

SAFER BY DESIGN

INTRODUCTION TO:

Crime Prevention Through Environmental Design (CPTED)

Workbook & Resources *October*, 2010

Western Community Policing Institute Western Oregon University





Table of Contents

"SAFER BY DESIGN"	2
PROBLEM SOLVING WORKSHEET	4
ASSET IDENTIFICATION - 1	9
ASSET IDENTIFICATION - 2	10
ASSET IDENTIFICATION - 4	12
DESIGN BASIS THREAT - 1	13
DESIGN BASIS THREAT - 2	14
DESIGN BASIS THREAT - 3	15
DESIGN BASIS THREAT - 4	16
VULNERABILITY ASSESSMENT –	17
Situational Crime Prevention	25
FIVE STAGES OF SITUATIONAL PREVENTION	25
CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN:	26
CONCEPTS AND MEASURES FOR USE IN LAND DEVELOPMENT IN THE	E CITY OF
SAN DIEGO	26
BIO: Bob Leonard, Beaverton Police Department, Retired	34

"SAFER BY DESIGN"

Bob Leonard Innovative Resources

How safe do you perceive your home, neighborhood, business, community to be? Do you feel comfortable as you carry out your day-to-day activities of going to and from work, shopping, etc? Are there places that make you feel unsafe?

It is by no coincidence that you feel safe or unsafe in specific areas. The way we react to an environment is often determined by the cues we pick up from that environment. The criminal offender usually looks for an environment where he has the highest reward, the lowest risk, and the least work. He consciously goes about looking at an environment and saying in his mind, "This is a good opportunity; this is a bad one." We basically try to limit those opportunities by building the productive and effective use of space, because a criminal makes a decision about a good or bad target based on his read of the environment.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED – pronounced "sep-ted") is a proactive crime fighting technique in which "the proper design and effective use of the built environment can lead to a reduction in crime as well as an improvement in the quality of life for members of the community." CPTED differs from traditional target-hardening practices in that the techniques employed seek to use environmental factors to affect the perceptions of all users of a given space, positively influencing human behavior -- addressing not only the opportunity for the crime but also perceptions of fear on the part of those who may otherwise be victims. In other words, if a site is laid out well, the likelihood of it being targeted for a crime may be reduced; people who use the areas regularly perceive it as safe, and would-be criminals see the areas as a highly risky place to commit crimes.

CPTED and community policing can be viewed as part of a comprehensive crime- prevention strategy. CPTED and community policing emphasize a problem-solving approach to crime prevention, as well as close cooperation between police and residents in reducing both crime and fear of crime. Because CPTED emphasizes the systematic analysis of crime in a particular location, it directly supports community policing by providing crime prevention strategies tailored to solve specific problems. Problem- solving is a key component in a philosophy of community policing, which focuses on community crime and disorder problems, and recognizes the need for close relationships between the police and other elements to identify and solve problems. However, community policing cannot succeed on the efforts of the police alone. All elements of the community have responsibilities to fulfill.

In the true sense, the actual CPTED emphasis is on the productive use of space. With careful design and use of physical space, crime and loss are kept to a minimum. Effective use of the concept can also help create a sense of ownership about a place, bolster access control, and limit the escape opportunities for the potential criminal.

Communities, neighborhoods, individual homes, and other buildings, streets, and parks can all be made safer through the application of design principles that make it more difficult to carry out inappropriate activities. CPTED applies several concepts, all of which are interrelated.

- Natural Surveillance: Criminals don't want to be seen. Natural Surveillance is the placement of
 physical features, activities, and people in such a way as to maximize the ability to spot suspicious
 people and activities.
- Access Control/Target Hardening: The physical guidance of people coming and going from a space by the judicial placement of entrances, exits, fencing, barriers, security devices, tamperresistant materials, landscaping, and lighting can discourage crime.
- Territorial Reinforcement: People protect territory that they feel is their own and have a certain respect for territory of others. Territorial Reinforcement is the use of physical attributes that express ownership, such as fencing, signage, and landscaping, fostering resident's interaction, vigilance, and control over their neighborhood.
- Activity Support: Encouraging legitimate activity in public spaces helps discourage crime. A
 basketball court in a public park or community center will provide recreation for youth, while making
 strangers more obvious and increasing active natural surveillance and the feeling of ownership.
- Hierarchy of Space: Territoriality is enhanced through identifying ownership by delineating private space from public space through real or symbolic boundaries.
- Environment: What is the intended use of an area? Design or location decisions that take into account the surrounding environment and minimize the use of space by conflicting groups can minimize crime and increase livability.
- Image/Maintenance: Ensuring that a building or area is clean, well-maintained and graffiti-free supports territoriality and activity support.

The thought processes behind the concepts and strategies of CPTED are considering how people behave in an environment, how that environment lends itself to a productive and safe use by those using the space, and how crime prevention may be applied. CPTED can be applied to identify and remove potential problems in proposed developments. It can also be used to correct existing design problems that may invite crime. CPTED works best when fully supported by the community. CPTED unites city agencies – planning, police, licensing and code enforcement, housing, and others – and members of the community in solving problems of crime and the physical environment. Moreover, it helps fix underlying problems instead of giving isolated solutions to individual incidents.

In summary, safer, friendlier neighborhoods are the result of a combination of many factors that all need to be carefully blended together to generate an adequate level of neighborhood vitality and interaction. This in turn promotes a sense of neighborhood identity which translates into the perception of a more secure neighborhood that in turn influences the reality of one. Communities should understand the connection between the various features of the neighborhood and the kinds of crime the neighborhood is experiencing. CPTED should be a key element in any local comprehensive crime prevention and control strategy. It encourages the community to be more intentional in the fight against crime and influences two related phenomena – the probability that a crime will occur and the public's perception of community safety.

Bob Leonard is a nationally recognized instructor in CPTED principles and application, along with other Community-Oriented Policing and Problem-Solving subjects. For further information, you can contact Leonard at Innovative Resources, innovative.resources@comcast.net

PROBLEM SOLVING WORKSHEET

NAME:	D	ATE:
LOCATION		
CONTACT:		
	SCANNING	
Define the problem: (be specific)	
Known facts:		
Known facts:		
<u>Identify</u> Sta	keholders - Who is affected by the	nis problem?
Victims	Suspects	Locations
	Third Party Stakeholders	

ANALYSIS

<u>Determine</u> the <u>questions</u> you have for each individual or group that is affected by this problem. What specific source would you go to for the answer? <u>Gather information</u> to answer your questions.

QUESTIONS	ANSWERS
VICTIMS:	
SUSPECTS:	
SUSPECTS:	
LOCATION / MANAGERS:	

ANALYSIS

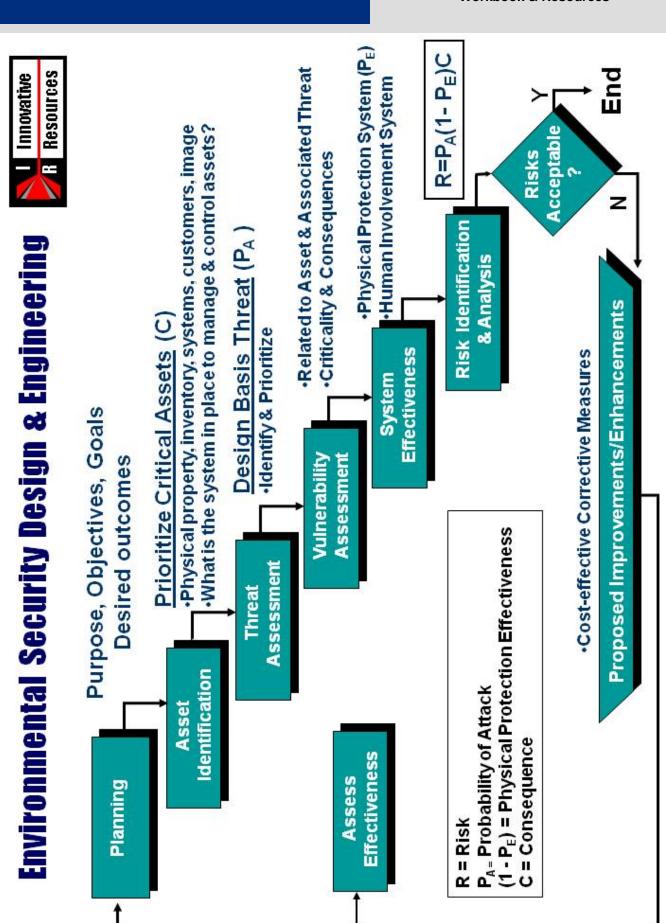
After the ANALYSIS, go back to SCANNING. What is the problem?

Based upon your ANALYSIS, describe what the problem is now:

RESPONSES

ESTABLISH GOALS OF PROBLEM SOLVING EFFORTS		
What are you trying to accomplish, based on yo	ur NEW understanding of the problem?	
Short Term:		
Long Term:		
Actio	n Plan	
What strategies are you going to apply to solve this problem?	What resources are needed? Who will implement your strategies (<u>partnerships</u>)?	
STRATEGIES	RESOURCES / PARTNERSHIPS	
ENGINEERING (Location):		
EDUCATION (Victims):		
ENFORCEMENT (Suspects):		
	1	

ASSESSMENT
How can you <u>assess</u> the <u>effectiveness</u> of your problem solving effort? Did you:
1) Eliminate the problem? 2) Reduce the problem? 3) Reduce the harm or fear associated with the problem? 4) Improve a response to the problem? 5) Redefine the responsibility for the problem?
What specific measures did you use to know that you have achieved your goals?
NA A INTERNA NICIE
MAINTENANCE What are you doing to ensure the problem does not return? How will you monitor the problem? How can we strive for continuous improvement/best practices?



NAME:	DATE:
LOCATION	DATE:
CONTACT:	PHONE:
STAFF / EM	PLOYEES
Full Time/Part Time:	
Contract Employees/Human Resources:	
CUSTOMERS / FA	CILITY USERS
Public Access: Y □ N □	
Private Contractors/Support Services:	

NAME:		DATE:	
LOCATION			
		DIIONE	
CONTACT:		PHONE:	
			1
	PHYSICAL	PROPERTY	
			ı
	DDODDIETAD	VMATEDIALC	
	PROPRIETAR	Y MATERIALS	
Image/Branding:			

NAME:	DATE:
LOCATION	
CONTACT:	PHONE:
INVENTORY	
Physical/Critical:	
WMD / Hazardous Materials on site? Y □ N □	
CURRENCY / RECEIVA	ABLES
	'

NAME:	DATE:
LOCATION	
CONTACT:	PHONE:
DATA SECU	PITV
DATA SECO	
SECURITY CODES / ID BA	DCEC/LINIEODMS
SECURITY CODES / ID DA	DGES / UNIFURMS

DATE:

DESIGN BASIS THREAT - 1

NAME:

LOCATION	-
CONTACT:	PHONE:
OUTSIDERS	
CRIMINALS:	
EXTREMISTS:	
EXTREMISTS.	
TERRORISTS:	

DESIGN BASIS THREAT - 2

NAME:	DATE:
LOCATION	
CONTACT:	PHONE:
	INSIDERS
INTERNAL THEFT:	
WORKPLACE VIOLENCE:	
	N (O d d'I a
	N (Outsiders with Insiders)
THEFTS:	
SABOTAGE:	
1	

DESIGN BASIS THREAT - 3

NAME:	DATE:	
LOCATION	•	
CONTACT:	PHONE:	
CRIME	ANALYSIS	
TYPES OF CRIMES & THREATS:		
PATTERN ANALYSIS:		
COMMUN	NITY SURVEY	
WHO IS IN YOUR COMMUNITY?		
HOW DOES YOUR COMMUNITY AFFECT	Γ YOUR BUSINESS?	

DESIGN BASIS THREAT - 4

Environmental Security Design & Engineering

NAME:	DATE:
LOCATION	
CONTACT:	PHONE:

		Type of Adversary					
		Criminal	Extremist	Terrorist			
Potential Action Likelihood	Theft						
*(H, M, L)	Sabotage						
Other: _							
Motivations *(H, M, L)	Ideological						
	Economic						
	Personal						
Capabilities	Number						
	Weapons						
Equipment and tools							
,	Transportation						
Technic	cal Experience						
Insi	der Assistance						

* H = High M = Medium

L = Low

VULNERABILITY ASSESSMENT -

Environmental Security Design & Engineering

Location Address:			
Property Name:			
Hours of Operation:	Property Use:		
Contact Person: Phone:			
Assessment by:	Date:		

This Vulnerability Assessment review and report has been made at the request of the listed management for their property. This is a guide for improving the safety and livability of your property. While every effort has been made to incorporate into this report reasonable means to reduce the opportunities for criminal activity to occur, there is no express or implied guarantee that if suggestions are implemented that no criminal activity will take place.

TERRITORIAL REINFORCEMENT:

People have an innate desire to protect or defend space which they occupy. Territoriality involves establishing ownership of space. Territoriality can be encouraged by activities and management techniques that reduce large impersonal spaces to smaller spaces that people can personalize and claim as theirs.

ΡF	PROPERTY BOUNDARIES AND MARKINGS						NO	N/A
1.	Address numbers and	company name post	ted and visible	from street, illumina	ted at night.			
2.	Building and unit nun	nbers posted and visi	ible					
3.	Community locator m	nap or directory at ma	ain entrance					
4.	Property boundaries is	dentified and discern	nable					
5.	Boundary markers							
6.	Entry and Exit Points	(Access Control)						
7.	Fencing							
8.	Legitimate activity su	pport / Land use con	ıflicts					
Ge	neral Impression:	Very Poor:	Poor:	Adequate:	Good:	Excellent:		
Со	mments:							
4								

ACCESS CONTROL: By controlling access we direct people into buildings or sites at specific points that can be more easily watched and controlled. Decreases criminal opportunities by restricting access, increasing risks perceived by offender by controlling or restricting their movements.	YES	NO	N/A
1. Main entry defined and monitored			
2. Police/Fire/EMS access?			
3. Limited number of entry/exit points, defined or marked to control access			
4. Adequate vehicle and pedestrian circulation. No pedestrian-vehicle conflicts?			
5. Unmonitored areas secured or under some type of surveillance			
6. Entrapment zones eliminated by access control			
7. Unwanted activities controlled by CPTED (ie. rollerblading on handrails)			
PARKING – EMPLOYEE	YES	NO	N/A
1. Security of lot			<u> </u>
2. Lighting			
3. Access Control – Entry & Exit			
4. Transition Zones – Vehicle and Pedestrian circulation			
Comments:			
PARKING – CUSTOMER / PUBLIC PARKING	YES	NO	N/A
1. Security of lot			
2. Lighting			
3. Access Control – Entry & Exit			
4. Transition Zones / Pathways / Vehicle and Pedestrian circulation			
5. Setback to buildings			
6. Barriers / Planters / Bollards			
7. Pedestrian Movement Predictors			
Comments:			<u>. </u>

NATURAL SURVEILLANCE:

For people to take action to defend property or to prevent crime they must be able to see illegal acts taking place. Surveillance puts the offender under threat of being observed, and therefore, identified and apprehended. Surveillance depends on "ownership" – a territorial investment by the legitimate user.

LIGHTING FOR SE Adequate lighting will elim common areas should be en	inate pools of light wi				YES	NO	N/A					
1. All entry/exit points	illuminated											
2. Pathways												
3. Covered parking area	as & garages											
4. On-site parking												
5. Mail pickup/delivery	sites											
6. Unit/Building Entry	& Exit points											
7. Stairways												
8. Office and commerci	al areas											
9. Common use areas												
10. Recreational / Public	areas											
General Impression:	Very Poor:	Poor:	Adequate:	Good:	Exc	ellent:						
Distribution:	Too Dark:	Too Bright:	Dark Spots	: Even								
LANDSCAPING: Landscaping can be used to	LANDSCAPING: Landscaping can be used to define territory, control access and reinforce ownership. YES NO N/A											
Shrubs trimmed dow	n for natural surveil	llance	<u>* </u>									
2. Trees trimmed up for	natural surveillanc	e										
Landscaping/lighting with lighting patterns		nd shrubs trimme	d that block light fix	tures, interfere			3. Landscaping/lighting conflicts? Trees and shrubs trimmed that block light fixtures, interfere					
4. Eliminate adult size l												
5. Areas clear of landsc	niding places near w	vindows and door	<u>'S</u>									
6. Plantings allow limit	<u> </u>	vindows and door	<u>S</u>									
	ape debris		S									
7. Plantings do not bloc	ape debris ed access to window	ws or roof tops										
7. Plantings do not bloc General Impression:	ape debris ed access to window	ws or roof tops		Good:	Exc	cellent:						

	_		
BUILDING EXTERIORS	YES	NO	N/A
Access Control / Entry Security			
2. Entry/Exits Points limited, secured and illuminated.			
3. Entry points protected from vehicular assault			
4. Exterior building lighting			
5. Signage and markings			
6. Directional and Locator maps			
7. Exterior doors equipped with deadbolt locks, self closing and locking doors.			
8. Windows equipped with anti-lift/slide. Windows are shatterproof to reduce injuries.			
HVAC system intakes secure and protected			
10. Natural surveillance opportunities / Activity support			
11. Entrapment zones?			
General Impression: Very Poor: Poor: Adequate: Good:	Exc	cellent:	
BUILDING INTERIORS	YES	NO	N/A
Pedestrian circulation patterns			
2. Signage and markings			
3. Directional and Locator maps			
4. Interior building lighting			
5. Physical barriers to separate public reception from private offices			
6. Public Restrooms			
7. Physically separate shipping and receiving areas	-		
8. Mail room secured from HVAC intake			
9. Activity support for surveillance			
10. Exterior doors equipped with deadbolt locks, self closing and locking doors			
11. Windows equipped with anti-lift/slide and locks			
12. HVAC system controls secure and protected	+		
13. Natural surveillance opportunities	+		
14. Entrapment zones	+		
15. Legitimate activity support / Use conflicts Convert Impression: Very Poort Poort Adaptete Conductivity C		11	<u> </u>
General Impression: Very Poor: Poor: Adequate: Good:	EXC	cellent:	
Comments:			

_				
CO	OMMON AREAS	YES	NO	N/A
1.	Public access restrooms			
2.	Emergency phones and/or panic buttons – Location Signs			
3.	Unmonitored areas secured or surveillance			
4.	Storage areas			
5.	Restrict access to inventory storage areas			
6.	Common area breezeway shall be posted with unit numbers or letters			
Comments:				
B #	A INTERNATION / A DREAD ANGE / MANAGEMENTE			
IVI.	AINTENANCE / APPEARANCE / MANAGEMENT·			1

Аи	AINTENANCE / APPEARANCE / MANAGEMENT: well maintained space that appears to be "owned" by someone will attract legitimate law abiding users ile discouraging illegitimate or disruptive users.	YES	NO	N/A		
1.	Cut weeds and grass; landscaping maintained to reinforce ownership					
2.	Does the space appear cared for? (Property clean & free of debris; no visible litter, trash, discarded appliances, equipment, or debris in yards and common areas.)					
3.	Trash receptacles areas clean and safe; properly located. WMD secure?					
4.	Stairways secure/free of debris					
5.	No inoperable (undriveable) vehicles or vehicles parked on unimproved surfaces					
6.	No visible graffiti on any surface. Graffiti removed within 24 hours of discovery.					
7.	Repair deterioration to exterior structures, surfaces, fencing, walkways, and other features that would be considered in obvious need of repair.					
8.	Maintenance staff wears uniforms and/or identification tags with photograph					
9.	Clearly indicate visitor and vendor processing points at site entrances with clear signage, screening, and badging.					
10.	. Clearly delineate employee, visitor, vendor, and contractor status on badges along with the location and times they are allowed access.					
11.	. Hazardous materials secured? - Response plan?					
12.	2. WMD materials present? - Response plan?					
13.	Staff communications					
14.	Accountability / Responsibility					
15.	ICS procedures?					
16.	Event CPTED – property mix use?					
17.	Neighborhood or Apartment Watch program?					
Ge	neral Impression: Very Poor: Poor: Adequate: Good:	Exc	cellent:			
Co	mments:					

MECHANICAL / PHYSICAL SECURITY:

Target hardening is a basic tool for providing for safety and security. It involves making targets resistant to criminal attack through the installation of locks, alarms or lighting. The use of proper hardware and security procedures can reduce the risk of unwanted behaviors and activities.

DO	OOR SYSTEMS	YES	NO	N/A
1.	All exterior doors made of solid wood core or metal construction			
2.	Door frames in good condition			
3.	Wide-angle eye viewers on the exterior door. Waived when there is a window in, or immediately adjacent to the front door that would allow observation of visitors without unlocking the door.			
4.	Deadbolt locks, with anti-wrench, tapered spinning collars, on all exterior hinged doors. Deadbolt extends minimum one inch into frame			
5.	Strike plates fastened with a minimum of three inch screws			
6.	Locks remastered or changed between tenants (on turns)			
7.	Sliding glass doors with anti slide/lift modifications, and secondary security device			
8.	For outward opening doors: pin the door hinges or use non-removable hinge pins, exterior latch covers			
9.	Double doors should be locked by installing well-secured sliding bolts at the top and bottom of the inactive door. Install a deadbolt lock in the active door.			
10.	Clearly mark shared exit doors. They should open easily with a panic bar, in the direction of path of travel. Illuminated emergency exit signs			
11.	Put locks on outside fuse or circuit breaker boxes. Control access to phone panels			
Co	omments:			

NDOW SYSTEMS	YES	NO	N/A
Sliding windows with anti lift/slide modifications on ground floor windows and any upper- story windows that are easily accessible			
Double hung windows modified with pins or locks in addition to standard sash lock			
Louvered windows glass panes glued with epoxy to prevent removal			
Windows that crank open have secondary locking mechanism separate from the crank			
Windows equipped with anti-lift/slide. Windows are shatterproof to reduce injuries.			
I	Sliding windows with anti lift/slide modifications on ground floor windows and any upper- story windows that are easily accessible Double hung windows modified with pins or locks in addition to standard sash lock Louvered windows glass panes glued with epoxy to prevent removal Windows that crank open have secondary locking mechanism separate from the crank	Sliding windows with anti lift/slide modifications on ground floor windows and any upper- story windows that are easily accessible Double hung windows modified with pins or locks in addition to standard sash lock Louvered windows glass panes glued with epoxy to prevent removal Windows that crank open have secondary locking mechanism separate from the crank	Sliding windows with anti lift/slide modifications on ground floor windows and any upper- story windows that are easily accessible Double hung windows modified with pins or locks in addition to standard sash lock Louvered windows glass panes glued with epoxy to prevent removal Windows that crank open have secondary locking mechanism separate from the crank

Comments:

CPTED Task Force

Name:	Date:
Organization:	•
Current Problem:	
Location:	
Goal/Objective : Utilize Crime Prevention 7 principles to reduce crime and perception of	
Team M	lembers
Governmental	Problem Specific
City/Co. Planner:	Developer:
City/Co. Engineer:	Property Owner:
Police:	Property Manager:
Traffic Engineer: (if traffic related)	Security Personnel:
Code Enforcement:	Neighborhood Association:
Building Inspector:	Property Users:
CPTED Specialist:	Concerned Citizens:
EMS Representative:	Risk Manager:

NOTE: Once CPTED Task Force is identified and formed, begin with the Problem Solving Worksheet/Risk Assessment form as your format to address your problem.

Sixteen Techniques of Situational Crime Prevention	Increasing Perceived Effort	13. Rule setting: Harassment codes Customs declaration Hotel registrations	14. Strengthening moral condemnation: "Shoplifting is stealing" S.M.A.R.T. Trailers "Bloody-idiots drink and drive"	15. Controlling disinhibitors: Drinking age laws Ignition interlock Server intervention	16. Facilitating compliance: Improved library checkout Public lavatories Trash bins
	Increasing Perceived Effort	9. Target removal: Removable car radio Women's refuges Phonecard	10. <i>Identifying property:</i> Property marking Vehicle licensing Cattle branding	11. <i>Reducing temptation:</i> Gender-neutral phone lists Off-street parking Merchandise Location	12. <i>Denying benefits:</i> Ink merchandise tags PIN for car radios Graffiti cleaning
	Increasing Perceived Effort	5. Entry/exit screening: Automatic ticket gates Baggage screening Merchandise electronic tags	6. Formal surveillance: Burglar alarms Photo-radar cameras Security guards	7. Surveillance by employees: 11. Reducing temptation: Pay phone location Park attendants CCTV systems Merchandise Location	8. Natural surveillance: Defensible space Street lighting Cab driver I.D.
	Increasing Perceived Effort	1. Target hardening: Slug rejection device Steering locks Security Hardware	2. Access control: Parking lot barriers Fenced yards Entry phones	3. Deflecting offenders: Bus stop placement Tavern locations Street closures	4. Controlling facilitators: Credit card photo Caller-ID Gun controls

Situational Crime Prevention

Situational prevention comprises opportunity-reducing measures that are:

- 1. Directed at highly specific forms of crime
- 2. And that involve the management, design or manipulation of the immediate environment in as systematic and permanent way as possible
- So as to increase the effort and risks of crime and reduce the rewards as perceived by a wide range of offenders.

FIVE STAGES OF SITUATIONAL PREVENTION

- 1. Collection of data about the nature and dimensions of the specific crime problem.
- 2. Analysis of the situational conditions that permit or facilitate the commission of the crimes in question.
- 3. Systematic study of possible means of blocking opportunities for these particular crimes, including analysis of costs.
- 4. Implementation of the most promising, feasible and economic measures.
- 5. Monitoring of results and dissemination of the experience.

Routine Activity Theory – assumes that crime occurs when a motivated offender and suitable target (or victim) converge in space and time in the absence of capable guardian.

Rational Choice Theory - Influenced by economic thinking, this assumes that, "offenders seek to benefit themselves by their criminal behavior; that this involves the making of decisions and choices, however rudimentary on occasion these choices may be; and that these processes, constrained as they are by time, the offender's cognitive abilities, and by the availability of relevant information, exhibit limited rather than normative rationality." It is further assumed that the decision processes and the factors taken into account will vary greatly at the different stages of criminal involvement (onset, continuance and resistance) and at the point of committing crime (the criminal event). Similarly, and this is of special importance for situational prevention, it is assumed that the decision processes and information utilized will vary greatly between different offenses. To ignore these differences, and the situational contingencies associated with then, may be to reduce significantly the scope for intervention.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN:

CONCEPTS AND MEASURES FOR USE IN LAND DEVELOPMENT IN THE CITY OF SAN DIEGO

The San Diego Police Department (SDPD) has recently completed its restructuring to implement the philosophy of Neighborhood Policing. This philosophy focuses on neighborhood crime and disorder problems, and recognizes the need for partnerships with other elements of the community to identify and solve problems, and where practical, to create an environment in which problems do not arise.

In land development, the SDPD would like to see a variety of crime prevention measures incorporated in the initial design of new projects. These measures are intended to complement and reinforce other efforts in the City to improve public safety and security through community planning, redevelopment, urban design, transit-oriented design, Livable Neighborhoods, and code enforcement, and be consistent with the urban design principles found in the City's *Progress Guide and General Plan*, community plans, and related documents.

Examples of such measures are outlined in this paper under the four basic concepts of Crime Prevention Through Environmental Design (CPTED). Some caveats regarding CPTED and a list of references are also included.

In addition to distributing this paper widely to people and organizations involved in land development, the SDPD is now involved in the City of San Diego's PROCESS 2000 where it will participate in preliminary project reviews and suggest the incorporation of appropriate crime prevention design measures. Questions about these concepts and measures, and the SDPD's role in PROCESS 2000 should be directed to the Community Crime Prevention Unit at (619) 531-2837.

CPTED CONCEPTS AND MEASURES

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

- Surveillance. Involves the location and use of physical features, electrical and mechanical devices, activities, and people to maximize visibility. Creates a risk of detection for intruders and offenders, and a perception of safety for legitimate users.
- 2. **Access control**. Employs people, electrical and mechanical devices, and natural measures to create a perception of risk to offenders and deny them access to targets. Also guides legitimate users safely through the environment.
- 3. **Territoriality**. Uses physical features and activities to express ownership and control of the environment. Promotes neighborhood pride. Discourages presence of outsiders by

4. **Maintenance**. Allows the continued use of space for its intended purposes. Maintains the effectiveness of measures employed for surveillance, access control, and territoriality.

Measures to implement these concepts are of three types: organized/formal, electrical/mechanical, and natural/informal. Measures can be implemented in the initial design, as additions or modifications to the initial design, or in maintaining the initial design. Many measures support more than one concept.

Organized/formal measures are labor intensive and can be very expensive if people have to be hired specifically for them. However, they need not be expensive if they can be carried out by volunteers or by workers hired primarily for other purposes.

Electrical/mechanical and natural/informal measures tend to have low personnel and capital costs, especially if they are included in the initial design. Some examples of these two types of measures are outlined in this section to provide design guidelines for architects, designers, developers, and urban planners involved in land development.

1. Surveillance

Surveillance measures include (1) the design and location of physical features and electrical/mechanical devices to enhance visibility by people during normal/everyday activities, and (2) the location of people and activities to facilitate surveillance. These measures create a risk of detection for intruders and offenders, and a perception of safety for legitimate users.

A. Lighting

- Provide exterior lighting for visibility at night on streets, parking areas, sidewalks, pedestrian paths, possible entrapment spots, etc. to enable people to see where they are going and identify others along their route. Light should be consistent to reduce contrast between shadows and illuminated areas.
- Avoid lighting isolated areas that people should not use at night.
- Provide interior lighting and stain or paint walls white to enable people to see well indoors, e.g. in parking garages.
- Make sure that light is not blocked by trees or other landscaping.

B. Windows and Doors

- Provide two-way visibility in areas open to the public. Windows and doors should not be obstructed by signs, displays, plants, etc.
- 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. Use glare-proof glass to enable occupants of a lighted building to see out at night.
- Install peepholes for viewing people seeking entrance to secure areas.

C. Unobstructed Sight Lines

- Maintain tree canopies at least 8 ft above the ground.
- Keep shrubs trimmed to less than 3 ft except where privacy or environmental noise mitigation is a primary concern.
- Grade land where practical without substantially altering the natural terrain to provide unobstructed sight lines within the project and from adjacent streets and developed areas.
- Use open landscaping and see-through fences instead of solid walls or hedges for boundaries where privacy or environmental noise mitigation is not needed.
- Orient buildings in a complex for good visibility of the streets, parking lots, and other buildings in the complex.
- Orient parking spaces to provide good visibility between cars.
- Maintain continuous front setbacks for buildings along a street.
- Orient houses in a neighborhood for clear visibility of the streets and the sides of nearby houses.
- Place garages even with or set back from front of homes.
- Use open or see-through structures for exterior stairways, walkways, porches, sitting areas, patios, parking spaces, etc.
- Use open structures for interior walls, e.g., in parking structures and garages.
- Eliminate possible hiding or entrapment spots along pedestrian paths
- Install closed-circuit television (CCTV) cameras or mirrors where sight lines are obstructed.
- Provide a clear view of room interiors from room entry points.
- Install mirrors where sight lines are obstructed.
- Use straight short cul-de-sacs instead of curved, angled, or long ones where practical
 without substantially altering the natural terrain to enable the end of the cul-de-sac to be
 seen from the cross street.
- Use streets as buffers between housing and open areas, parks, and playgrounds.

D. Communications Systems

- Install emergency phones, alarms, or intercoms in convenient places for people to use to report intruders or suspicious activities, or to call for help.
- Post signs to show locations of emergency communications systems.

E. Indoor Facilities and Activities

- Locate high-activity rooms and areas so they face public and semi-public areas. These
 include kitchens and family rooms in homes, lobbies with guards or receptionists in
 buildings, offices of property managers in multi-family residences, offices of
 administrators and supervisors in businesses and other establishments, cashiers in
 stores and restaurants, etc. Provide large, unobstructed windows for good visibility of
 outside areas.
- Locate facilities for activities that involve a few people at a time in areas of high usage and good visibility so they can benefit from the natural surveillance already in the area. These include rest rooms, elevators, stairs, ATMs, pay phones, laundry rooms, trash containers, etc.

F. Outdoor Facilities and Activities

- Include front porches and benches to provide places where people can sit and observe activities on streets, sidewalks, open spaces, etc.
- Locate facilities for activities that attract large numbers of people in areas of low usage and poor visibility so that users can provide surveillance of the area. These include basketball courts, ball fields, etc.
- Locate facilities for activities that involve a few people at a time in areas of high usage and good visibility so they can benefit from the natural surveillance in the area. These include pay phones, ATMs, bus stops, bike racks, parking lots, hiking or jogging trails, etc.
- Locate activities within a facility to reduce potential causes of conflict and confusion, and make individual activities easier to supervise.
- Locate paths to and from entrances and exits of building through areas that need surveillance. Use most direct route where possible.
- Mix compatible residential, commercial, and other land usages permitted by zoning regulations to provide round-the-clock presence and surveillance opportunities.
- Locate parking lots where non-conflicting users, e.g., church goers on weekends and office workers on weekdays, can share the spaces to expand the times that people are in the area.

2. Access Control

Access control measures include design features and target hardening that create a perception of risk to offenders and deny them access to targets. They also guide legitimate users safely through the environment. Controls should also be established on exits to deny offenders escape opportunities.

A. Security Systems

- Consider installation of alarms, cameras, intrusion detectors, metal detectors, activity decoys, intercoms, etc. to protect and control of all entrances and exits, including garage, basement, service, loading and unloading, fire, roof, and attic. Make systems visible to potential intruders.
- Provide special protection for ground floor units.
- Install alarmed, self-locking emergency exits.
- Provide keys, entry cards, or access codes to residents or occupants.
- Provide safes or other secure facilities for storing cash and other valuables.

B. Doors and Windows

- Use strong locks and construction materials on all doors and windows. Avoid use of bars, if possible.
- Limit numbers of entrances and exits to buildings, parking lots, etc.
- Locate entrances and exits in areas that are under surveillance or direct supervision.
- Locate windows next to doors on hinge side, not on lock side.
- Eliminate rear-yard gates to alleys, pedestrian paths, open areas, etc.

C. Walls and Fences

- Make walls and fences attractive as well as durable.
- Use open fences, e.g., vertical wrought iron or decorative iron. They are preferred because they are easier to see through, harder to climb, and less susceptible to graffiti.
- Use vines, thorny plants, and other landscaping along walls to make access more difficult and prevent graffiti.

D. Signs

- Make signs legible and unambiguous. Use symbol signs where possible.
- Locate signs in strategic places.

Use signs to:

- 1. Discourage access to dangerous areas.
- 2. Indicate opening and closing times.
- 3. Direct people to safe paths, exits, emergency assistance, means of calling for help, etc.
- 4. Inform people how to report maintenance problems.
- 5. Inform intruders of access control measures.

E. Safe Paths and Common Areas

- Provide adequate light for nighttime use of paths to and from the entrances and exits of buildings, and throughout the project or neighborhood.
- Close or discourage nighttime use of certain paths where adequate lighting, visibility, and surveillance cannot be provided.
- Eliminate entrapment spots, e.g., dense shrubs, high walls or hedges, or alcoves, along pedestrian paths.
- Locate amenities and activities at or near entrances, exits, and major circulation paths to increase risk of detection for intruders.
- Place common areas within the building complex. Group common areas for increased surveillance.
- Install barriers or other devices to prevent misuse of public facilities or areas, e.g., bathing in fountains or camping overnight under bridges.
- Design public amenities to discourage misuse, e.g., shape benches to be comfortable for sitting but not for sleeping, and roughen or install breaks in low walls, curbs, steps, railings, and smooth surfaces to discourage skateboarding.
- Locate common mail boxes in secure, controlled-access areas.

1. Territoriality

Territoriality measures involve the use physical features to express ownership and control of the environment, and promote neighborhood pride. They discourage the presence of outsiders by delineating private and semi-private spaces, and controlling the movement of people and vehicles

A. Streets

- Locate and design streets into and out of a neighborhood or development to reduce safety and security problems associated with through traffic.
- Employ measures to reduce the amount and speed of vehicular traffic. These include narrow road widths, two-way traffic, on-street parking, speed limits, bumps/humps, signs, traffic signals, curb indentations, bollards, cul-de-sacs, etc.
- Build sidewalks and seating to promote walking through the neighborhood or project.

B. Boundaries

- Define clear boundaries between public, semi-public/private, and private spaces.
 Boundaries are needed at entrances to courtyards, yards, patios, terraces, storage areas, play areas, parking lots/garages, etc. They can be established by signs, walls and fences, gates, landscaping, sidewalks, curbs (vertical instead of rolled), and pavement treatment like tiles and cobblestones.
- Use boundaries to prevent conflicts between different groups, e.g., teens and seniors, so all user groups will be able to enjoy an area or facility and maintain an ownership interest in it.
- Place address numbers where they are clearly visible from the street.

C. Public Spaces

- Create display and performance areas for local artists. A beautiful environment attracts people while a barren one repels legitimate users.
- Design neighborhood facilities to meet the needs of the people living in the neighborhood.
- Define uses for all areas in the neighborhood to prevent "no man's lands" from existing.

D. Public and Low-Income Multi-Family Housing

- Units with separate entrances are preferred. Smaller is better for number of units per building.
- For buildings with common entrances, smaller is better for numbers of units and floors per building, and units per corridor/entrance/stairway.
- Limit numbers of parking spaces per parking lot/garage. Several parking areas are preferred to one large one.
- Cluster buildings around common areas, amenities, and parking.

4. Maintenance

Maintenance measures permit continued use of the space for the intended purposes. They help maintain the effectiveness of the measures employed for surveillance, access control, and territoriality.

A. Low-Maintenance Landscaping

- Use low-maintenance designs and irrigation systems, and drought-resistant plants to facilitate upkeep over time.
- Avoid use of loose rocks.

B. Hardening against Vandalism

- Employ design features and materials that cannot easily be vandalized, stolen or used to damage the property.
- Use graffiti-resistant paint or anti-graffiti coatings on walls, benches, light poles, signs, etc.
- Avoid blank facades at street level.
- Use screens, wired glass, or other protection for light fixtures and bulbs.
- Use shiny aluminum or shatter-resistant glass for mirrors.

CAVEATS

CPTED measures employ three elements -- people, devices, and design features -- to deter crimes of opportunity by making it more difficult for an offender to commit a crime and escape without being stopped or detected.

Although devices and design features are important, the human element is the critical one. People in the environment must:

- Take advantage of the visibility provided to observe and question intruders,
- Report suspicious behavior and criminal activities,
- Use the access control measures provided to keep intruders out,
- Use the security measures provided to protect themselves and their property,
- Exercise control over their environment.
- Maintain the effectiveness of the various measures provided for surveillance, access control, and territoriality, and control, and territoriality.
- Be willing to testify in court to help convict the criminals.

But even all of this will not stop many types of offenders. Other concepts and strategies will also be needed to deal with offenders who are:

- Determined and skillful in defeating surveillance and access control measures,
- Irrational in their behavior,
- Acting as a member of an organized gang,
- Under the influence of drugs or alcohol,
- Reckless or undeterred by the risks of detection and apprehension,
- Unconcerned about possible punishment, or
- Residents and others legitimately in the area.

The need for the community, police, and other agencies and organizations to work together as partners to employ other concepts and strategies is especially critical in dealing with gangs. This is because organized gangs can use many of the same surveillance, access control, and

territoriality measures outlined in this paper, along with terror and intimidation, to make an environment safe for their criminal activities.

Finally, CPTED measures do not deal with many types of crimes that occur in social, home, and business environments. For example, they do not help to prevent crimes in which the victim knows or provides access to the offender, i.e., domestic violence, child abuse, acquaintance rape, substance abuse, workplace violence, fraud, and forgery. Counseling, education, enforcement, and other measures are needed to deal with these situations.

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BIO: Bob Leonard, Beaverton Police Department, Retired

Bob Leonard is a retired 29 year veteran of policing, serving his last 24 years with the Beaverton Oregon Police Department. He was a member of the Community Resource Team, which was responsible for developing and facilitating the organizational transition to Community Oriented Policing and Problem Solving. Bob was involved in curriculum development and delivery, along with numerous community based projects he developed and coordinated. He continues to consult and instruct on a wide variety of community policing, problem solving, homeland security, and crime prevention topics throughout the U.S. He also conducts environmental security and design assessments for public and private agencies.

His previous career assignments have included Patrol Officer, K-9 Handler, Detective, Firearms Instructor & Range Master, and Field Training Officer. Officer Leonard was designated as the Departments Forensic (major crime scene) Photographer, and is certified as a Police Mountain Bike Officer, and Crime Analyst.

Officer Leonard has been recognized as the Instructor of the Year Award from the Western Community Policing Center, the Crime Prevention Association of Oregon, and the Oregon Department of Public Safety Standards and Training as well as the Community Policing Officer of the Year from the Beaverton Police Department. Bob also received the Ken Mainwaring Award from the Crime Prevention Association of Oregon. This is the highest award given by OCPA, given to only one person annually. It is for recognition of significant contributions and dedication to the principles of Crime Prevention, and significant contributions and support to the Crime Prevention Association of Oregon.

Bob has been married for 30+ years, and has two children. Bob has been recognized locally, regionally, and nationally by the Boy Scouts of America for his activities and involvement in scouting.