




# PREVENTING CRIME WITH **ENVIRONMENTAL DESIGN:** STRATEGIES FOR LANDSCAPE ARCHITECTS

ASLA URBAN DESIGN PPN WEBINAR  
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A dark, atmospheric photograph of a park at night. In the center background, a large, illuminated sculpture of a person's face is visible. The scene is dimly lit, with some light reflecting off the sculpture and the surrounding foliage. The overall mood is mysterious and contemplative.

# UNDERSTANDING SAFETY: REAL + PERCEIVED

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# HOW SAFE IS PUBLIC SPACE?

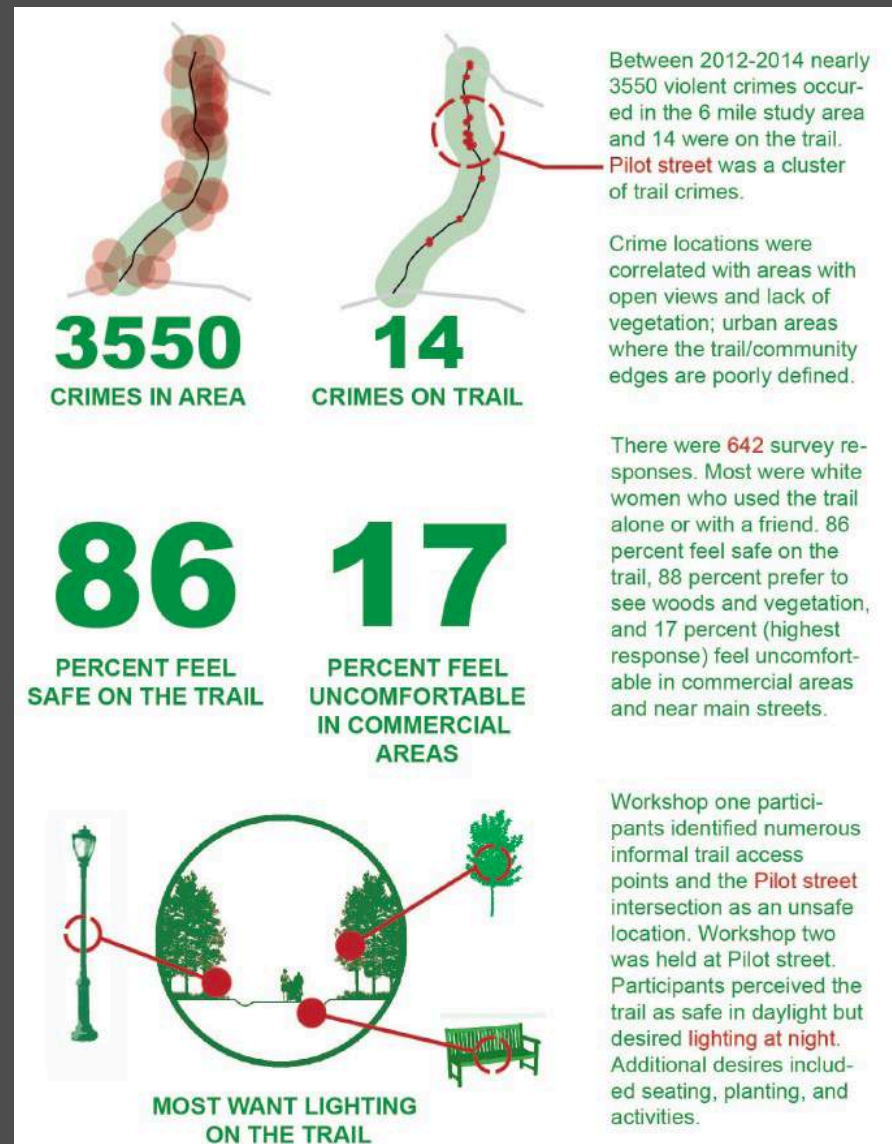


- » Trails, parks, and public space do not generate crime, but these areas are not immune to crime and asocial behavior
- » News reports about incidents is not a substitute for data-based studies
- » Many existing studies rely on perception of crime instead of actual crime data
- » There tends to be a gradient of increasing crime in more populated areas
- » Rarely does a single study encapsulate both the subjective and objective results of crime in parks and trails



# FIGHTING SAFETY PERCEPTION

## Social Justice as it Pertains to Safety on the American Tobacco Trail



- » Fighting perception of crime is the hardest part in designing for active communities.
- » Trails, parks, and public space are not immune to crime but they are community focal points.
- » Perception must be fought before and after projects are built.



# FIGHTING SAFETY PERCEPTION

- » Only **3% of the 372 trails studied** in the RTC study reported any type of major crime.
- » FBI study of 36 Urban Trails surveyed covering 332 miles with 5 million estimated users: rates of crimes were in the **tenths to hundredths of a percent when compared to general urban area crime**.
- » Vancouver Engineering Services Department conducted a comprehensive analysis of bicycle paths: “Incidents of **break and enter appear to be more closely linked with adjacent land use, density and demographics**, than the presence of a bike route.”
- » Buncombe County Greenways and Trails Master Plan, Connect Buncombe (2012) - “The data suggest that greenway-adjacent properties do not incur greater risk of crime than other properties within the same neighborhood statistical area.  
**On the contrary greenway-adjacent properties had lower crimes rates 75% of the time.”**

## RAIL-TRAILS AND SAFE COMMUNITIES



THE EXPERIENCE  
ON 372 TRAILS





UNDERSTANDING SAFETY: REAL + PERCEIVED

# WHICH "FEELS" MORE SAFE?





UNDERSTANDING SAFETY: REAL + PERCEIVED

# WHICH "FEELS" MORE SAFE?





UNDERSTANDING SAFETY: REAL + PERCEIVED

# WHICH "FEELS" MORE SAFE?





# CPTED AND EQUITY

- » Some communities have a disproportionate burden of violence.
- » The risk of experiencing violence varies significantly by race, ethnicity and socioeconomic status.
- » Fear of crime/safety is one of the main reasons why people choose to or let their families actively commute.
- » There are some blight elimination programs that exist (CDC).





WHAT IS CPTED ?

# CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN



- » Crime Prevention Through Environmental Design, coined in 1971 by criminologist C. Ray Jeffreys
- » Influence from Jane Jacobs
- » The proper design and effective use of the built environment can lead to the reduction in the incidence and fear of crime and thereby improve the quality of life.
- » Builds on 4 principles:
  - » **Natural Surveillance**
  - » **Territorial Reinforcement**
  - » **Natural Access Control**
  - » **Maintenance**



## WHAT IS CPTED ?

# NATURAL SURVEILLANCE

- » Design the space to allow visibility by legitimate users and keep unwanted behavior under observation
- » Make the offender's behavior more easily noticeable
- » Provide a good visual connection between trail and streets, common areas, parks, sidewalks, parking areas and alleys





# TERRITORIAL REINFORCEMENT



- » "My area/Your area"
- » Use design elements such as sidewalks, hardscape, landscaping, and low fencing to help distinguish between public and private areas
- » Clear displays of ownership encourage respect for property and discourage unwanted use
- » Sends message that investment has been made



## WHAT IS CPTED ?

# NATURAL ACCESS CONTROL

- » Use landscape elements to deny admission to a unwanted behavior targets.
- » Create a perception among offenders that there is a risk in selecting the target.
- » Use signs to direct visitors to appropriate buildings, entrances and parking.
- » Limit access without completely disconnecting the use.





## WHAT IS CPTED ?

# MAINTENANCE



- » Cleaning, repairing, and landscaping needs to be performed routinely.
- » Repair or abate vandalism as soon as possible.
- » Encourages use of the space for the intended purpose and discourages abnormal and asocial use.
- » Maintenance sends a signal that someone cares about the space and is likely to defend it against intruders or vandalism.
- » Keep shrubs trimmed to 2 feet and prune lower branches of trees up to 6 feet for open site lines ("6-foot, 2-foot rule").



WHAT IS CPTED ?

# CPTED IS PLACEMAKING





WHAT IS CPTED ?

# NOT REALLY CPTED





WHAT IS CPTED ?

# SECURITY DESIGN

- » Terrorism response
- » Restricted access
- » Vehicle barriers/  
deterrents
- » Temporary and  
permanent security  
measures
- » CCTV/public monitoring
- » More high risk structures
- » Other target hardening  
measures



An aerial photograph of a city street, likely in New York City, showing a wide road with multiple lanes and a large, mature tree in the foreground. The background features a dense urban skyline with various skyscrapers and buildings. The image is overlaid with a semi-transparent dark layer to make the text stand out.

# DESIGN STRATEGIES FOR PUBLIC SPACE

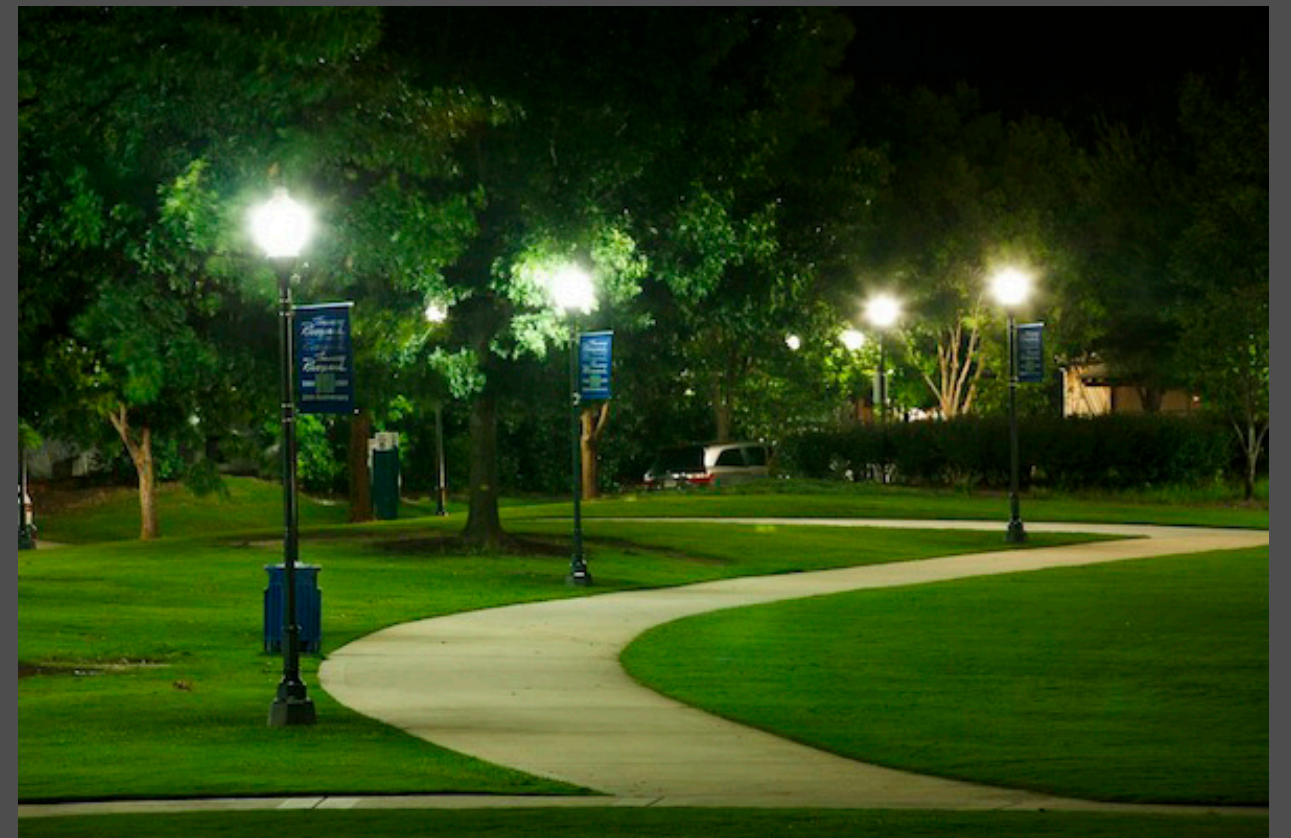
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## STRATEGIES FOR PUBLIC SPACE

# PROPER LIGHTING

- » Typically most appropriate for urban areas or commuter trails
- » White metal halide lamps provide best color rendering for CPTED
- » Ensure tree canopy does not interfere with lighting fixture
- » Always provide lighting in trail underpasses, day and night
- » Work with qualified lighting engineer





## STRATEGIES FOR PUBLIC SPACE

# PUBLIC ART

- » Public art creates perception of ownership
- » Art can act as “eyes”
- » Engages community artists
- » Brightens energy in unanticipated spaces





# LANDSCAPE



- » 6-foot, 2-foot rule
- » Thin out brushy undergrowth to create permeability along trail corridors
- » Prevent ambush areas/hiding spots
- » Create frequent access points in parks and trails
- » Create vertical and horizontal clear zones for sight distance
- » Keep parking areas flat and open to allow for sufficient visibility and surveillance



# SIGNAGE + TECHNOLOGY



- » Signage creates a sense of place
- » Indicates the park or facility is maintained and “owned” (territorial reinforcement)
- » Helps establish a sense of safety for users
- » Mile markers can help law enforcement with co-locating in event of emergency
- » Locator codes are becoming more popular on trails



# CPTED PROGRAM + POLICY

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# SAFETY POLICY/CPTED ORDINANCE

- » Post rules and expectations for public space
- » Impose quick, fair, and consistent consequences for violations
- » Helps foster safe, orderly, and predictable behaviors
- » Several cities have created special districts through zoning codes called Overlay Districts which include CPTED design requirements through code
- » Minimum lighting standards
- » Zoning standards that support walkable communities

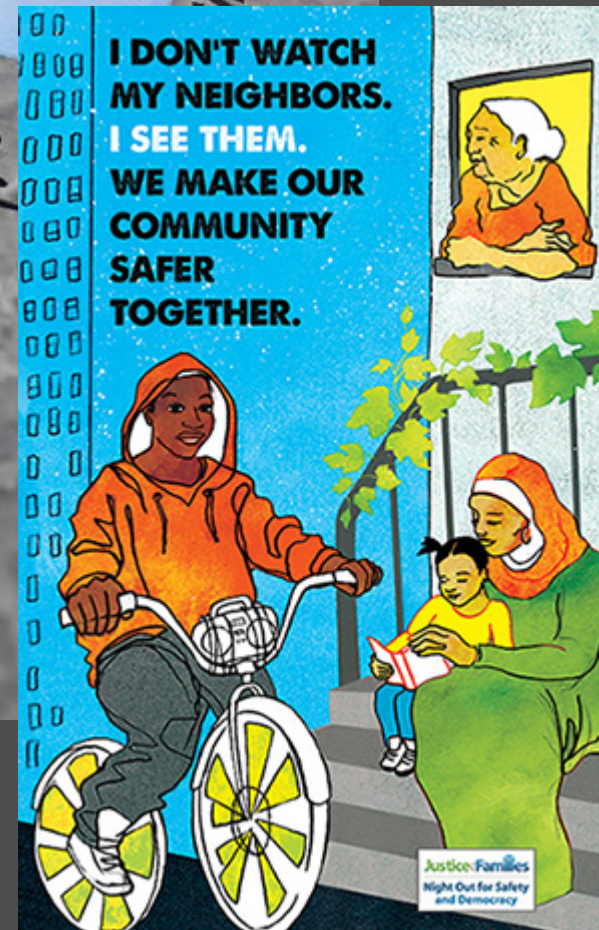




# ENGAGE THE COMMUNITY



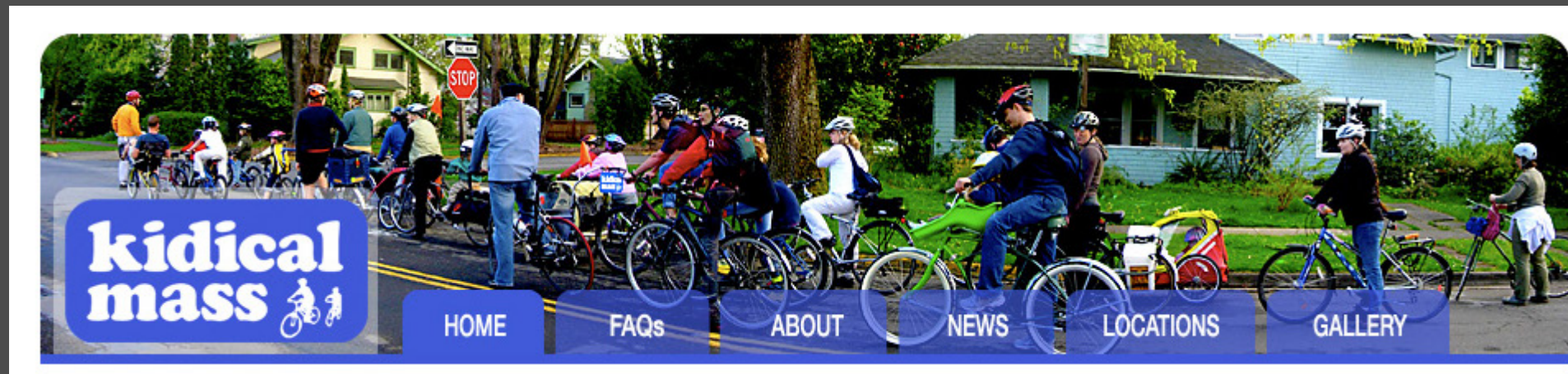
- » When community takes ownership of a public space, crime cannot win
- » The more a facility is used the less likely it will attract unwanted or asocial behavior
- » During planning use inclusive public engagement
- » Engage community leader groups





# PROVIDE ACTIVITY SUPPORT

- » Plan safe and strategic activities to encourage the intended use of the space
- » Group walks/group bike rides
- » Sidewalk and street level activities such as markets, fairs, and festivals, in key community areas
- » Increase the number of people using a space, thereby enhancing visibility, social comfort and control





# PARTNER WITH LAW ENFORCEMENT

- » Communicate about active community facilities with local police departments
- » Involve law enforcement during planning and design
- » Invite police to public meetings to talk with residents about crime misconceptions
- » Understand local law enforcement resources and limitations



## Police-community partnerships offer way to improve neighborhood safety

BRANDON ALCORN | MONDAY, DECEMBER 08, 2014



Philly residents work together to improve safety



# PARTNER WITH RELEVANT GROUPS



- » Community planners and local government: **policy**
- » Local leaders: **community leadership and support**
- » Bicycling and walking advocates: **programs and funding opportunities**
- » Educators and parents: **programs, community interests**
- » Volunteers and interested citizens
- » Business Owners
- » Faith-Based Organizations



# MAINTENANCE AND MANAGEMENT



- » Eliminate vandalism immediately: consider graffiti abatement program
- » Guerrilla mowers/weeders
- » Use vandalism-resistant materials
- » Ensure vegetation is properly maintained to CPTED standards
- » Use low-maintenance landscaping and architectural materials
- » Ensure proper trash collection and removal
- » Consider anti-litter campaign



# AMBASSADOR PROGRAMS

- » Many are volunteer organizations
- » Citizen group of “eyes and ears” for parks and trails
- » Effective for maintenance, safety, and patrolling
- » Encourages and promotes use







# CPTED APPLICATION



# DESIGNING OUT CRIME

- » Understand the community’s history and demographics
- » Research crime statistics and analyze crime data
- » Understand adjacent land use
- » Consider a CPTED site assessment by a qualified professional

*"It takes more than police to police parks."*  
~ Kim Vann, Planner, Henrico County, VA  
from: <http://www.americantrails.org/resources/safety/designcrime.html>

Total Population	Under 19	Non-White	Workers over 16 with no Vehicle available	Families below poverty level in past 12 months
6,810	37%	68%	37.2%	40%

The area within a one-mile radius from the trail is half located in Westchester County and half in Bronx County. The total population within this boundary is 90,083 people. 68,047 people are located in Westchester County and 22,036 in Bronx County. The 68,047 people in Westchester County are made up 30,109 people who identify as white, 14,477 African Americans, 15,566 who identify as other and the remaining are a mixture of races. The 22,036 people in Bronx County are made up of 16,659 people who identify as white, 2,330 who identify as African American, 1,315 who identify as Asian, and 1,445 who identify as other.

County	Total Population	Under 19		Non-White		Workers over 16 with no Vehicle available		Families below poverty level in past 12 months	
Westchester	68,047	20,662	30%	37,938	56%	20,198	30%	14,696	71%
Bronx	22,036	7,024	32%	5,862	27%	909	4%	1,211	17%
Both Counties	90,083	27,686	31%	43,800	49%	21,107	23%	15,907	57%

III. 5-Year Crime Analysis

The analysis of reported crime is an important element in conducting a CPTED assessment. By conducting an analysis, the type of crime that is occurring can be determined and possible trends identified. It is important to understand crime trends in the area to determine security needs and potential risks.

The Lowerre neighborhood has the highest crime rate in the City. Located in the Third Precinct, the Lowerre neighborhood has been riven by gang violence over the last decade. In each category except rape, Precinct Three has by far the most incidents (see table below). The most recent crime data found on the City of Yonkers Police Department website pertains to the amount of service calls in the

REPORTED INCIDENTS					
	Precinct 1	Precinct 2	Precinct 3 (Study Area)	Precinct 4	Total
Combined Figures (assaults, burglaries, murders, rapes, robberies)	82	180	705	420	1,387
SOURCE Yonkers Police Department Crime Statistics: 2010					



# IN PRACTICE

» CPTED can be applied at all phases of a project: land use planning, master planning, feasibility, design, construction, post construction, post operation, and retrofit

10. What of the following issues affected your decision to allow, or not allow, your child to walk or bike to/from school? (Select ALL that apply)

☐ Distance.....

☐ Convenience of driving.....

☐ Time.....

☐ Child's before or after-school activities.....

☐ Speed of traffic along route.....

☐ Amount of traffic along route.....

☐ Adults to walk or bike with.....

☐ Sidewalks or pathways.....

☐ Safety of intersections and crossings.....

☐ Crossing guards.....

☐ Violence or crime.....

☐ Weather or climate.....

11. Would you probably let your child walk or bike to/from school if this problem were changed or improved? (Select one choice per line, mark box with X)

☐ My child already walks or bikes to/from school

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

☐ Yes☐ No☐ Not Sure

Section and Performance Standard	✓ <div>Functional Area Performance Standard</div> <div>Strategy</div> <div>■ Applicable during Site Plan Review</div> <div>⊖ Applicable during Building Permit Review</div>	Evaluation for Agency Use Only
1.3	<div>Common/Open Space Areas and Public On-Site Open Space</div> <div>Provide natural surveillance for common/open space areas.</div> <div><div><input type="checkbox"/> Position active uses or habitable rooms with windows adjacent to main common/open space areas, e.g. playgrounds, swimming pools, etc., and public on-site open space. ■</div><div><input type="checkbox"/> Design and locate dumpster enclosures in a manner which screens refuse containers but avoids providing opportunities to hide. ■</div><div><input type="checkbox"/> Locate waiting areas and external entries to elevators/stairwells close to areas of active uses to make them visible from the building entry. ⊖</div><div><input type="checkbox"/> Locate seating in areas of active uses. ⊖</div><div>Other strategy used: _____</div><div><input type="checkbox"/> _____</div><div>_____</div></div>	<div><div><input type="checkbox"/> Conforms</div><div><input type="checkbox"/> Revise</div><div><input type="checkbox"/> NA</div><div>Comments:</div></div>
1.4	<div>Entrances</div> <div>Provide entries that are clearly visible.</div> <div><div><input type="checkbox"/> Design entrances to allow users to see into them before entering. ■</div><div><input type="checkbox"/> Entrances should be clearly identified (Signs must conform to FWCC Section 22-1569(D). Permit Exceptions. (<i>Applicable during <u>Certificate of Occupancy Inspection</u></i>).</div><div>Other strategy used: _____</div><div><input type="checkbox"/> _____</div><div>_____</div></div>	<div><div><input type="checkbox"/> Conforms</div><div><input type="checkbox"/> Revise</div><div><input type="checkbox"/> NA</div><div>Comments:</div></div>
1.5	<div>Fencing</div> <div>Fence design should maximize natural surveillance from the street to the building and from the building to the street, and minimize opportunities for intruders to hide.</div>	<div><div><input type="checkbox"/> Conforms</div><div><input type="checkbox"/> Revise</div><div><input type="checkbox"/> NA</div><div>Comments:</div></div>



# PROFESSIONAL DESIGNATION

- » CPTED professionals (CPD's) are qualified to identify strategies and concepts that effect human behavior and influence a project's real and perceived security
- » CPD's are trained to:
  - Perform field assessments for unbuilt or built trails, parks, streets, and urban sites
  - Make planning and design recommendations for CPTED improvements
  - Do site plan reviews for local government or private developer agencies
  - Write CPTED ordinances
  - Author CPTED design guidelines
  - Do overlay districts for planning and zoning
  - Give basic CPTED training





# CPTED IN SUMMARY

- »CPTED is **fluid**.
- »It is **not a checklist or easy fix** for all situations.
- »One-**size-does-NOT-fit-all**.
- »CPTED is most successful as a **sum of its parts**.
- »CPTED is not a substitute for **individual instinct**.
- »CPTED is **affordable**!

*“Crime occurs on roads, in schools, parking lots, office buildings, zoos and homes. However no one would rationally argue that we should not build any of the above because crime will occur there.*

*The same should be true with trails.”*

*~ From Rail Trails and Safe Communities publication, Rails Trails Conservancy*



Source: Michigan Youth Violence Prevention Center:  
<http://yvpc.sph.umich.edu/projects/violence-prevention-through-environmental-design/>





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