SAFER BY DESIGN

INTRODUCTION TO:

Crime Prevention Through Environmental Design (CPTED)

Participant Guide
October, 2010

Western Community Policing Institute
Western Oregon University

WCPI WESTERN COMMUNITY POLICING INSTITUTE

WESTERN OREGON UNIVERSITY

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Version 2 – October, 2010

Course Overview

Can physical features of the environment prevent crime or reduce problems thought to be crime related, such as fear of crime? Crime prevention through environmental design (CPTED – pronounced "septed") focuses on the settings in which crimes occur and on techniques for reducing vulnerability in these settings.

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.

CPTED is a proactive crime fighting technique in which 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 techniques 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 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.

CPTED is not offered as a "silver Bullet" for stopping crime but as a comprehensive crime approach that looks at how the physical environment creates opportunities for crime. Because it does involve a great variety of interests, CPTED can also serve as a starting point for other broad based community approaches to address crime, community disorder and some of the underlying conditions that may cause these problems to develop in the first place.

Asking the right Questions! After this training, it will alter and expand your perception of the immediate physical environment. Once the basic principles of CPTED are understood, it is difficult to look at the environment again without asking, "What if ….?"

1. Never look at the environment the same way again
2. Question everything, no matter how trivial
3. Be concerned about what can go wrong

This course will include discussions workshops, and site visits on: basic CPTED principles, natural surveillance, lighting, landscaping, image and maintenance, fences and barriers, activity support, access control and physical security, territorial reinforcement, the 3-D approach (Designation, Definition, and Design), the 3-E's of problem solving, site specific CPTED analysis and assessments, building a CPTED team, and CPTED strategies for specific criminal activity.

By the conclusion of this workshop, participants will:

- Have a better understanding of the CPTED concept and its application;
- Begin to identify safe and unsafe environments;
- Have a better understanding of the role CPTED plays in problem solving efforts;
- Be able to apply proven methods through actual case and on-site studies, to design a safer environment;
- The use of CPTED principles to discourage crime and criminal activity; and
- Be able to assess community problem areas utilizing the S.A.R.A. problem solving process, database decision making, and the three E's of solution response.

Module I: Introductions and Logistics

About Us

- Funded by the U.S. Department of Justice Office of Community Oriented Policing (COPS) and the U.S. Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA), Training Exercise Integration (TEI)
- Delivering Training since 1996
- Located at Western Oregon University in Oregon
- Part of a national network of Regional Community Policing Institutes

Housekeeping

- Coffee / refreshments
- Restrooms
- Phone calls, cell phones and pagers
- Breaks and meals
- Seating arrangement
- Sign-In Forms
- Participant manuals

Activity: Three Hats and a Passion

List three hats you wear and one passion in your life:

Hats: 1._____

2._____

3._____

Passions: _____

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Ground Rules

- Be prepared to start and end on time
- Direct you attention to the front of the room
- Get everyone involved
- Respect the opinions of others
- Be an active, empathetic listener
- Parking lot
- Recognize the value of making a mistake
- Decision making through consensus
- Have fun!

Expectations

What do you know about CPTED?

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Are you using CPTED? If so, how are you currently using it?

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What are some of your expectations?

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Session 1: 1st Generation CPTED

Does the physical environment affect crime?

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Can we introduce changes to the physical environment to reduce crime and the fear of crime?

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CPTED Defined

"The proper design and effective use of the build environment can lead to a reduction in the incident and fear of crime and improve in the quality of life."

National Crime Prevention Institute, C. Ray Jeffrey, 1971

CPTED Background

- "The Death and Life of Great American Cities" – Jane Jacobs, 1961
- "Crime Prevention Through Environmental Design" – C. Ray Jeffery's, 1971
- "Defensible Space" – Oscar Newman, 1972

CPTED Goals

- Reduce crime and fear;
- Reducing criminal opportunity;
- Fostering positive social interaction among the legitimate users of a space;
- Emphasis is on prevention, rather than apprehension and punishment;
- Prevent crime through designing a physical environment that positively influences human behavior; and
- Part of a Comprehensive Crime Prevention Program

What is it about the design/location which could generate operational concerns?

1st Generation CPTED's Basic Principles

- Territoriality
- Natural Surveillance
- Access Control
- Image
    - o Maintenance
    - o Management

Session 2: Why CPTED?

What do <u>you</u> think the <u>basic mission</u> of policing is?

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What does the <u>Community</u> think?

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Peel's Principles of Policing

"The basic mission for which the police exist is to prevent crime and disorder as an alternative to the repression of crime and disorder by military force and severity of legal punishment."

"…the police are the public and the public are the police; the police are only members of the public who are paid to give full-time attention to duties which are incumbent on every citizen in the interest of community welfare."

Sir Robert Peel, 1829

How do we measure how well we do?

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How does the Community measure us?

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"The test of police efficiency (value) is the absence of crime and disorder; not the visible evidence of police action in dealing with them."

Sir Robert Peel, 1829

What is Community Policing (write your own definition)?

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What are the roles of the police and the community?

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Community Policing

… is a philosophy that promotes organizational strategies, which support the systematic use of partnerships and problem-solving techniques, to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime.

 U.S. Department of Justice Office of Community Oriented Policing Services, 2009

Problem Solving

"…a strategy wherein the police and the community share resources and responsibility for solving recurring problems that directly or indirectly threaten community safety or livability."

-Western Community Policing Institute

Activity: Problem Solving

Problem Solving

underlying conditions

problem

INCIDENT

REPEAT INCIDENTS

Analysis

Police Response

police or other
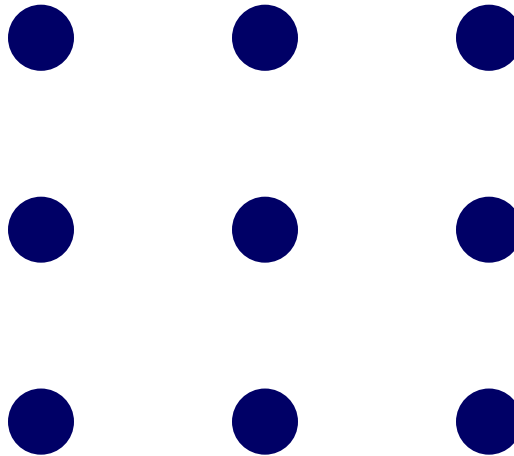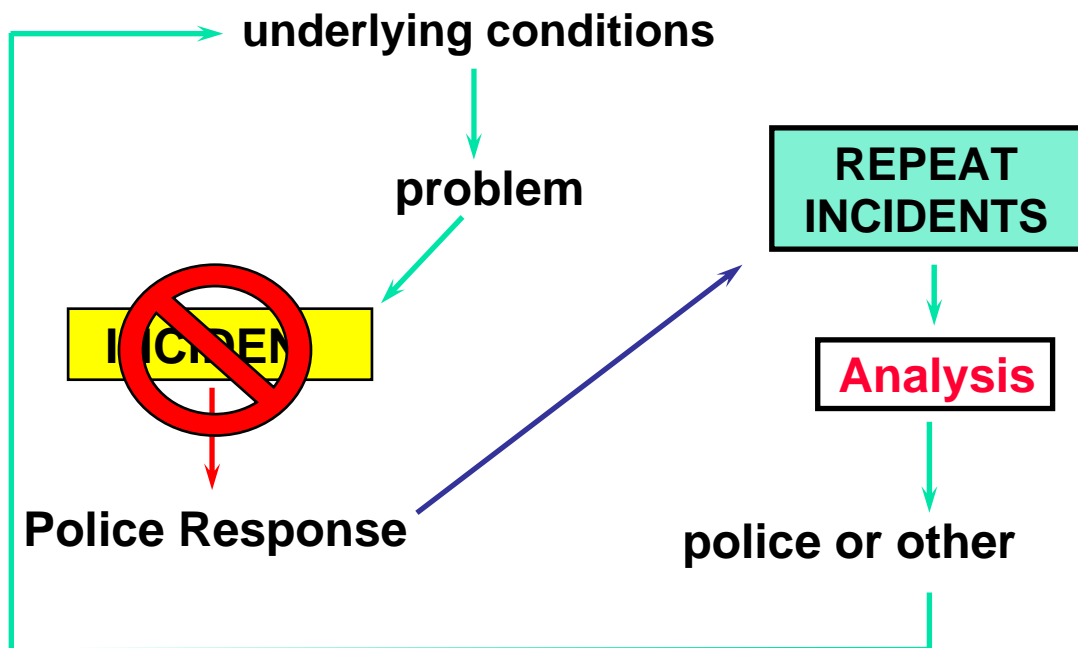
The Problem Solving Process
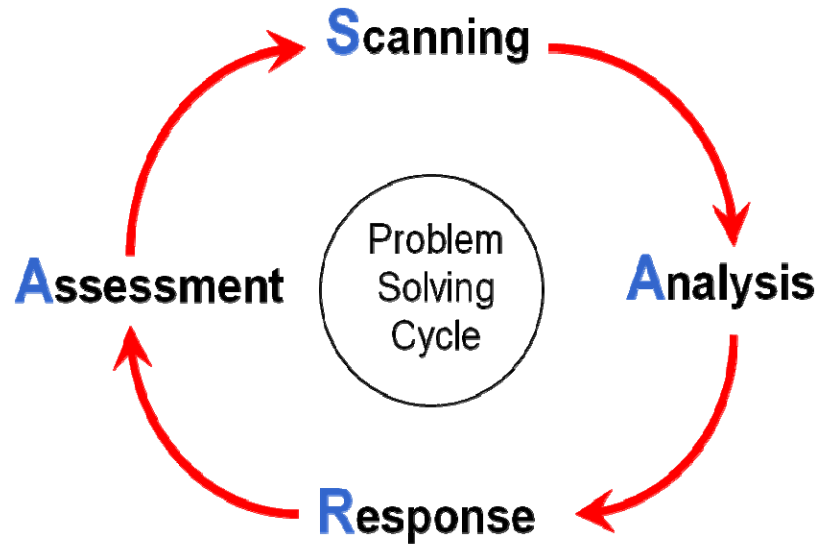
List some of your most repeated "calls for service" or "security concerns."

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Birds are making a mess of the Lincoln Memorial

- **Why?**
- **Why?**
- **Why?**
- **Why?**
- **Why?**

List questions to ask that could give you further insight into your problem….

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Crime Triangle
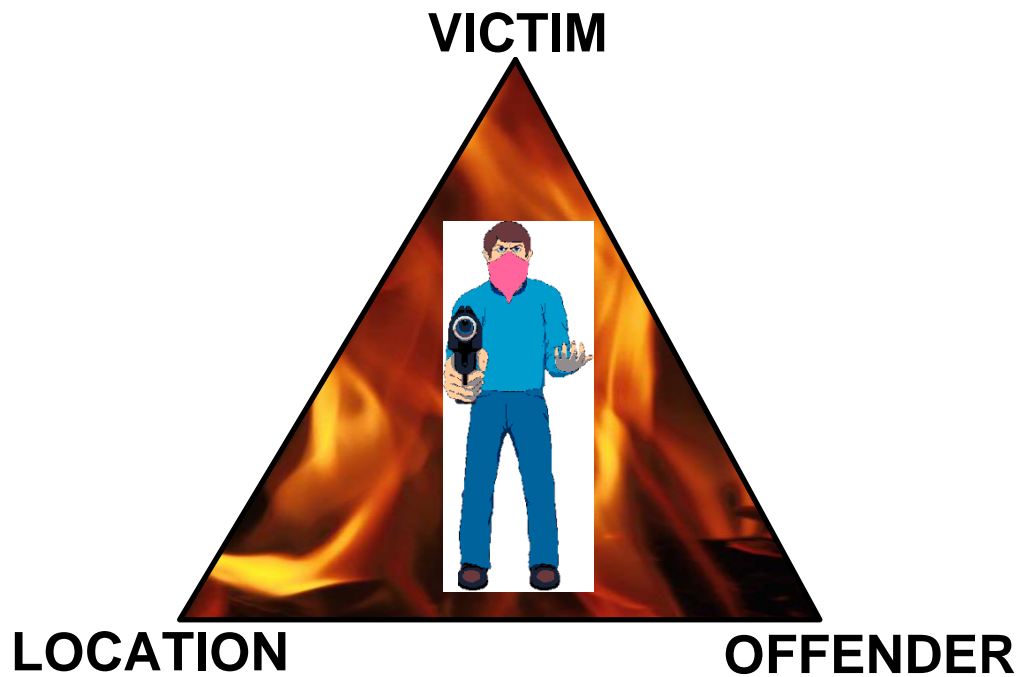
Crime Elements
- OFFENDER/SUSPECT:
   "Someone motivated to commit harmful behavior"
- VICTIM:
   "A desirable and vulnerable target"
- LOCATION:
   "A place where the victim and offender meet"

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Coordinated Responses – 3 E's
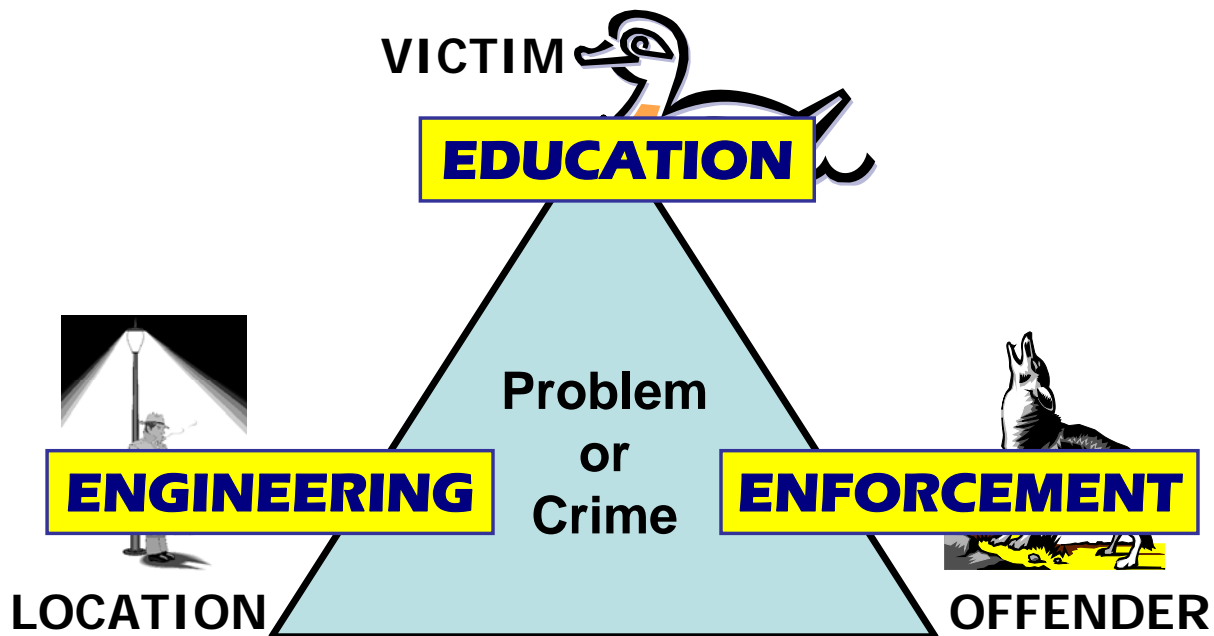
List possible solutions

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List possible solutions

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Session 3: Territoriality

Territoriality

- People protect what they feel is their own
- Certain respect for the territory of others
- Defensible Space
    o Public Zones
    o Semi-Private Zones
    o Private Zones

- "Broken Windows" theory
- Well maintained spaces attract law abiding users, discourage disruptive users
- Disorderly, dirty environment attracts disruptive users, while discouraging use by law abiding persons
- Territoriality encouraged by activities and management techniques

Public vs. Private Zones

Semi-Private Zones

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Commercial CPTED

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Territoriality Strategies

- Improve appearance / Landscape
- Subdivide large areas
- Personalize
- Create indoor or outdoor activity areas
- Make special provisions for facilities that attract undesirables.
- Lighting

Session 4: Natural Surveillance

Natural Surveillance

- Criminals don't want to be seen
    - Puts offender under threat of being observed, identified & apprehended
- People must be able to see illegal acts taking place
    - Keep outsiders under observation
- Surveillance depends on "ownership" – Territorial investment

Activity Support (Natural)

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Benches and Seats

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Outside Restaurant Seating

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Courtyard/Pool

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Formal (Organized) Surveillance

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Formal (Organized) Surveillance

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Lack of Surveillance

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Surveillance Strategies

- Improve lighting
- Add windows
- Locate vulnerable areas near those actively used
- Electronic surveillance / cameras / PPS
- Remove visual obstructions in streets and public areas
- Control Landscaping
  - Above six feet
  - Below two feet
- Remove window clutter in retail businesses
- Move positive use activities to vulnerable areas

Session 5: Access Control

Access Control

- Direct/control foot and vehicle traffic
- Decrease criminal opportunities – restrict access
- Enhances surveillance or ability to see or be seen
- Increases risks perceived by offender by controlling or restricting their movement

Security Basics

Access Control

- Mechanical – "Target Hardening"
- Organized – Personnel
- Natural – Surveillance & Territoriality

Security Survey components

1. Doors, Locks, Windows
2. Lighting
3. Landscaping
4. Alarms
5. CPTED

Protection vs. Threat?

Role of Target Identification
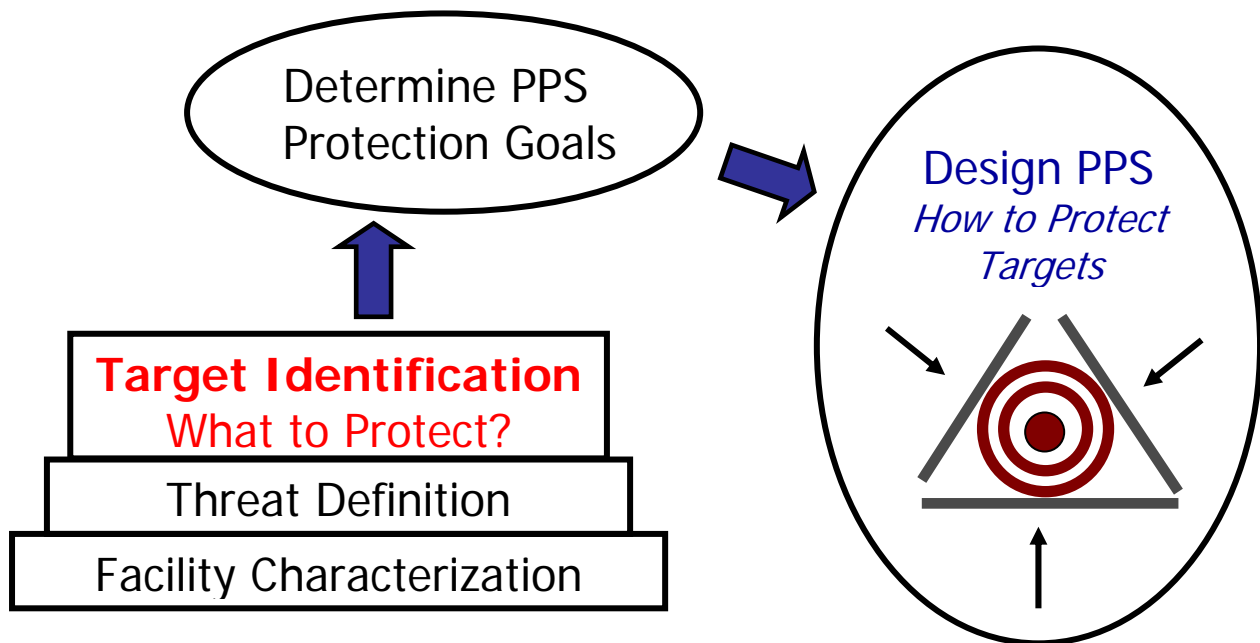
Prevent Theft and Sabotage

- **Deter** the adversary
    - o Implement PPS which all adversaries perceive is too difficult to defeat
    - o Problem: Deterrence is impossible to measure for high-consequence yet low-frequency events
- **Defeat** the adversary with PPS
    - o PPS functions: detect, delay, response
    - o Response force prevent adversary from accomplishing his goal

BEFORE spending any money on hardware, you MUST understand what you are protecting and from whom.

Physical Protection Systems

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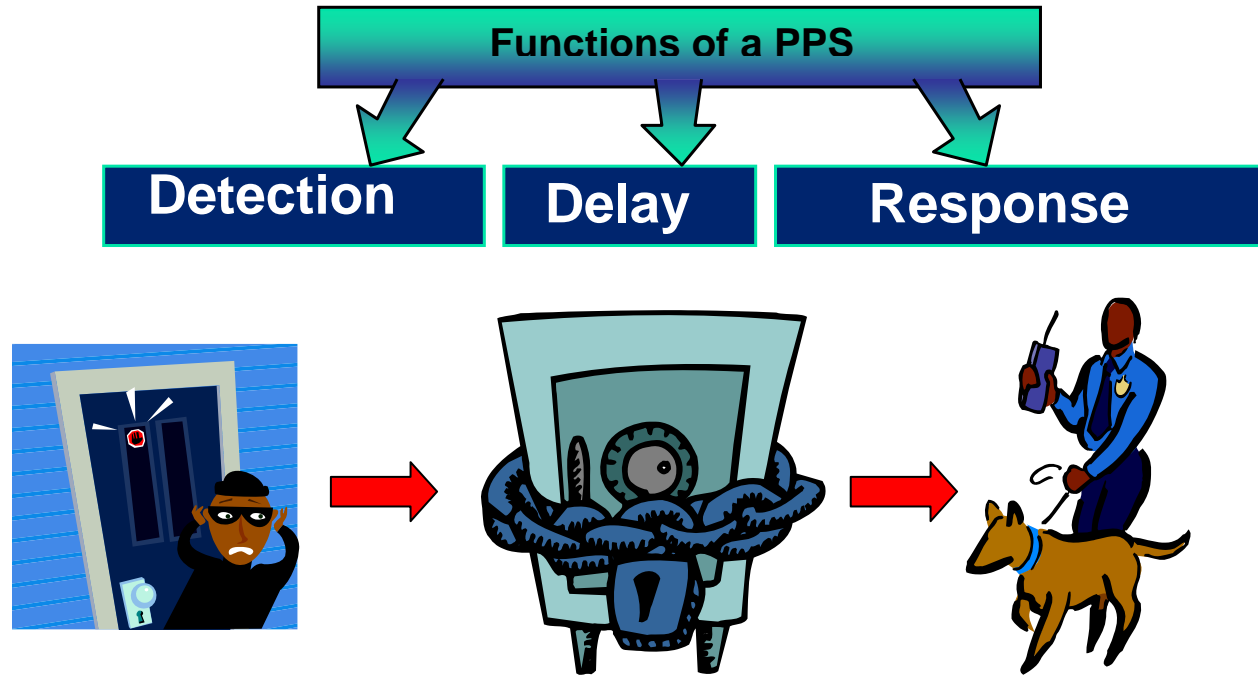
Adversary Task Time vs. PPS Time Requirements

Begin Action

Task Complete

Adversary Task Time

PPS Time Required

Detect

Respond

Alarm Assessed

Adversary Interrupted

Delay

T_O T_A T_I T_C

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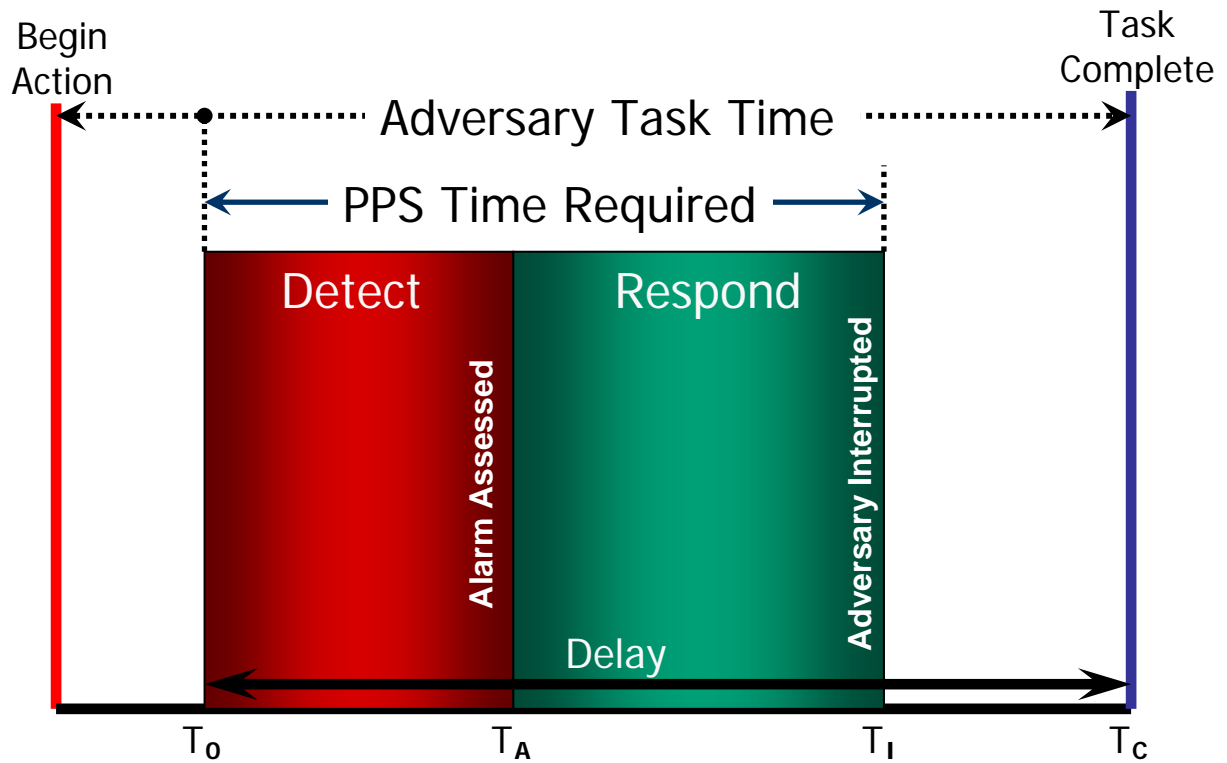
Physical Protection System

- Exterior Intrusion Detection
- Interior Intrusion Detection
- Alarm Communication System
- Video Alarm Assessment System
- Entry/Access Control
- Access Delay (Barriers)
- Response Force

Digital Video Systems

What are their purpose?

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Improvements

- **Operational protection systems**
  - o Policies and procedures (release of information to public; background checks, tours, deliveries, etc)
  - o Monitoring (on-line systems, database)
  - o Neighborhood watch programs
- **Capital improvements**
  - o Perimeter detection systems
  - o New software; alarm systems

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Prioritize Improvements

Data 1	Threat 2 Assessment	Site 3 Characterization	Fault Tree 4 Analysis	Recommendations 5

- Timely implementation schedule

- Ability to select and obtain optimal security system

- Financially sound investment

- Minimize undue disruption of operating staff

Analysis and Evaluation

- Identify system deficiencies
- Help to select system improvements
- Allows cost vs. system effectiveness comparisons to be made

Establish Acceptable Risk

$$R = P_A * (1 - P_E) * C$$

Calculate Risk:

Where:

R = Risk

P_A = Probability of attack

$(1 - P_E)$ = Probability attack succeeds

C = Consequence

0.0 = None

1.0 = Catastrophic

Gaining Knowledge
- How Criminals work?
  - Crime Specific
  - Location Specific

- Hardware

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Barriers

- Fences, walls hedges and other obstacles referred to as Boundary markers (NCPI)
- Identify property lines
- Limited protection from trespass
- First line of defense
- Enhance access control
- Residential –
  o Define property lines,
  o Prevent casual trespassing,
  o Confine small children and pets
- Add aesthetic appeal

Privacy Fences
- Higher interest in residential areas
- Prevent surveillance of backyards, windows and doors
- Limit your ability to look out
- Increase potential for graffiti

Security Fencing
- Built to higher threat levels.
- More substantial
- Fewer projections to aid in climbing
- Augmented by alarms or surveillance devices when needed

Access Control Strategies

- Target hardening
- Reduce number of entrances
- Key access to sub-environments
- Fence off problem areas
- Close off or restrict residential streets
- Locate vulnerable areas near the source of natural surveillance

Session 6: IMAGE – Maintenance, Landscaping, & Lighting

Maintenance

Lighting

- 41 % fear being attacked or robbed on the streets during the day
- 61% fear of being attacked or robbed at night

Lighting Study – DOJ

"Although there is not statistically significant evidence that street lighting impacts the level of crime, especially if crime displacement is taken into account, there is a strong indication that increased lighting, perhaps lighting uniformity, decreases the fear of crime."

Brief History
- This first street lighting system was in Paris in 1558 and used pitch-burning lanterns.
- Lighting was intended to rid the streets of nighttime robbers.
- We continue to light streets because people are fearful of being out in the dark.

Terms
- **LUMEN** -- A measurement of efficiency. As the number of lumens increases so does the brightness.
- **WATT** -- A measurement of the amount of energy consumed.
- **FOOTCANDLE** --This is a unit of illumination that light is measured in.

"The basis or benchmark used to create a footcandle is the uniform distribution of one lumen light, on a surface one square foot in area."

Rating Lighting Sources

In the case of incandescent lighting, if a 100 watt bulb were producing a maximum lumen efficiency, it would produce 2,300 lumens.

"By knowing the watt to lumen comparison it is possible to light an area with another lighting source, use less wattage, and obtain a significantly higher lumen output."

Session 7: IMAGE: Management/Rental Property Strategies

Role of Third Parties

1. **Suspects:** Acting in the best interest of the potential offender, try to prevent them from committing crimes
2. **Victims:** Try to prevent harm from coming to potential victims
3. **Locations**: Oversee places (ie, Managers)

Stakeholders who attempt to act on behalf of one or more of the elements in the triangle.

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CPTED's Basic Principles – START WITH THE BASICS

- Territoriality
- Natural Surveillance
- Access Control

Strategies

- Landlord Training Program
- CPTED modifications
- Resident Crime Prevention Training
- Work with Local Police – Problem Solving
- Work with Surrounding Neighborhoods
- Screen tenants / Users
- Maintenance
    - o Broken Windows
    - o Increase Territoriality
    - o Increase Surveillance

Enhanced Safety Properties

- <u>Phase I</u> – Complete Landlord Training Program
- <u>Phase II</u> – Meet minimum CPTED requirements
- <u>Phase III</u> – Resident Crime Prevention Training

CPTED Benefits

- Reduce crime in crime infested areas
- Prevent crime from gaining foothold in new facilities
- Allows and influences the user(s) to gain control over the environment
- Encourages partnerships, teamwork by organizations with similar goals

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Session 8: Beyond the Basics – "Risk Assessment Process"

Risk Assessment Process

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Planning ──► Purpose, Objectives, Goals
             Desired outcomes

Asset
Identification ──► Prioritize Critical Assets (C) Physical property, inventory,
                   systems, customers, image What is the system in place to manage
                   & control assets?

Threat
Assessment ──► Design Basis Threat (P_A) Identify &
               Prioritize

Vulnerability
Assessment     • Related to Asset & Associated Threat
               • Criticality & Consequences

Assess
Effectiveness

System         • Physical Protection System (P_E)
Effectiveness  • Human Involvement System

Risk Identification    R = P_A(1- P_E)C
& Analysis

Risks Acceptable?  Y ──► End
                   N
Proposed Improvements/Enhancements
• Cost-effective Corrective Measures
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R = Risk
P_A = Probability of Attack
$(1 - P_E)$ = Physical Protection Effectiveness
C = Consequence

$$R = P_A(1 - P_E)C$$

Planning

- Security in a Business Environment
  - Tourism vs. Security
  - Competition vs. Collaboration
  - Site Security vs. Community Security
  - "Branding" – Why is this so important
- Purpose
- Goals and Objectives
- Self-Assessment to validate risk

Asset Identification

Who are you going to protect?

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- Prioritize Critical Assets
    - Physical property, inventory, systems, customers, image
    - What is the system in place to manage & control assets?

Threat Assessment

- **<u>Design Basis Threat</u>**
    - Identify & Prioritize
- Actual level of threat you plan to prevent in designing PPS. What threat are you going to design to defeat?
- Definition of DBT has direct impact on PPS design

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Vulnerability Assessment

- Related to Asset & Associated Threat
- Criticality & Consequences
- Environmental factors permitting/facilitating problem
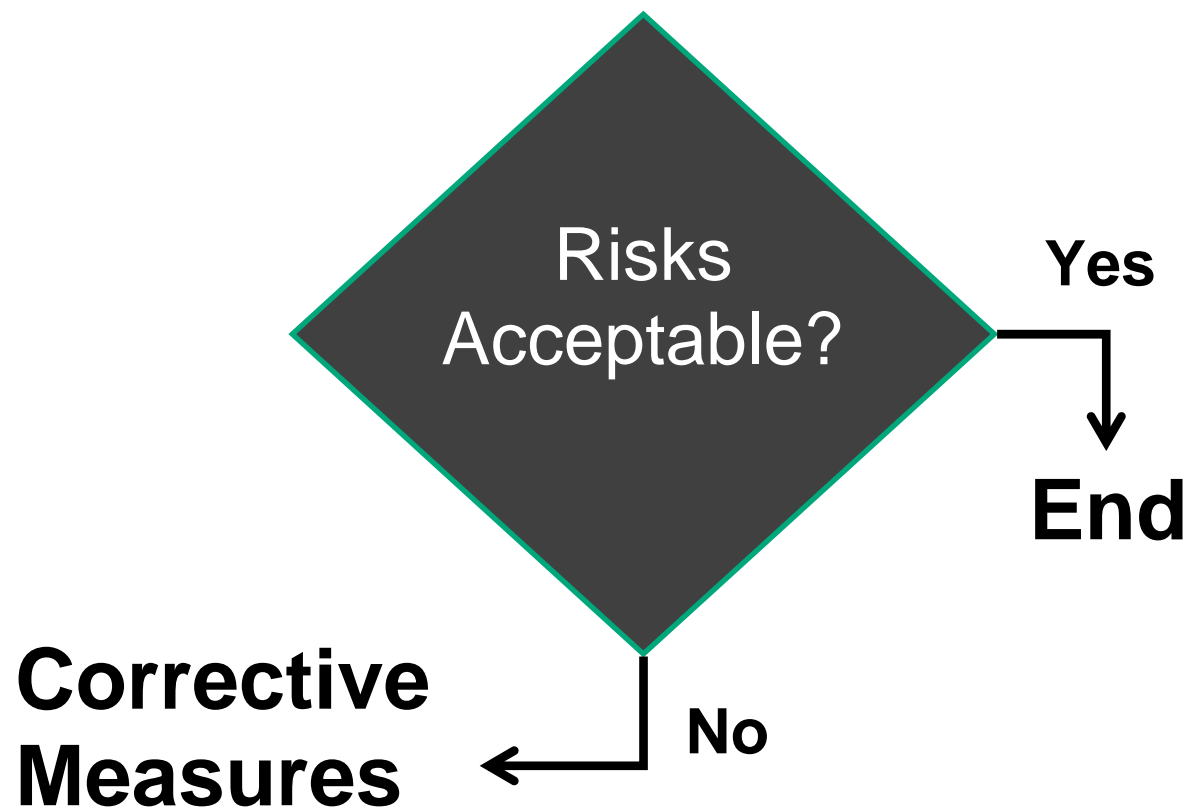- Situational Conditions permitting/facilitating problem

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System Effectiveness

- Debrief of Vulnerability Assessment
- Physical Protection Systems
- Human Involvement System

Risk Identification and Analysis

- Debrief to Identify Risks
- Analyze risks – Acceptable/Unacceptable

Decision Tree

Proposed Improvements and Liabilities

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Assess Effectiveness

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Session 9: Advanced CPTED

Advanced CPTED Principles

- Activity Support
- Movement Predictors
- Land Use
- Positive Displacement
- Situational Crime Prevention

Activity Support

When the intended design of a particular urban feature properly fits the designated use.

Movement Predictors

- Land use features, such as walkways escalators, paths and trails, encourage people to take a certain predictable route to and from areas.
- The predictability of these routes can be done in such a way that places pedestrians at risk or vise versa.

Land Use

- The way land is used can significantly shape crime opportunity.
- How these land uses are put together can reduce, or increase, the potential for certain types of crimes.
- Additionally, it is difficult to create a sense of community when people use a neighborhood for only one single purpose.

Positive Displacement

- Positive displacement is when activities that might normally generate conflict, such as skateboarders near seniors housing, are intentionally placed in more appropriate locations to minimize potential conflict.
- "Displacement"

Situational Crime Prevention

- By Ronald Clark in his book.
- It employs strategies to reduce the opportunity for crime in discrete, local areas.

Session 10: 2nd Generation CPTED

2nd Generation CPTED

- 2nd Generation CPTED is a community planning and capacity building model for locally-driven public safety initiatives.
- Provides integrated and holistic way to develop, plan and administer public safety in cities and neighborhoods.
- Through systematic diagnoses, coordination and planning, 2nd Generation CPTED provides community groups the opportunity to develop sustainable neighborhood capacity while creating solutions to local public safety concerns.
- The diagnosis and planning allows community developers, planners and law enforcement to purposefully integrate services and improve safety in neighborhoods plagued by crime.
- People are not likely to have strong territorial feelings unless the develop a sense of shared standards for positive behavior and overall neighborliness.
- They must actually care about the people and place where they work, play and live.

Cohesion

- Cohesion strategies enhance relationships between residents, merchants and key participants in a neighborhood.
- Social cohesion strategies work to enhance the skill base and effectiveness at resolving community issues for such groups.

Connectivity

- Neighborhoods and community groups must not operate in isolation of one another.
- There must be a formal or informal way to connect and communicate among key players.
- Every neighborhood needs connectivity outside itself, such as a capacity for soliciting resource support or writing funding proposal.

Capacity Threshold

- The capacity of any given activity or space to properly support the intended use.
- Example: too many abandoned homes in a neighborhood has been shown to act as a magnet for certain types of crimes and vandalism. (Tipping Point)
- Social stabilizers and balanced land use help to minimize destabilizing activities that often tip an area into crime.
- Social stabilizers include: safe congregation areas, positive events for young people or active community social organizations.

Obstacles to CPTED

- Lack of knowledge. Requires an investment in training.
- Resistance to change.
- Can be seen as a panacea for crime that will be used to replace other more traditional approaches
- Many existing built area's were not designed with CPTED in mind.
- Modifications may be expensive, politically difficult, or require significant changes in some areas of the existing built environment.

Notes:

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