do not provide seating as a low wall might.



*This wrought iron style fence may be more difficult to scale than a chain link fence.*

## Doors

- Doors found propped open should be immediately secured and residents reminded of the risks associated with unsecured doors.
- Exterior hardware should be removed from doors intended as egress only to lessen the likelihood of trespass or undesirable use.
- When replacement is required, doors should be of sufficient construction, coupled to appropriate hardware, to meet the intended use. The more critical the door is for security, the more inherent should be its ability to withstand attempts at forcible entry.
- Deadbolt assemblies on security doors should be equipped with a minimum 1”inch throw and the striker plate secured with minimum 3” screws into a wood frame.
- It is important to understand that the longer it takes a criminal to force entry, or the more noise he or she makes while forcing entry, or by making them bring tools that aren’t easily concealed, lessens the likelihood of forced entry. So an up-front investment in a good door coupled to good hardware will likely be a good investment.

## 2.4 Maintenance

Maintenance of a property in a manner consistent with CPTED need not add cost or time to normal maintenance routines. Each and every member of the HA staff, regardless of assignment, should be reporting damage to property. Vacant units should be checked on a frequent basis for security. Things that will carry a cost, such as lighting fixtures and fencing, can be phased in as older fixtures reach the end of their service life or fail. An executive director or maintenance staff with an understanding of CPTED will likely identify other opportunities for security enhancements at their own property. Your ongoing commitment to maintenance bolsters a resident's sense of responsibility, maintains a perception of safety and is a visible sign to all that a property is cared for.



*The East Hampton Housing Authority has posted its dumpster enclosures with clearly worded signage. CHFA Photo*

- Normal grounds maintenance should include loose trash and debris collection. Trash receptacles and dumpsters should be emptied prior to overflowing and properly secured to prevent access to animals and vermin. Proper signage can discourage unauthorized dumping of trash.

*\*While not directly related to CPTED, emergency generator power can play a critical role in security during power outages. While standby generators can represent a significant expense out of reach for some HA's, the installation of a receptacle and transfer switch (see below) to accommodate a portable generator for emergency power can be a safe and more economical alternative to provide power on a limited scale. Consult with a licensed electrical contractor for further information.*



*These photos depict professionally installed components to accommodate a portable generator in an office area and community building owned by the Wethersfield Housing Authority. CHFA photo*

