An Introduction to Crime Prevention Through Environmental Design (CPTED)

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Look at the following images –

What do you see that leads you to believe this place is "safe"?

What makes you think this place is "scary"?

You can add comments in the chat box if you like.

What the research tells us:

People very quickly decide

how much they do or do not like a place.

adapted from Rachel Kaplan, Stephen Kaplan, and Robert L. Ryan, **With People in Mind:
Design and Management of Everyday Nature**. Island Press, 1998.

What the research tells us:

- Visual access increases confidence.

- Familiarity helps people feel more comfortable.

- Evidence that someone has been (or may still be) in a place can increase anxiety, but having other people around is reassuring.

*adapted from Rachel Kaplan, Stephen Kaplan, and Robert L. Ryan, **With People in Mind: Design and Management of Everyday Nature**. Island Press, 1998.*

However, what we see, or how we feel, depends upon:

Personal characteristics – age, gender, race, culture, etc.

Educational and professional background

Past experiences

GOAL:

Create places where people feel – and are – safe

Where they behave appropriately based upon cues in the design of the environment.

Today's presentation

1. Background on crime, crime prevention and CPTED

2. CPTED concepts with examples

3. Evaluation tools – what to look for and what questions to ask

4. Resources

Background

Crime prevention

The anticipation, recognition and appraisal
of a crime risk,
and the initiation of some action
to remove or reduce it.

The Crime Triangle

Motivated "offender"

Necessary skills
and knowledge
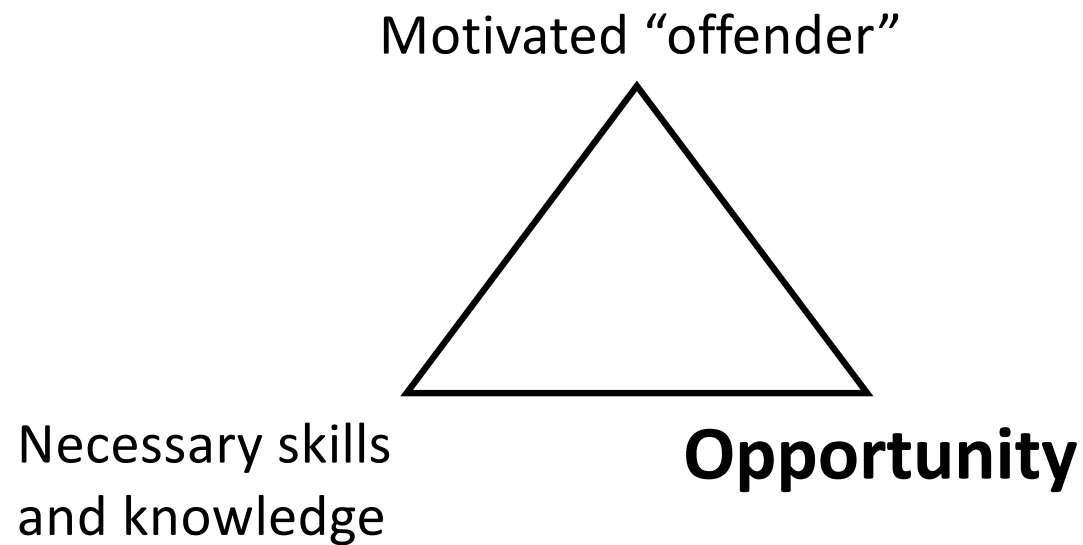
Opportunity

In most cases, we can not change a person's motivation, nor can we limit his/her ability to commit a crime; therefore, crime prevention must focus on removing or reducing opportunities for crime.

What do we know about crime and criminals?

Offenders try to minimize effort and risk, and maximize reward.

They like:

- places where no one will see them,

- where no one will report them,

- where they will easily benefit from their actions.

Offenders tend to commit crimes in places they know well.

- near home, work, school, shopping, parks, or other places they visit
  frequently

- along streets, in parking lots, or around transit stops they use regularly

- where they are familiar with:
  what they will find (targets)
  who will be around (observers)
  whether they can get away with something (risk)
  and how they might benefit (reward)

Opportunities for crime are a function of daily activities and routines.

The best opportunities arise when the daily routines of offenders and their victims (or targets):

- isolate victims from people who could protect and defend them, or at least watch out for them and report any problems,

- or leave targets unattended and available to the offender.

How do we remove or reduce opportunities for crime?

INCREASE the amount of effort required,

INCREASE the risk of being seen, identified, reported, and apprehended,

REMOVE or REDUCE any rewards for the offender.

CPTED: The Basic Concepts

Crime prevention through environmental design

(1) how people interact with their surroundings

(2) how the built environment supports good behaviors

(3) or allows opportunities for bad behaviors

CPTED looks at 3 types of "users" of space

Legitimate/normal users: the people you WANT in a space

Illegitimate/abnormal users: people you didn't anticipate using a space, or who behave inappropriately

Observers: people who have to be in a particular place (for example, employees, property owners, mail or other deliveries)

CPTED involves the application of 3 overlapping operational concepts:

Natural Access Control
Natural Surveillance
Territorial Reinforcement

CPTED Concept #1: Natural Access Control

Natural access control takes advantage of:

-   entrances and exits
-   sidewalks and paths
-   landscaping
-   lighting
-   signs

and uses these to direct and **control movement** and to define **appropriate behaviors**.
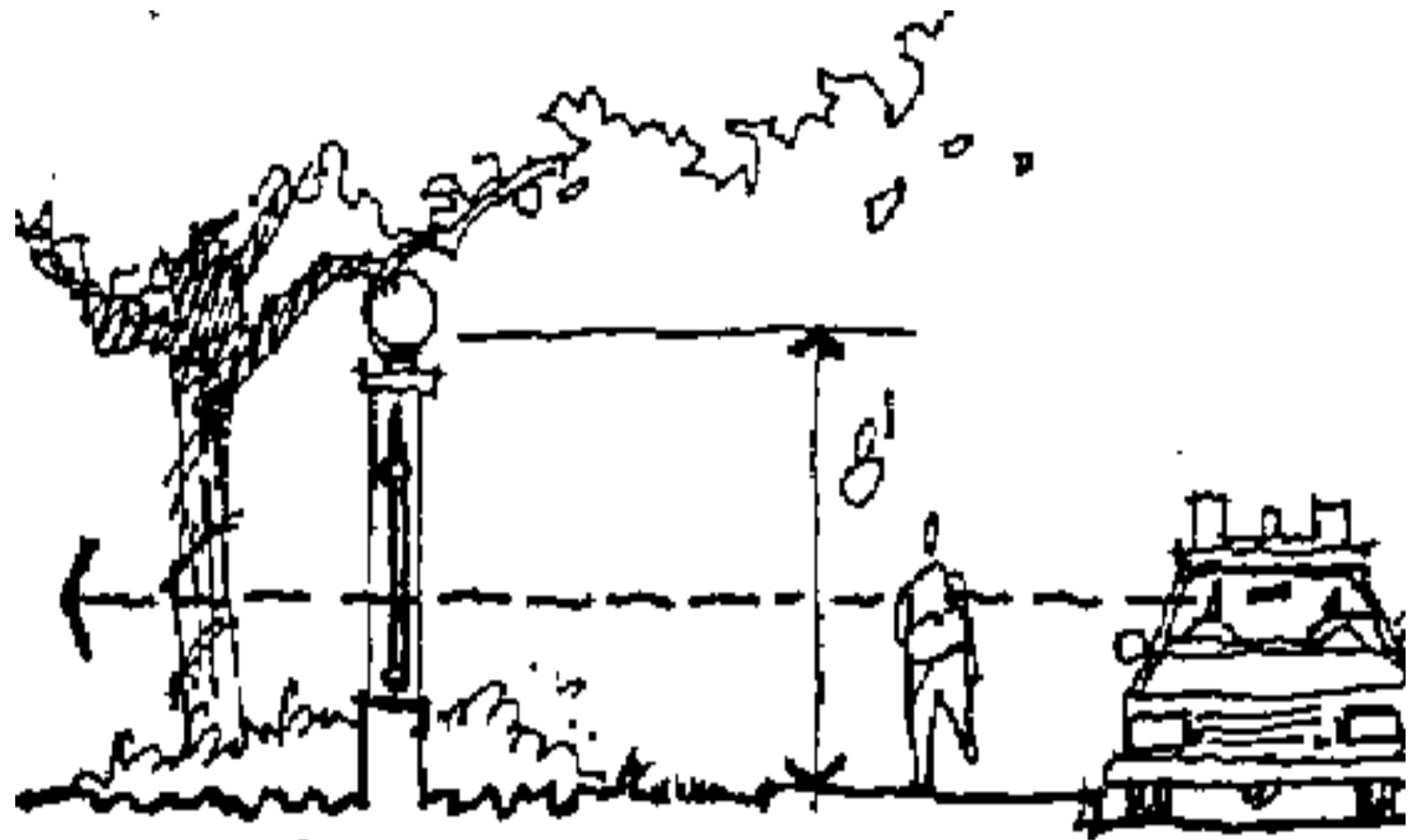
"On Patrol" sign (neon) for when he's away.

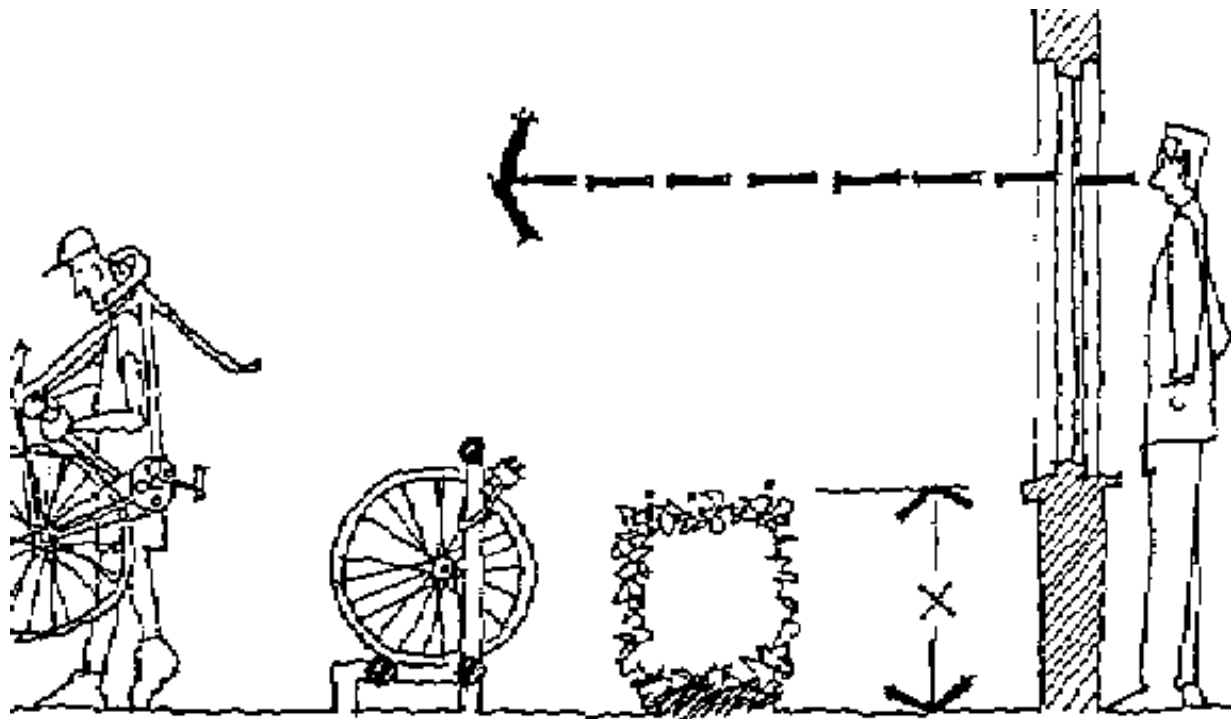# CPTED Concept #2: Natural Surveillance

Site and building design must ensure that users can **see and be seen.**

Selection and placement of landscaping, lighting and windows can create opportunities for natural surveillance.
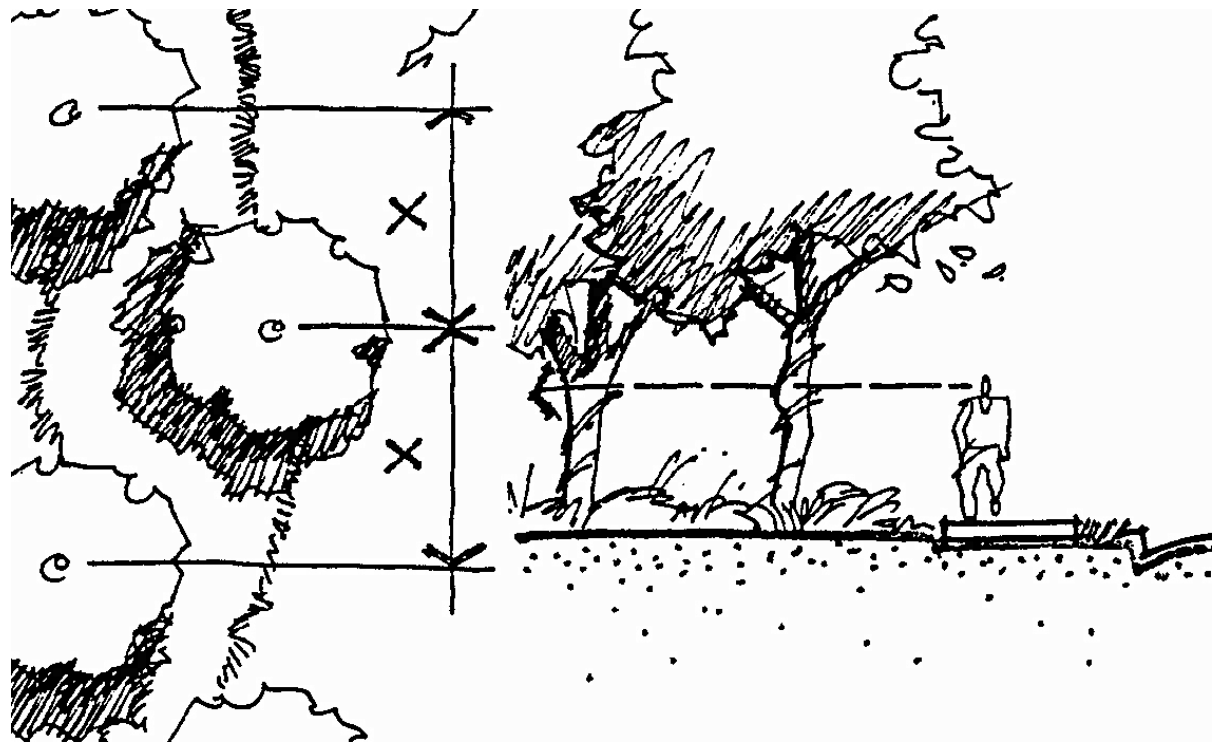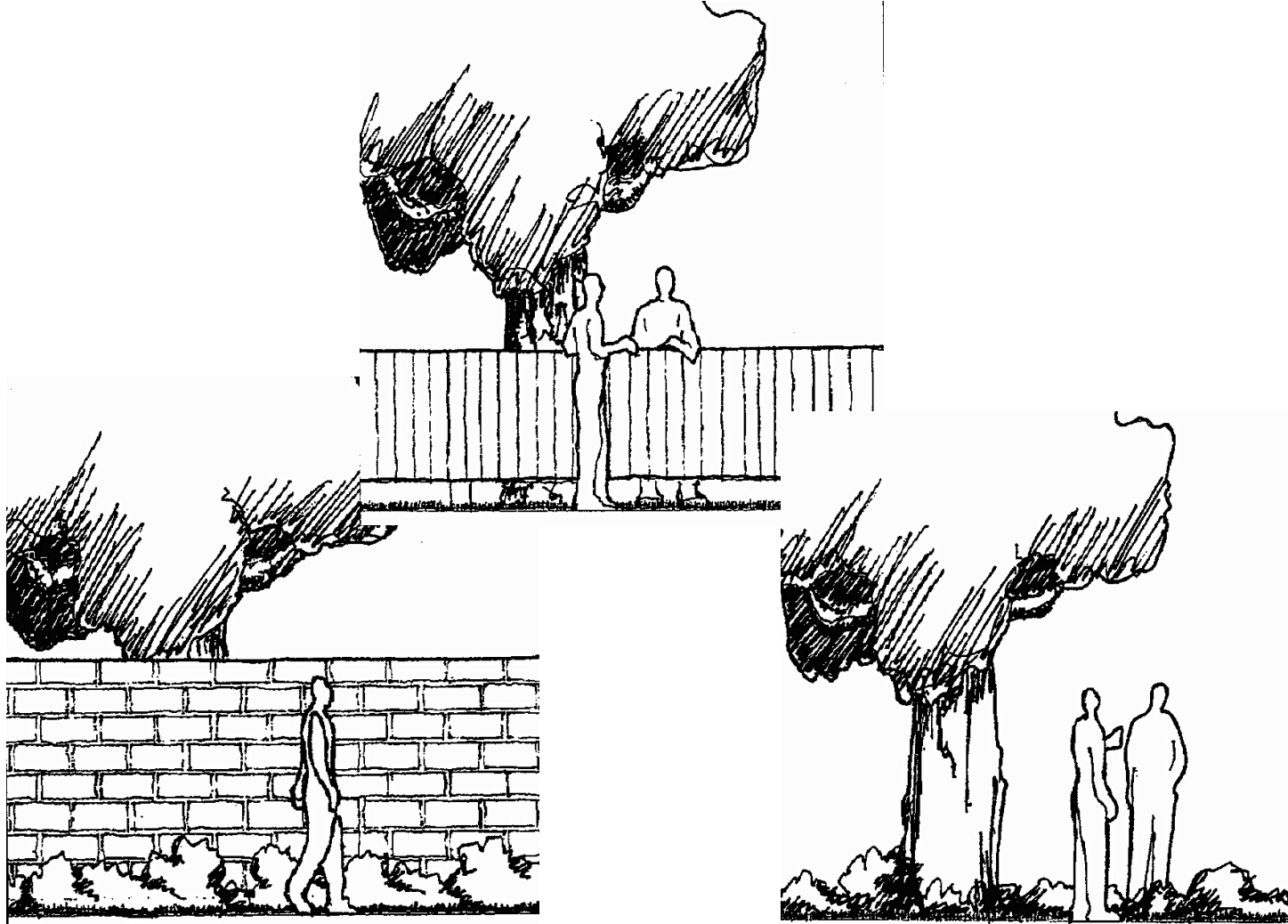
CPTED Concept #3: Territorial Reinforcement

The goal here is to **define and distinguish between public and private** spaces.

Private spaces show **signs of ownership**, such as artwork or lawn furniture. This sends a message of arrival or welcome to people who belong.

It also warns offenders that someone cares, and someone is paying attention, and it deters unwanted entry or other problem behaviors.

RESIDENTS
ENTRY

RESIDENTS
ENTRY

Marina East

30-33

olley Terrace
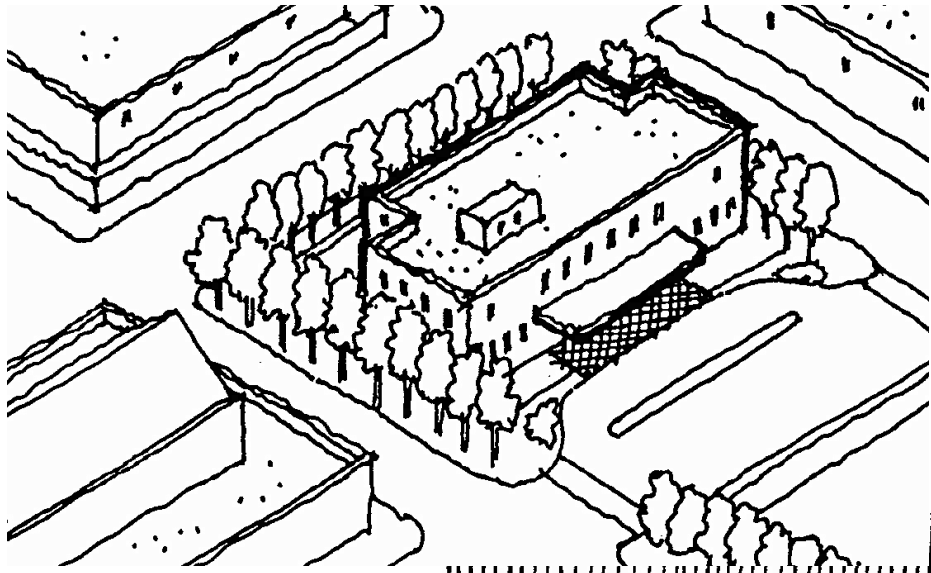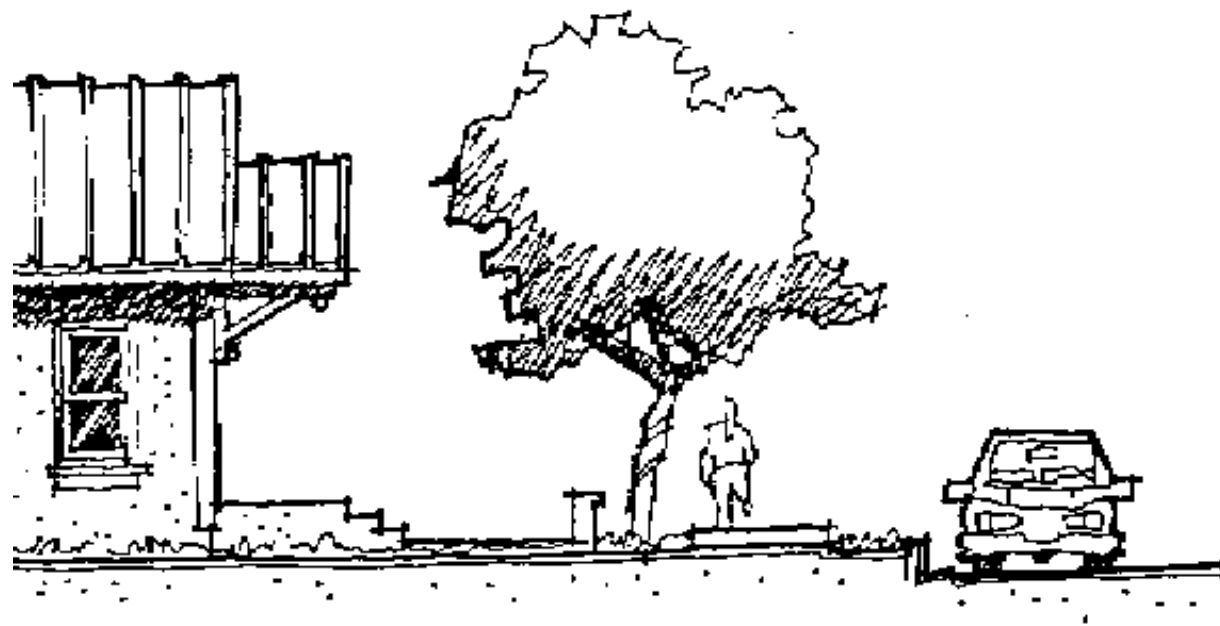
The Public Realm Checklist

- Landscaping

- Lighting

- Signage

- Ownership, Maintenance, Management

- Sight Lines

- Movement Predictors and Entrapment Spots

- Ear and Eye Isolation

- Land Use Mix, including Activity Generators

Landscaping

Both "soft" and "hard" landscaping can be used to increase the safety of a site by:

- Controlling movement and access

- Providing opportunities for surveillance

- Defining territory or establishing boundaries

Landscape materials play a role in CPTED:

	Elevation Changes	Walls and Fences (high)	Walls and Fences (low)	Paving	Ground Cover	Hedge (high)	Hedge (low)	Tree Line	Bollards
Define/establish boundaries	✓	✓	✓	✓	✓	✓	✓	✓	✓
Eliminate or minimize use conflicts	✓		✓	✓	✓		✓	✓	
Create private spaces	✓	✓	✓			✓	✓	✓	
Separate uses (barrier)		✓				✓		✓	✓
Separate uses (buffer)	✓		✓	✓	✓		✓	✓	✓
Reduce or eliminate access		✓				✓			✓
Direct travel and movement	✓	✓	✓	✓	✓	✓	✓	✓	✓
Define entries and exits		✓	✓	✓	✓	✓	✓	✓	✓
Serve as "symbolic" barriers to movement or access	✓				✓		✓		
Provide opportunities for surveillance			✓	✓	✓		✓	✓	✓

KEY QUESTIONS:

- Does the landscaping help to establish a division between public and private spaces?

- Does the landscape detract from a pedestrian's ability to see or be seen?

- Does the landscape provide hiding places/secluded areas or allow easy access to areas that are vulnerable to crime (e.g. the back of dwellings)?

Lighting

There is adequate illumination, defined by minimum standards.

Users can see and be seen, e.g., able to identify a face from 15 meters away; ability to see the back seat of your car before you open the door.

Lighting provides even coverage, and more fixtures at lower wattage are better than a few fixtures at high wattage.

Light fixtures are maintained and protected from vandalism.

KEY QUESTIONS:

How much light do we have?

How much light do we need or want?

What kind of light should we use?

How much light is too much?

Do any specific risks or inappropriate behaviors need to be addressed using light?

KEY QUESTIONS, con't.:

What kinds of activities are taking place on the site, when and where on the site do they occur?

Who is responsible for organizing these activities, and who participates in them?

What site characteristics need to be considered as part of the lighting program, e.g., location of ingress/egress, buildings, parking, auto and pedestrian circulation, type of vegetation, etc.

Will any seasonal changes in leaf canopy impact the lighting scheme?

How much light do we need?

IESNA Recommended Standards			
Illuminance readings		Average maintained illuminance (in lux)		Maximum ratio of average to minimum
		horizontal	vertical	
bikeways		10	20	
Building exteriors	active entry	50	30	
	infrequent use or locked entry	30	30	
	loading area	100	30	
Parks, plazas, pedestrian malls		50	30	
bus stops	city bus system	30	30	
	school buses	300	30	
roadways		3-6		6:1
sidewalks	block face	10	5-8	4:1
	street crosswalk	10	11-22	4:1

LOCATION		Average Horizontal Illuminance (lux)	Vertical Illuminance	Ave to Min Ratio
Parking facilities	on the pavement	60	5-8 lux, or 4:1 horizontal to vertical	4:1
	at gathering points	50		4:1
Parking for the elderly	garage entrance	500		
	exterior walk	50		
Parks	open parking spaces	30		4:1
	parks, trails, walkways	6		4:1
	loitering area	10		4:1
Supermarket	parking lot	30		
	close-in activity	50		4:1

LOCATION		Average Horizontal Illuminance (lux)	Vertical Illuminance	Ave to Min Ratio
Fast Food Restaurant	general parking	30		3:1
	drive-up window	60		3:1
	refuse area	30		3:1
Convenience Stores and Gas Stations	pump island	60		4:1
	sidewalks, refuse areas, grounds	30		4:1
	store interior	300		4:1
SF Residential	exterior doorway		8	
MF Residential	common areas	30	5-8 lux, or 4:1 horizontal to vertical	4:1
	mailbox area	100		4:1

LOCATION		Average Horizontal Illuminance (lux)	Vertical Illuminance	Ave to Min Ratio
Senior Housing	hallways/room entrances (day)	300	5-8 lux or 4:1 horizontal to vertical ratio	
	hallways/room entrances (sleeping hours)	100		
Schools and Institutions	general parking	30		4:1
	sidewalks and footpaths	10		4:1
LE, EMT facilities	vehicle and pedestrian movement areas	80		3:1
	general parking and walkways	30		3:1
Hotels and Motels	general parking	30		4:1
	sidewalks and grounds	10		4:1

How much light is too much?

Zone	Description	Recommended Maxiumum Illuminance
E1 – intrinsically dark landscapes	national parks, areas of outstanding natural beauty, or residential areas where inhabitants have expressed a strong desire for strict limitation of light trespass	1 lux (0.1 fc)
E2 – low ambient brightness	suburban and rural residential areas; roadways may be lighted to typical residential standards	3 lux (0.3 fc)
E3 – medium ambient brightness	urban residential areas; roadway lighting mormally to traffic route standards	8 lux (0.8 fc)
E4 – high ambient brightness	dense urban areas with mixed residential and commercial use and a high level of nighttime activity	15 lux (1.5 fc)

The Olde Wythe [Hampton] Neighborhood Lighting Audit
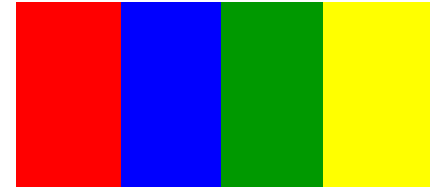
- What is your impression of the lighting?
- Is the lighting even?
- How many lights are installed at this location?
- How many lights are lit?
- How well does the lighting illuminate sidewalks or other walkways?
- Can you identify color(s) from 50 paces away? (Note which colors you can identify, if you can't make out all of them)
- Which lines can you read when the font test sheet is lying at your feet?
- Is the lighting obscured by trees or bushes?
- Would "modest" trimming improve the lighting at this location?
- Are there any places a person could be hiding in darkness?

Signs

Signs are well designed and appropriately located. They orient users and provide important and useful information, e.g., "you are here" maps, exit signs, well-lit routes.

KEY QUESTIONS:

• Are there directional signs?

• Are there signs to show you where to seek emergency assistance?

• Should signage be added/modified?

BOWILLIA P.

PRIVATE
ROAD

25

Bowillia Court
ENTRANCE

PRIVATE PROPERTY

• No skateboarding
• No rollerblading
• No bicycle riding
• No dogs permitted
• Dress code applies

CITY OF
HOLDFAST BAY

NO SKATEBOARDING

NO SWIMMING

NOTICE

PRIVATE
PARKING
AREA

UNDER PRIVATE PARKING NOTICE ACT 1969

ALL PERSONS USING THE PARKING
AREA DO SO AT THEIR OWN RISK

PENALTY FOR BREACHES OF THE
ABOVE ACT OR REGULATIONS $200

THIS CARPARK IS
MONITORED 24 HRS

CAR SAFE

Please Remember to;

• Close Car Windows

• No valuables in view
(ie. mobile phones, purses etc)

• Lock all car doors

An initiative of your Local Crime Prevention Program

Ramsay Place
Colonnades   ↗
Council   ↙
Theatre   ↖
TAFE   ←
Library   ←
Noarlunga House   ←
Tavern   →
Bus/Taxi   ←   →
Commonwealth House   ↗
Post Office   ↗
Banks   ↗
Railway Station   ↗
Information Centre [i]   ←

Darley Rd Stop 25A
120 metres

Paradise Interchange
400 metres

CAR SAFE
Have You
Remembered

These Toilets Are Only

Available For Use

During Daylight Hours

Ownership, Maintenance, Management

Owners and users take responsibility for a space, and protect and care for it.

Offenders perceive that their presence and behavior will attract attention and someone will intervene or report them.

Signs tell users how to report problems.

Owners/managers respond promptly to problems such as graffiti.

KEY QUESTIONS:

- Is it clear whether space is public or private?

- Does the space feel like it is under the supervision of local residents, businesses, organizations, etc.?

- Would an offender's presence or behavior attract attention?

- Is it possible to enter and exit illegitimately?

- Is there evidence of graffiti, vandalism or litter?

- Is it clear who you report maintenance issues to?

- Would changes to materials/textures/colours/features make the place feel safer?

PUBLIC SPACE	vs.	PRIVATE PROPERTY
open and accessible to all diversity of activity and users tolerant of differences in opinion, class		hidden from public observation, access and use narrowly defined highly organized, design support
unplanned encounters sociability among strangers	QUASI- PUBLIC SPACE	limited and controlled interactions strangers not invited
community or collective use shared experience common ground (fosters democracy)		exclusive access and use by the individual select family or group members invited territorial attachment and defense
owned and controlled by the state freedom of action, but civility through codes and conventions (supported by law)		owner control and individual choice valued by and exchanged in the market, and regulated by law, policy, rule and regulation

INCREASING ENCLOSURE AND
GREATER CAPACITY FOR MANIPULATION

INCREASING PHYSICAL ORDER AND
PERMANENCY OF STRUCTURE

based on Weintraub, *The Theory and Politics of the Public/Private Distinction*, in Weintraub and Kumar (Eds), Public and Private in Thought and Practice: Perspectives on a Grand Dichotomy. U of Chicago Press, 1997, pp. 1-42; Madanipour, Public and Private Spaces of the City. Routledge, 2003; Habraken, The Structure of the Ordinary: Form and Control in the Built Environment. MIT Press, 1998.

Sightlines

The vulnerability of users is reduced when they can see what is ahead, and when they are visible to others who can come to their aid if needed.

KEY QUESTIONS:

- Can you see clearly what's ahead? If not, why?

- Are buildings designed to allow "inside" users to see "outside" users, and *vice versa*?

- Are there hiding places?

Movement Predictors and Entrapment Areas

A space provides multiple routes and choices for pedestrian movement, without opportunities to isolate or entrap users.

Lighting, activity support, or hardware eliminate predictive movement.

KEY QUESTIONS:

- How easy is it to predict a pedestrian's route?

- Is there an alternate well-lit route?

- Can you see what is at the end of this route?

- Can you use movement predictors in a positive way to direct users to safer, more visible routes?

- Are there small confined areas where someone could hide?

- Could any recessed areas be blocked?

Ear and Eye Isolation

Users must be certain that someone will see or hear them and respond if they call for help.

Isolated spots may require formal surveillance support; possible closure.

Isolation is reduced with increased activity in a space.

Land Use Mix

A compatible mix of uses gives people the opportunity to live, work, shop, recreate in the same area.

The best combination of uses will offer activity support day and night.

KEY QUESTIONS:

- How much and what type of activity is there in the area during the day or at night?

- Would the area have particularly quiet or particularly busy times?

- Do the activity levels and types provide for passive surveillance of the area?

- Are uses and activities compatible with each other?

- Would the area bring together people who are likely to offend and suitable targets, particularly in the same place at the same time?

Maybe there is such a thing as too much CPTED!