Fighting Crime Through Public Works: 

*Safer Design of the Built Environment*

A three-pronged approach to local government investing in crime prevention through public works investments and municipal operations; lead by example, leverage investments and exert positive influence

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Fighting Crime Through Public Works

Lead by Example on Municipal Buildings
- The facilities that are owned and operated by the municipality must serve as a guiding example of responsible design that prioritizes safety

Leverage Investments in Public Works
- Local governments must leverage all of their investments in the built environment to contribute to prevention of crime

Exert Positive Influence on Privately-Owned Facilities
- Municipalities are uniquely positioned to exert influence and control over privately owned and operated facilities within their jurisdiction, which may otherwise organize their priorities
What is crime?

Definition: crime [krīm] - noun

1) an action or omission that constitutes an offense that may be prosecuted by the state and is punishable by law

2) an illegal act for which someone can be punished by the government, especially a gross violation of the law

3) an action or activity that, although not illegal, is considered to be evil, shameful or wrong
Crime takes place when these three things come together

1) Willing Offender

2) Suitable Victim

3) Lack of Guardian

A capable guardian could be a police officer, security camera, general public (critical intensity), family or accompanying group, or...

...but in the absence of these things, can the physical environment be designed to be a guardian?
RISK v. REWARD
How can we use design of the built environment to influence the risk versus reward decision-making of a willing offender?
What is crime prevention?

**Definition: crime prevention - verb**

1) anticipation, recognition, and appraisal of a crime risk and the initiation of some action to eliminate or reduce it.

What does this have to do with Public Works?

- To recognize the role of public works departments, projects and investments let’s take a few minutes to explore just one aspect of crime prevention

**Safer Design Of the Built Environment**
Crime Prevention Through Environmental Design

What is CPTED?

CPTED is a PROACTIVE DESIGN PHILOSOPHY built around a core set of principles that is based on the belief that the PROPER DESIGN AND EFFECTIVE USE OF THE BUILT ENVIRONMENT can lead to a reduction in the fear and incidence of crime as well as an improvement in the quality of life.

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Crime Prevention Through Environmental Design

Brief History of CPTED

Jane Jacobs, Planner/Author – The Death and Life of Great American Cities (1961)
Schlomo Angel, Planner – Discouraging Crime Through City Planning (1968)
C. Ray Jeffery, Criminologist – Crime Prevention Through Environmental Design (1971)
Oscar Newman, Architect – Defensible Space (1972)
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Core CPTED Design Principles

- Natural Surveillance
- Lighting & Detection
- Access Control
- Territorial Reinforcement
- Activity & Maintenance

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Natural surveillance is the intentional effort to place persons in a position during the course of their regular activities to view potential deviant actions.

- Increased natural surveillance by invited users results decreases comfort level of willing offender
- Placement of windows that overlook parking areas, entrances/exits and circulation spaces
- Use building and fencing materials that increase or decrease visibility and access as desired
- Try to eliminate blind spots (surveillance shadows)
Core CPTED Design Principles

- **Natural Surveillance**
- **Lighting & Detection**
- **Access Control**
- **Territorial Reinforcement**
- **Activity & Maintenance**

Lighting & Detection capabilities are critical to detect and identify offenders, facilitate natural surveillance, and support safe activity during non-daylight hours.

- Constant improvements to light quality and color rendition, especially with new LED technologies
- Cut-off fixtures and lighting controls are used to achieve consistent light levels and eliminate glare
- Advanced lighting studies, light modeling and photometric measurements are available
- Lighting has a great effect on the people’s perception of the risks and the ‘fear of crime’
Effective access control limits who has access to an element or area of a building or property, through either mechanical or natural means.

- Should establish a clear definition of the difference between public space and private space
- Psychological barriers can be used at outer perimeters, but physical elements must protect critical perimeters
- Careful placement of entrances and exit points are used to define control points and circulation flow.
- Exterior access to roof areas should be avoided
Territorial reinforcement promotes social control and the ‘ownership’ of space to convey to others they are not welcome or that abuse of the space will not be accepted.

- Creates a sense of ownership and scenario where others are more easily identified as visitors or intruders
- Territoriality can be psychological or physical and includes signage
- Territorial reinforcement make the invited user feel safe and welcomed while heightening the offenders awareness of risk of apprehension or scrutiny
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Core CPTED Design Principles

- Natural Surveillance
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Activity support is the promotion of programming and consistent use of a site to increase the number of users, increasing the likelihood of criminal activity being detected.

- Increased natural surveillance and higher likelihood of critical mass/critical intensity of invited users

Timely and consistent maintenance/repair demonstrates ownership and indicates an intolerance of disorder.

- Broken Windows Theory – zero tolerance
- Contributes to positive community identity which in turn increases ownership and pride

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Competing Ideologies?

CAN THESE TWO DISTINCT IDEOLOGIES WORK TOGETHER?

YES...BUT IT WORKS BEST WHEN THEY ARE INCORPORATED FROM THE START OF DESIGN

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Integrated into design process


Masterplanning: Bulk & location. Neighbourhood and internal connections.

Space hierarchies. Incompatibilities Amenity/community areas. Travel routes and desire lines. Landscaping.


Quality assurance. Setup, testing, commissioning. Training plans.


DESIGN

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Lead by Example in Municipal Buildings

1) **Civic Buildings** – City Hall, Community Center, Senior Centers, Libraries

2) **Public Safety** – Police Depts, Fire Stations, Training Facilities, Courthouses

3) **Parks & Recreation** – Recreation Centers, Comfort Stations, Park Areas, Swimming

4) **Public Works** – DPW Yards, Storage Buildings, Salt Domes

5) **Infrastructure** – Booster Stations, Pump Stations, Water Storage Tanks, WWTPs
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Lead by Example in Municipal Buildings

Civic Buildings – City Hall, Community Center, Senior Centers, Libraries

- Higher relative populations and a frequent stream of visitors with regular hours and regimented operational procedures aid the orderly use of the building, but...
- Programming/events designed to attract users, plus daily business
- Large buildings with multiple floors, where a user may become separated from others and more susceptible to predatory behavior
- Unique Threat - The degradation of the political climate in the country and the growing divide between political parties is increasing the concern around active shooter concerns in municipal buildings
Lead by Example in Municipal Buildings

Public Safety – Police Depts, Fire Stations, Training Facilities, Courthouses

- Public Safety facilities are intrinsically more secure than most
- Three distinct circulation pathways that need to co-exist in the same building without crossing over or being interrupted
  - Publicly accessible areas and rooms
  - Private circulation pathway
  - Secured circulation, inc. vehicular circulation
- Unique Threat – Revenge-based, symbolic or emotionally charged attacks
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Lead by Example in Municipal Buildings

- Parks & Recreation – Recreation Centers, Comfort Stations, Park Areas, Swimming
  - More difficult set of threats, due to diversity of building types, settings and use
  - Larger facilities are similar to civic facilities, but more challenging are parks
    - Remote locations – comfort stations, trails, large expansive areas
    - Closing time – dawn to dusk, limited lighting
    - Lack of enforceable boundaries
  - Unique Threat – Sexually focused attacks (rape and sexual predation), particularly around swimming venues, exercise areas and children’s play areas
Lead by Example in Municipal Buildings

Public Works – DPW Yards, Storage Buildings, Salt Domes
- Limited interaction with the public, but high volumes of staff, shift changes and irregular hours of operation
- Site and building are filled with high-dollar expensive equipment that is attractive for a variety of reasons
  - Expensive specialized equipment
  - Heavy metal - scrapping
- Site design – focus on natural surveillance but also lines of site (safety)
- Unique Threat – Theft from both external and internal threats
Lead by Example in Municipal Buildings

Infrastructure – Booster/Pump Stations, Water Storage Tanks, WWTPs

- Typically part of a larger system, but accessed from multiple points
- Much of the threats are non-criminal, safety related issues
- Some systems are heavily monitored while others are often ignored
  - Post 9/11 DSWD points of access
- **Unique Threat** – Large scale terrorist threat to a water distribution system (biological, chemical) OR key piece of physical infrastructure (bridge, dam)
Leverage Investments in PWX

**Municipal Funding** – There is only so much money... so how do you get more and use it for more?

- Most municipal budgets list public safety as their single largest funding category
- How can DPW operations leverage their role in public safety?
- Public works departments across the country are the oft-forgotten first responders that do not wear police, fire or EMS uniforms
- **Everyday Heroes: First to Respond, Last to Leave**
Leverage Investments in PWX

Roads & Water – These projects are very costly, but are some of the most integral to the provision of services by the traditional first responders

- Without successful public works projects and comprehensive investment, service times are slowed and capacity is limited
- Water main sizing and reliability is absolutely a public safety concern – Fire Dept needs water!

- Some of these are easier to identify than others!
Leverage Investments in PWX

Public Lighting – A robust street lighting maintenance program ensures that public lighting in a community is continuous and designed in a manner that provides coverage that has a positive effect on crime prevention.

- Problem – much of the lighting is controlled by the utility company – no local control
  - Municipality is saddled with crime stats
- Are lighting investments cross-checked to crime?

- **Most important result is reduced FEAR of crime!**
Leverage Investments in PWX

**Lanscaping** – Already considered a visual amenity, how do we harness the psychological influence it has on territoriality and the potential for crime prevention

- Hierarchy of spaces & activity generator
- Defensive landscaping
- Public works is depended on for maintenance
- Problem – It keeps growing...and growing...and growing ...

- **Make sure your landscaping does not create opportunity for the offenders!**
Leverage Investments in PWX

Complete Streets – Complete streets refers to circulation paths designed to accommodate multi-modal transportation allowing for vehicles, bicycles and pedestrians to enjoy the same routes

- Protect against victimization with careful pathway layout to maximize openness and visibility with wide paved areas in straight configurations and clean, long sight lines
- Landscaping musty not create potential blind spots and should provide a buffer from adjacent residential
- Lighting and fencing have key roles
Leverage Investments in PWX

**Streetscaping** – Often used to convey the brand identity of the community or areas designated as special investment zones.

- Often located in TIF/DDA Districts which look to inject placemaking, small urban park areas, landscaping, art features and small structure areas.

- The goal is to draw people to the space but also makes it susceptible to loitering and the negative effects
  - Preserve visibility and sight lines
  - Avoid areas of cover and concealment
  - Make furniture convenient but not comfortable
  - Critical Intensity
Exert a Positive Influence on Private Buildings

Plan Review – Should CPTED reviews be part of site plan approval?
- Do the site plan approval requirements ever get reviewed? 10 years? 20 years?

Ordinance Enforcement – Is there a better way to maintain ‘order’ in a community?
- Collective Efficacy - innate social control exerted on a neighborhood when neighbors are more willing to intervene and confront criminal or suspicious behavior

GIS Technology – Is the municipal GIS methodology looking at things that can help Public Works contribute to public safety?
QUESTIONS?

Thank you for your time

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