



Section III: Crime and the Built Environment

Environmental Criminology

DEFINITION:

It is a group of different criminological theories that are interested in the interactions between crime and the built environment.

This field of environmental criminology combines sociological and geographical ideas to describe, understand and control criminal events.

It encompasses both theoretical understanding of spatial aspects of crime and victim selection as well as crime prevention.

Different Theories within Ecological Criminology

CPTED: Crime Prevention Through Environmental Design

Interested in how to prevent crime through smart design.

Situational Crime Prevention:

Interested in crime prevention through intelligent actions.

Defensible Space:

Interested in how communities can defend themselves.

Secured by Design

Focuses on how to “design out crime” through smart building and planning

CPTED

Crime Prevention Through Environmental Design

Created by C. Ray Jeffery

Main Idea:

Aimed at identifying conditions of the physical and social environment that provide opportunities for or precipitate criminal acts and the alteration of those conditions so that no crimes occur.

Its central premise is that crime can be facilitated or inhibited by features of the physical environment.

The way to prevent crime is to design the “Total Environment”

It is the opposite of the reactive strategies of the police.

Logic behind CPTED

Closely related to rational choice theory.

Crime reduction can be achieved through policies that convince potential criminals to desist from criminal activities, delay their actions, or avoid a particular target.

Thus crime prevention can be achieved through one of 3 ways:

1. Potential targets are carefully guarded.
2. Means to commit crime are controlled.
3. Potential offenders are carefully monitored

Logic behind CPTED continued

Crime prevention efforts aimed at people, such as general and specific deterrence are less sure to work because of the high mobility of people.

People are not permanent fixtures of an environment for very long, they move around a good deal throughout the day.

HOWEVER

Things such as buildings and other physical features of the environment are relatively permanent

As a result, CPTED can produce effects on crime and perceptions of personal crime risk.

Design Principles for Reducing Crime

Control Natural Access: Encouraging people to go where they will do no harm or receive no harm.

Example: Using hedges, shrubs, gates and fences to direct people to the entrance and exits of buildings.

Provide Natural Surveillance: Placing potential crime targets in places where they can be watched easily.

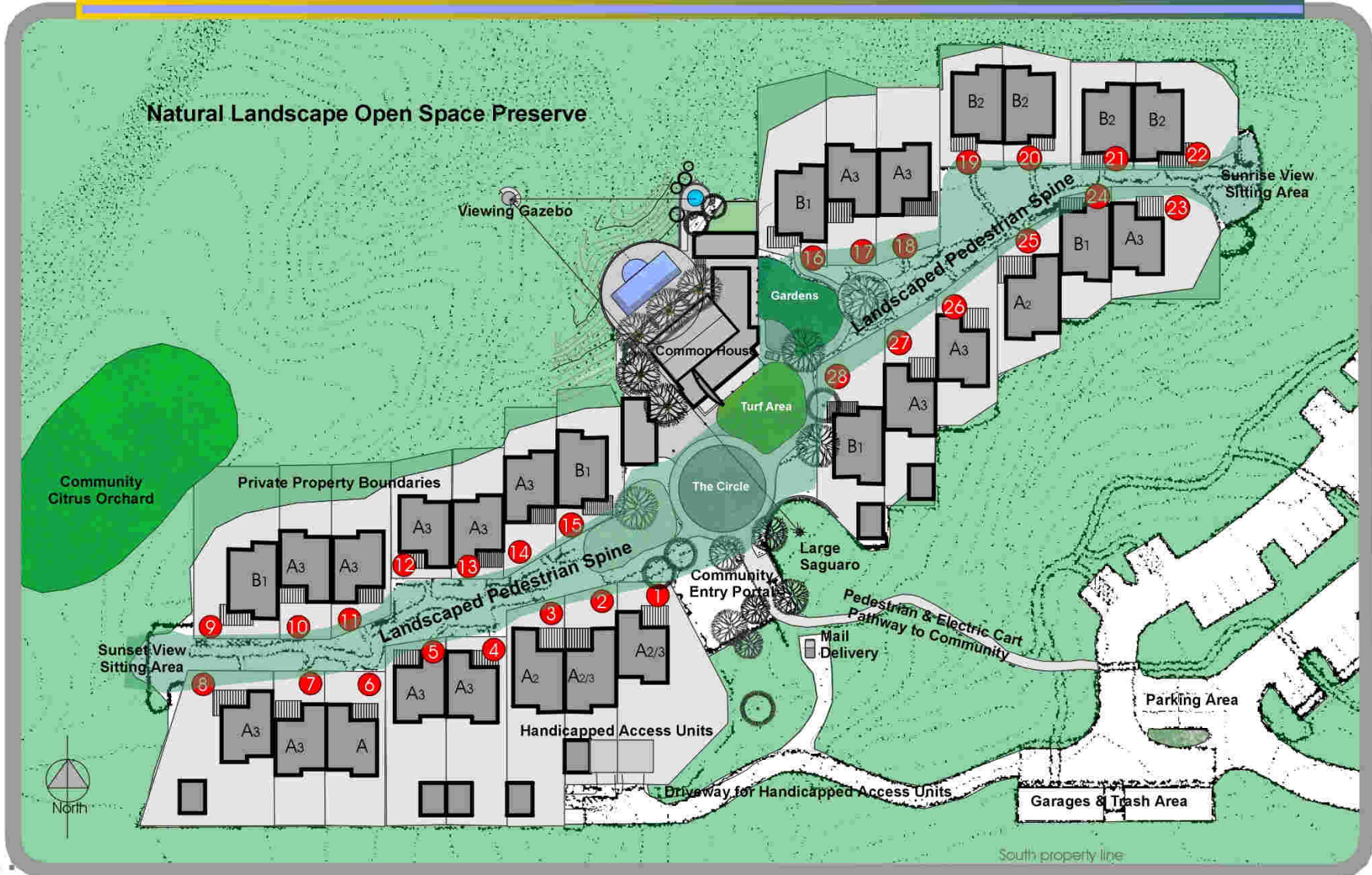
Example: Making front windows on houses face those across the street.

Foster Territorial Behavior: Marking territorial areas so that they are easily observed and noted.

Example: Do landscaping so that it is readily apparent where one apartment ends and another begins.

MILAGRO

SITE PLAN AND OPEN SPACE CONCEPT FOR A COMMUNITY IN BALANCE WITH NATURE



Crime Prevention Strategies

The three main design approaches apply to three main strategies.

Natural Strategies: Security results from the design and layout of space.

Both human and capital costs are low.

Organized Strategies: Security guards or police play the central role.

Labor intensive and expensive.

Mechanical Strategies: Alarms, cameras and other hardware are used to control access and provide surveillance.

Expensive equipment and requires additional employees to monitor and respond to alarms.

Natural strategies are superior economically and avoid confrontation by preventing crime from happening in the first place.

The Three “D’s” of CPTED

Based on the three dimensions of human space to describe useful CPTED strategies that can be used in various environments, including commercial, residential and school environments.

3 Dimensions of Human Space

1. Designation
2. Definition
3. Design

Using the Three D's as a guide, any given space may be evaluated by asking a series of questions.

Designation

1. What is the designated purpose of this space?
2. For what purpose was it originally intended?
3. How well does the space support its current use or its intended use?
4. Is there conflict?

These questions are designed to determine if the space/area has been altered or co-opted from its original purpose. If the space is not being used as was originally intended, changes must be made to return it to its original use.

Definition

1. How is space defined?
2. Is it clear who owns it?
3. Where are its borders?
4. Are there social or cultural definitions that affect how space is used?
5. Are the legal or administrative rules clearly set out and reinforced in policy?
6. Are there signs?
7. Is there conflict or confusion between purpose and definition?

These questions are aimed at the issue of Territoriality

Specifically, does territorial behavior exist in this area.

If not, then tactics can be implemented to try and establish territorial behavior among the users of the space.

Design

1. How well does the physical design support the intended function?
2. How well does the physical design support the desired or accepted behaviors?
3. Does the physical design conflict with or impede the productive use of the space or the proper functioning of the intended human activity?
4. Is there confusion or conflict in the manner in which physical design is intended to control behavior?

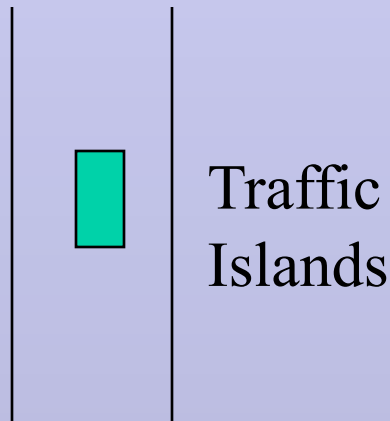
Questions are aimed at determining if there are problems with the actual design of the location.

If the design is poor, then redesigning the location is used to improve prevention.

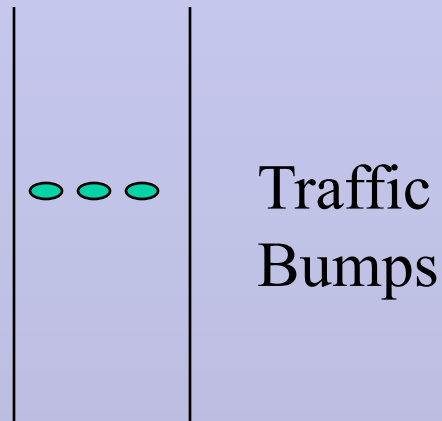
Examples of CPTED

Traffic Flow in a Neighborhood:

Reducing or restricting traffic flow in a neighborhood can prevent criminal activity by preventing easy access in and out of an area.



Example 1



Example 2

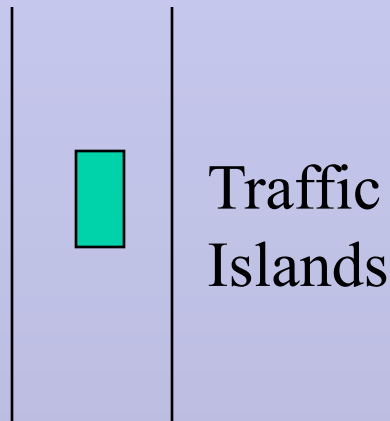


Example 3

Example of CPTED

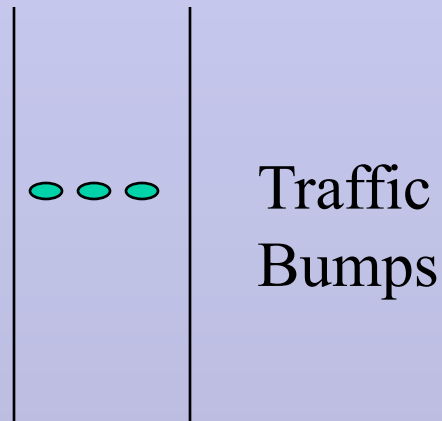
Traffic Flow in a Neighborhood:

Reducing or restricting traffic flow in a neighborhood can prevent criminal activity by preventing easy access in and out of an area.



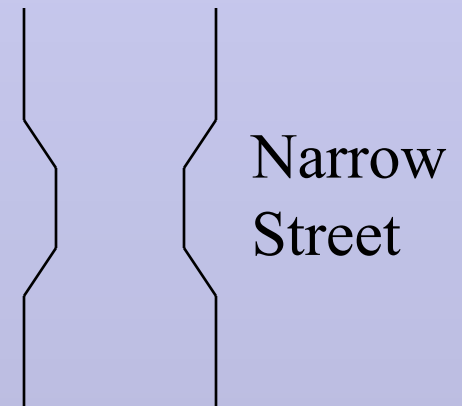
Traffic Islands

Example 1



Traffic Bumps

Example 2



Narrow Street

Example 3

Research on CPTED

1. Much of the practical applications of CPTED have been in target hardening.

Largely successful

2. Increasing street lighting in crime prone areas reduced crime.
3. Creating cul-de-sacs in very dangerous areas of Los Angeles reduced the occurrence of drive-by shootings.
4. Making entrances and exits into public housing area one-way reduced crime overall in those areas.
5. Placing strategic barricades of streets leading into a major drug neighborhood in order to limit access reduced drug related offenses.

Implications for Crime Mapping

1. Increased Police presence or patrol is not always the best solution to a crime problem.
2. Look for causes of crime in mundane things such as:
 - Traffic flow
 - Building design
 - Location of alleys, highways and throughways
3. Use small things to deter crime.
 - Speed bumps, etc...

Defensible Space

Created by an Architect, named **Oscar Newman**

His goal was to create safer public housing

Main Idea:

Design a **residential environment** in order to allow and even encourage residents themselves to supervise and be seen by outsiders as responsible for their neighborhoods.

It attempts to reduce **both crime and fear of crime** in a specific area by means of reducing opportunity for crime and fostering positive social interaction among residents.

Defensible Space

The development of coordinated design standards – for architecture, land use, street layout and street lighting – which improve security.

Its goal is to create environments which reduce the opportunities for crime while encouraging people to use public space in ways that contribute to their safety and enhance their sense of community.

The idea of environmental design is more complex than simply redesigning space.

It includes redesigning residential environments so that residents use the areas and become *willing to defend their territory* .

Logic behind Defensible Space

Defensible space design attempts to strengthen two kinds of social behavior within a residential area:

Territoriality: Personal sense of ownership over an area.

Natural Surveillance: Placing potential crime targets in places where they can be watched easily

Areas low in defensible space are theoretically more vulnerable to crime because **feelings of community spirit and ownership** are not generated by residents and they are **less likely to be able to recognize outsiders as potential criminals**.

In small areas defensible space increases the effectiveness of informal social control which makes crime less likely.

Design Goals of Defensible Space

Improve Visibility: Improve visibility between apartment units/homes by residents.

Areas that are out of view cannot be controlled

Increase Public Areas: Create spaces where residents could gather, thereby increasing the potential for resident *surveillability*.

If you bring residents together they are more likely to know each other and watch each others places.

Overall you want to reduce anonymity and isolation of people and places within a community.

Local Space

A key part of improving Defensible space is to improve the control of Local Space

Newman divides local space into four different categories:

Public: Places where no one has control or dominion.

Does not refer to ownership or property rights, but practical control of space.

Example: Streets

Semi-Public: Places that people treat as having SOME responsibility over, despite their public ownership.

Example: Sidewalks in front of homes.

Local Space

Semi-Private: Areas that are controlled by a person(s) but are within view of the public.

Example: Backyard of a house.

Private: Places in which people have complete ownership and are able to watch completely and deny access to others.

Example: Inside of home.

Local Space and Crime Prevention

1. Private supervision is the key to crime prevention.
2. Things are more likely to be stolen if they are left in public or semi-public space.
3. Move as much space as possible to the private end of the scale so as to increase security and prevent crime.
4. People will look after their own private and perhaps semi-private space, whereas people on the street will provide “natural surveillance” of semi-public areas.
5. In pure public areas surveillance of any type is difficult and crime risk is greatest.

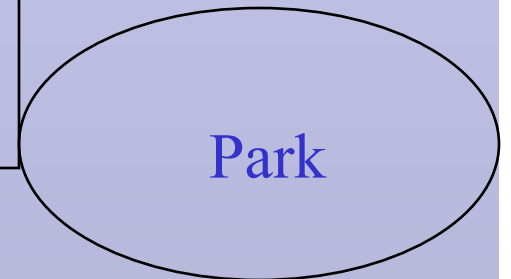
Good use of Local Space ?



Example of Defensible Space Design

Design neighborhoods so that they increase **territoriality** and natural **surveillance**.

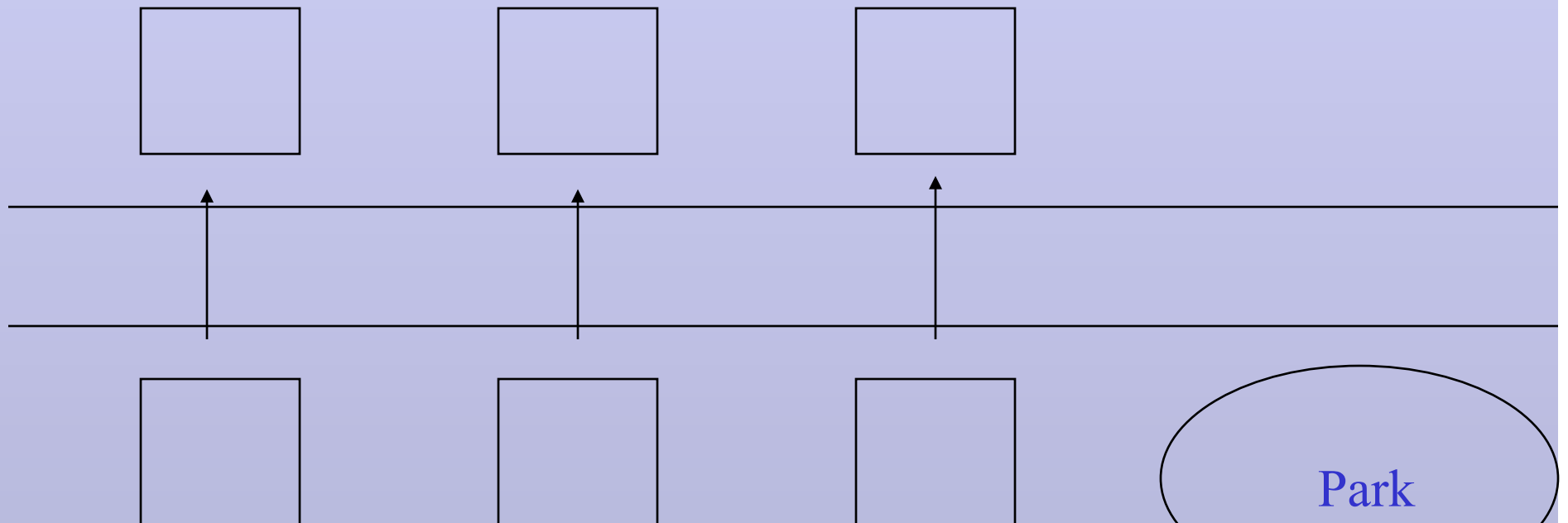
HOW WOULD YOU INCREASE BOTH IN THIS CASE?



Example of Defensible Space Design

Design neighborhoods so that they increase territoriality and natural surveillance.

HOW WOULD YOU INCREASE BOTH IN THIS CASE?

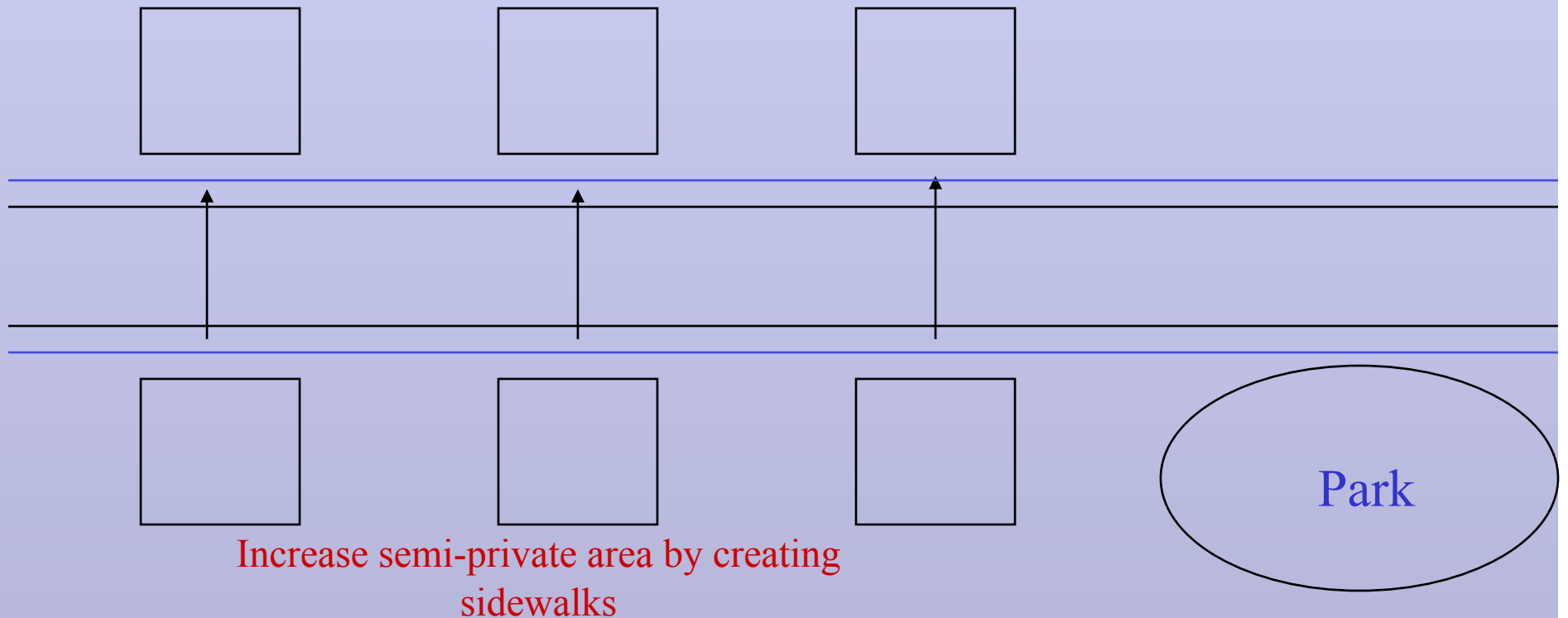


Place homes across from each other to
increase natural surveillance

Example of Defensible Space Design

Design neighborhoods so that they increase territoriality and natural surveillance.

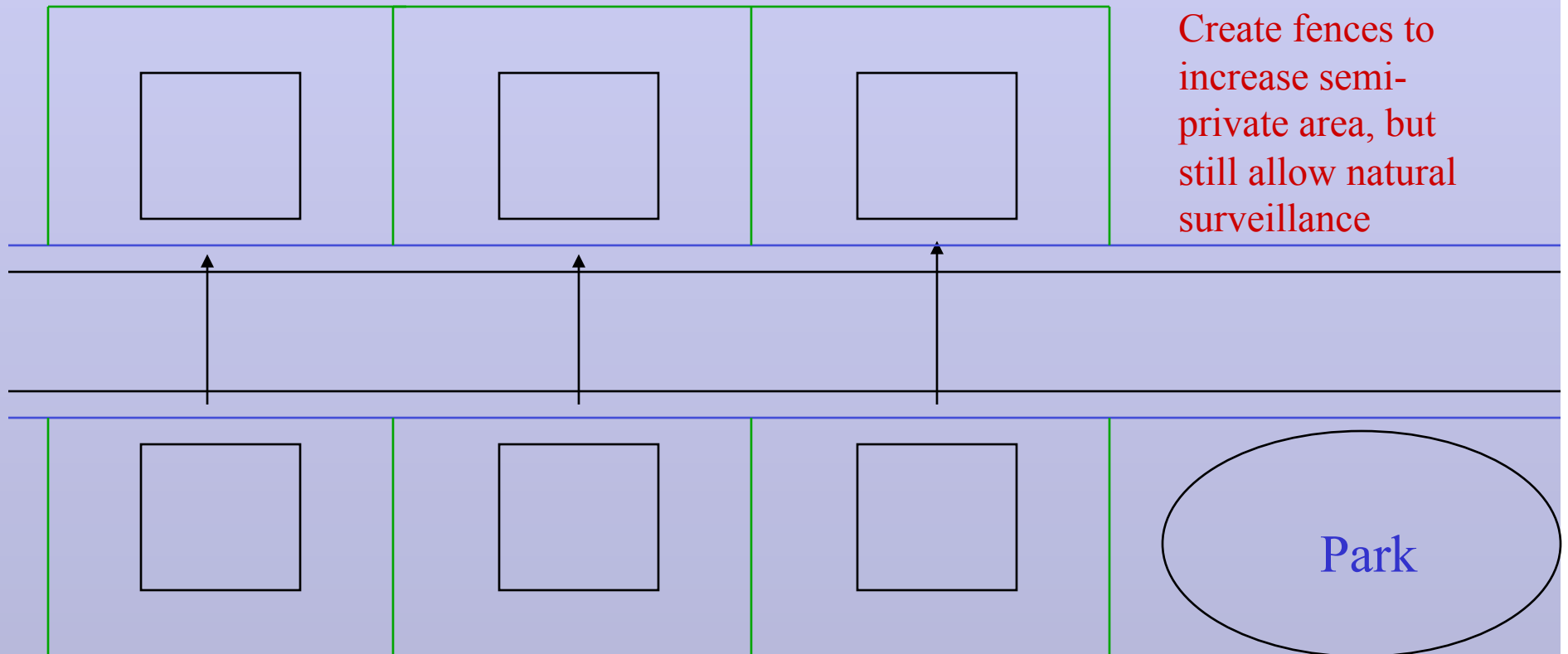
HOW WOULD YOU INCREASE BOTH IN THIS CASE?



Example of Defensible Space Design

Design neighborhoods so that they increase territoriality and natural surveillance.

HOW WOULD YOU INCREASE BOTH IN THIS CASE?



Impact of Defensible Space

Projects sprang up everywhere using Defensible Space concepts.
Largely focused on

Housing Projects

Schools

Mixed Use communities

Main strategies included:

Roads were closed or narrowed; More one-way streets; Increased use of sidewalks; Improved outdoor lighting; increased development of public areas; development of “mixed-income” homes in neighborhoods

Research on Defensible Space

1. Low-rise buildings instead of high-rise buildings in Government housing areas reduces overall crime.
2. Use of low fences in neighborhoods increases territoriality and decreases incidence of burglary and theft.
3. Small streets in residential areas increases neighborhood supervision and lowers crime.
4. A larger number of small parks rather than a small number of large parks reduces incidents of crime by decreasing large public areas where surveillance is poor.

However

Impact of design changes on overall crime in areas outside of public housing units was almost non-existent.

Implications for Crime Mapping

Main implications for crime prevention and mapping are in the design and redesign of communities, rather than the identification of crime spots.

1. Look at small design features of neighborhoods that have high crime to determine potential crime prevention methods.

Fence levels, use of hedges and gardens.

2. In order to reduce crime, increase private and semi-private areas.
3. Work with city planners and designers to reduce crime in public housing and redeveloped areas.

Situational Crime Prevention

Book written by **Ronald Clarke** in 1992

Tactics and ideas are similar to those of CPTED and Defensible Space.

Main Idea:

Situational crime prevention is aimed at eliminating opportunities for crime.

It includes opportunity-reducing measures that are directed at highly specific forms of crime

Tactics include 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** associated with crime.

Development of Situational Crime Prevention

Situational crime prevention is heavily used by crime prevention units in other countries such as Holland, Great Britain, and Sweden

The situational crime prevention model originated from lessons learned from research on correctional treatments by the British government's Home Office Research Unit.

Research demonstrated the potential for designing out crime and other actions by manipulating situational factors in the immediate environment.

This research along with the development of Problem Oriented Policing led to the development of Situational Crime Prevention.

Categories of Situational Crime Prevention

1. Increase effort needed to commit crime.
2. Increase risks of committing crime.
3. Reduce rewards of committing crime.
4. Induce guilt or shame for committing crime.

Tactics of Situational Crime Prevention

Increase the perceived effort of crime

1. Harden targets
2. Control access to targets
3. Deflect offenders from targets
4. Control crime facilitators

Increase the perceived risks of crime

5. Screen entrances and exits
6. Formal surveillance
7. Surveillance by employees
8. Natural surveillance

Reduce the anticipated rewards of crime

9. Remove targets
10. Identify property
11. Reduce temptation
12. Deny benefits

Induce Guilt or Shame

13. Set rules
14. Alert consciences
15. Control disinhibitors
16. Assist compliances

Strategies to Increase Effort Needed to Commit Crime

In attempting to increase the effort required to commit a crime 3 strategies are focused on primarily.

1. Target Hardening: Making the potential target of criminal victimization more difficult to victimize.

Example: Unbreakable glass on storefronts, locking gates, fenced yards

Is this a safe target?



Strategies to Increase Effort Needed to Commit Crime

2. Access Control: Limiting access to an area in order to reduce criminals chance of offending.

Example: Parking lot barriers, secure doors to stores

Which is more secure?



Strategies to Increase Effort Needed to Commit Crime

3. Deflecting Offenders: Locating business and services so as to divert criminal opportunity.

Example: Placing bus stops in secure areas.



Is this a safe place
for a bus stop?

Research Findings

Researchers claim hundreds of examples of success using Situational Crime Prevention to reduce crime.

- Street closing in London to prevent prostitution in cars;
- Identification requirements to prevent check frauds in Sweden in the 1980s;
- Improved street lighting in council housing estates in England;
- Responsible drinking practices to control public drunkenness in Australia;
- Cash reduction in US convenience stores;
- Worldwide airport baggage screening;
- CCTV in British town centers;
- Automatic cameras at traffic lights in Scotland;
- Graffiti cleaning on the New York subway; and
- Anti-robbery screens in London post-offices.

Research Findings Continued

While research indicates that Situational Crime Prevention tactics have been very successful, the results need to be taken with a grain of salt:

Many of the findings deal with relatively minor crimes

Many of the crimes where tactics have been successful have been crimes against private organizations, not street crimes against people.

Methods used to evaluate effectiveness of the tactics have been less than scientific, with no control groups and almost no follow-ups.

Problems and Criticisms of Situational Crime Prevention

1. **Ignores Causes of Crime:** Deals only with conditions and target hardening, ignoring the motivations of offenders.

May lead to more serious crime by ignoring motivations and making targets more difficult.

2. **Protects Businesses not Citizens:** Deals only with preventing crime and doesn't deal with factors that lead to crime.

Criticized as letting government off the hook.

Most practitioners don't care.

3. **Displacement of Crime:** Not as severe as would be thought, but it does occur to some degree.

Secured by Design

Based on a program in England called Secured by Design that attempts to reduce opportunities for crime through design and planning.

Goal: Work with developers, builders, property owners, and planners to create the safest developments and communities possible, with a goal of creating socially sustainable communities.

Socially sustainable communities are communities that succeed now, economically, socially and environmentally, and respect the needs of future generations.

They are well-designed places where people feel safe and secure; where crime and disorder, or the fear of crime doesn't undermine quality of life or community cohesion.

Secured by Design

Secured by Design and Crime: Secured by Design does not guarantee that a particular area will be crime proof, but indicates that the site has been subject to a design process and improved level of security which, in the experience of the police and other agencies, have been shown to significantly reduce the risks of crime and fear of crime.

Safe design and planning makes sense financially, as once a development has been completed the main opportunity to incorporate crime prevention measures has been lost.

The costs involved in correcting or managing badly designed development are much greater than getting it right in the first place.

Key Elements of Secured by Design Process

1. Program is completely voluntary except for Public Housing.

All public housing **MUST** be reviewed.

2. Program is completely free. Assistance from police does not cost developers anything.
3. Plans are assessed **BEFORE** building begins, so as to prevent costly retrofitting.
4. Assessment covers not only design and layout, but also materials used in construction.
5. Those developments that incorporate all SbD suggestions are given the Secured by Design designation.
6. Homeowners and tenants receive lower insurance rates.

Secured by Design Officers

All of the analysis and review is conducted by specially trained police officers called either:

Architectural Liaison Officers or

Crime Prevention Design Officers

These officers receive training on all of the following:

Crime Analysis

CPTED

Defensible Space

Situational Crime Prevention

Site Analysis

Basic design and planning

Neighborhood Impact Assessment

The main analysis method used within Secured by Design is the Neighborhood Impact Assessment toolkit.

The Toolkit consists of a design questionnaire completed by ALO/CPDO and covers numerous different areas relating to design and crime.

Importantly, this toolkit is not a template that can be applied universally in all locations and all situations.

Analysis must be conducted of the local area and an understanding of the unique nature of the crime problem in that area must be used to make appropriate design decisions.

Neighborhood Impact Assessment

The NIA covers the following areas:

1. Local Geography and Social Analysis
2. Access and Movement
3. Site Design
4. Surveillance
5. Lighting
6. Ownership
7. Physical Protection
8. Activity
9. Management and Maintenance

Local Geography and Social Analysis

- **Area Demographics:** What is the social and demographic make up of the area where the proposed development is?
 - Home ownership, residential mobility, Poverty level
- **Area Crime Data:** What is the crime level within the neighborhood.
 - Crime rate, comparison to rest of city, predominant crime type, crime attractors/generators, temporal/spatial patterns
- **Neighborhood Lifecycle:** Where in the neighborhood lifecycle is the area being developed.
 - Age of construction, lot size, home value, signs of disorder

Access and Movement




Too few connections can undermine the vitality of an area, while too many, especially too many underused or poorly thought out connections, can increase the opportunity to commit crime.

Strategies:

- Good movement frameworks have *direct* routes that lead people where they want to go by whatever means (foot, bike, car, etc..).
- Routes for cars and pedestrians should run alongside each other and not be segregated. Primary routes help to create shared spaces and prevent underused and potentially vulnerable locations.
- Sidewalks should also be overlooked by surrounding buildings or activities where possible and not hidden by vegetation or landscape features.
- Public access to the rear of buildings and homes should be restricted. Secluded footpaths or alleys should not run along the rear of and provide access to, backyards.
- Clear and direct routes should not undermine the defensible space of neighborhoods.



Legend

-  First Phase Demolition
-  Second Phase Demolition
-  Future Phase Demolition

Site Design

Places should be laid out so that crime is discouraged and different uses do not cause conflict. The layout and structure of a place (how buildings, spaces, uses, and activities relate to one another) affects its safety and sustainability.

Strategies:

- Safe urban buildings have few sides exposed to the public realm and provide active frontages of overlooked streets.
- Good movement in a community focuses people and vehicles on to a small number of principal routes that are overlooked by homes.
- Homes in cul-de-sacs can be highly secure, but the cul-de-sac should be short and straight (to provide visibility) and should NOT be joined by networks of footpaths that are rarely used and are likely to foster criminal activity.

Research has shown that houses situated on cul-de-sacs are less likely to be burglarized than houses on other streets.

- In new developments, unnecessary and ambiguous space should not be provided. The aim is well-defined and purposeful open space.



SITE DEVELOPMENT PLAN



Surveillance

Whether it be “natural” or electronic, surveillance should be a core part of planning out crime. However, surveillance should not be relied on as the sole strategy for preventing crime.

Strategies

- Places that could be vulnerable to crime should be overlooked by buildings or uses at all times.
- Windows and doors should face onto the street. Active frontages, rather than blank walls, should be encouraged.
- Open, bright spaces reduce the number of potential hiding places and allow people to be aware of what is happening around them.
- Entrances to homes and other buildings should be directly from the street, creating active frontages.
- Parks and other public spaces used by the neighborhood should be arranged to provide maximum surveillance and visibility by residents of the neighborhood.
- The most secure place to park a car is in a garage, followed by a driveway.
- Garages should not be designed in a manner that leads to “inactive” frontages. If parking is on the street, it should be in front on houses in order to provide for maximum surveillance.



Lighting

Research confirms that where public lighting is weak or patchy, increasing the levels and consistency of illumination reduces fear of crime and makes people feel more secure.

Strategies:

- Well lit spaces are crucial to reducing fear of crime, making places more livable, and generally increasing legitimate activity after dark.
- Lighting should be sensitive to the needs of residents and should provide security without resulting in glare and compromising privacy.
- Lighting in places that are vulnerable to crime should be designed to prevent it from being vandalized.
- Places to which there is no legitimate access after dark could be unlit to discourage the presence of potential victims.



Ownership

Encouraging residents and users of places to feel a sense of ownership and responsibility for their surroundings can make an important contribution to crime prevention. Uncertainty of ownership can reduce responsibility and increase the likelihood of crime and anti-social behavior going unchallenged.

Strategies:

- Gates, fences, walls, and hedges can create safe and attractive places, but must be designed and placed appropriately.
- High fences and landscape that actively impede access are most appropriate in places that are vulnerable to crime, such as the back of houses.
- Fences must be visually permeable so as not to hinder natural or other forms of surveillance or provide places for offenders to hide.
- Lower barriers, hedges, and bushes are also highly useful to signify the public/private divide.
- New Developments should be integrated into the wider community and gating of developments should be considered ONLY as a last resort.
- Landscaping can be used to make places safer as well as more attractive, as long as it doesn't restrict natural surveillance.



Physical Protection

Places that include necessary, well-designed security features are safer than those that do not. This aspect deals with target hardening and making it more difficult to commit an offense, while instilling a sense of safety in users.

Strategies:

- Planning in quality security from the outset is usually much cheaper and easier than retro-fitting it later.
- Crime prevention measures that adversely affect the way a place looks and feels undermine the aim of safe and sustainable communities. Some fencing and other target hardening can cause more fear than they prevent.
- Crime prevention measures should be made to look as attractive as possible, while not diminishing their security



Management and Maintenance

Places that are designed with management and maintenance in mind, discourage crime in the present AND the future. Management and maintenance embrace both how a place looks and how it functions over time.

Strategies:

- Proper attention to the design quality and attractiveness of the street increases its safety and use and promotes greater respect towards the environment.
- Improvements to the public realm should be approached in a strategic, coordinated manner, as opposed to being ad-hoc.
- Locations must be properly maintained after construction in order to prevent decline from beginning and disorder from taking root in the area.
- Proper maintenance includes: landscaping, lighting, public areas, parking, fencing, roads, sidewalks, ensuring proper public services (garbage collection) and tenant management in rental areas.



Research on Secured by Design

1. **Crime Reduction:** Developments that used SbD designs had 26% lower overall crime than similarly matched Non-SbD developments.
2. **Reduced Insurance rates:** Insurance companies charge lower rates for homes and commercial developments that are SbD certified.
3. **Consumer Choice:** The number one factor in residential housing choices is the presence of low crime and a safe environment. More than anything else, consumers know that an affordable home is simply a house and not a good investment, if it is not safe from crime.
4. **Marketability:** The awarding of the “Secured by Design” certification is highly marketable and has been shown to improve not only the value of homes at original sale, but also helps them hold their value in an ever-changing market.

Implications of Secured by Design

The biggest issue with Secured by Design is that it is currently only being used in England.

There are efforts under way to get the program working in the U.S., but this will take a coordinated effort.

- Success at a test site in U.S.
- Marketing and publication of success
- Certification process needs to be created
- Training
 - Officers
 - Architects & Planners
- Lobby Insurance agencies about rates.

End of Section III