

# Crime Reduction Through Surveillance and Design

**DESIGN  
AGAINST  
CRIME**



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# What's coming up

- What is Design Against Crime (DAC)?
- Meeting the challenge of DAC
  - Get the right mindset
  - Replicate good practice *intelligently*
  - Demand clarity from crime prevention!
- Surveillance – getting a clear view
  - Surveillance – what do we mean *exactly*?
  - How does surveillance work? – effects on offender, how crime preventer does it
  - What factors influence *performance* of surveillance process?
  - How do *environmental* factors help or hinder performance of surveillance?
  - Improving performance of surveillance – technology and design

# What is Design Against Crime?

DAC uses the tools, processes & products of design to work in partnership with agencies, companies, individuals and communities to

- prevent all kinds of **crime** – including antisocial behaviour, drug abuse/ dealing and terrorism
- promote quality of life & sustainable living through enhanced **community safety**

through designs that are 'fit for purpose' and contextually appropriate in all other respects

# Scope of Design Against Crime

- Secure products
- Security products
- Security components
- Security features/ furniture
- Secure systems
- Secure information
- Security communication/ art
- Secure clothing
- Secure places/ environments
- Secure communities

**Design is about *processes*, not just products!**

# Inherently secure product – Vexed Generation/ Puma



# Security Product/ Security Communication



# Security Features/ Furniture/ Accessories





# Security Communication

From Streets of London...

...to Victoria Station...



- Lock the frame and both wheels to the stand or strong immovable object
- Make the lock and bike hard to manoeuvre when parked
- Do not allow thieves to place your lock(s) in contact with the ground

[www.bikeoff.org](http://www.bikeoff.org)



- **Keep a record of your frame number\*.** Without a frame number the police don't stand a chance of recovering your bike if it's stolen.

You can register your number with a scheme like:

[www.immobilise.com](http://www.immobilise.com)

Other methods of security tagging for identification include:

[www.datatag.com](http://www.datatag.com)  
[www.smartwater.com](http://www.smartwater.com)

[www.alpha-dot.co.uk](http://www.alpha-dot.co.uk)  
[www.selectamark.co.uk](http://www.selectamark.co.uk)

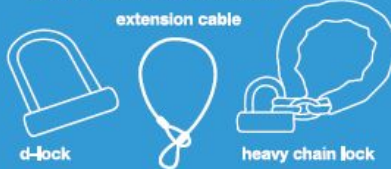
\* Do this at the point of purchasing your bike, you'll never get around to it otherwise.



• This is where to find your bike frame number.

- **Buy a decent lock (and preferably two)** Before visiting a cycle shop check [www.soldsecure.com](http://www.soldsecure.com) for certified locks. Expect to pay £40 upwards for a certified locking system.

Locking mechanisms that certified locks use include:



- **Locks are not for life.** Keep your security up to date.

- **Get insurance.** Check if your house insurance already covers your bicycle when away from home, and also whether the total value of the bike is covered.

If your bike is particularly valuable you may need to insure it separately.

See [www.bikeforum.net](http://www.bikeforum.net) for recommended insurers.



...to MOMA New York



# Secure Place: Maiden Castle



# Hi-tech solution



# Lo-tech solution

Note that here, security  
derives from combined  
features of product and  
place



# No-tech solution

Just the right  
mindset at the  
right time –  
think vandal!



**A receptacle  
for grime?**



Wrong  
mindset  
for design:  
failure to  
think thief

**Or a tool  
for crime?**

Failure to  
'Think Drug User'



# The challenges of DAC





# DAC – Meeting the Challenge

- Get the right mindset
- Replicate good practice *intelligently*
  - Attune design of intervention to **context** – on both criminological and design grounds
  - **No cookbook copying** – it doesn't work – treat replication like innovation – trial, iteration and improvement
  - Focus on **mechanisms** – *how* intervention works
- Designers can't do their job without a proper briefing and requirements capture – so
- ***Demand clarity from crime prevention!***

# Surveillance – getting a clear view



# Surveillance – what do we mean *exactly*?

- Surveillance is a set of tasks/ part of role of being a **crime preventer**
- Surveillance is done by different crime preventer **roles**:
  - **Guardians** of Targets
  - **Managers** of Places
  - **Handlers** of (potential) Offenders
- Key distinction between
  - **Active** surveillance
  - **Passive** surveillance
  - **Potential** surveillance

# Surveillance – what do we mean *exactly*?

- **Active – purposively collecting & interpreting information about crimes, crime situations and/or offenders**
  - to initiate and guide a **response** (of whatever kind)
  - to potential, ongoing or past criminal **event/s**
  - with the goals of **preventing/reducing criminal events, criminal harm and/or bringing offenders to justice**, whether or not surveiller's own interests are involved (eg in protecting their own car)
  - with or without **technological aids**
  - in a **formal or informal** role of crime preventer
  - played by **people** and/or **intelligent systems**

# Surveillance – what do we mean *exactly*?

- **Passive – potential of people to become active surveillers through**
  - their **presence** or other access to information
  - their **perceptual/ judgmental capacity** (acuity, knowledge, skills, aids)
  - their **motivation**
  - the properties and features of **environment** they and offender are in
- **Potential surveillance - potential of environment, by virtue of its properties and features**
  - to **facilitate active surveillance** (eg sightlines for someone who is already looking out for criminal behaviour)
  - and/or to **convert passive to active** (to help catch the attention of people who might then become active, and help them respond – eg a terrorism poster)

# How does surveillance work?

- Importance of understanding mechanisms –  
focusing on
  - offender
  - preventer

# How does surveillance work? The offender

## Offender's decisions/behaviour influenced:

### by objective situation:

- **Active surveillance** and objective responses by preventers (*someone is watching me... and has called police... better go!*)

### by perceived situation

- Perception of **risk** of being **actively** surveilled (*janitors here*)
- Perception of **risk** of **passive** surveillance becoming **active** (*if those passers-by spot what I'm doing...*)
- **Perception** of risk of **potential** surveillance (*if someone is in that apartment they could see me from there*)

### by offender's personal factors

- **tolerance** of those risks
- **motivation** for coping with risks
- **resources** for coping with risks – eg countersurveillance skills & equipment, agility, weapons – adaptive offenders, arms races
- **Don't forget, *bad guys could be surveilling the good!***

# How does surveillance work? The preventer

## Surveillance as a process – live or CCTV

**Active surveillance** - Crime preventer has **attention primed** and undertakes **deliberate surveillance activities** eg patrolling or scanning

Preventer encounters **Situation or Event**

**Active/passive surveillance** – Preventer's **attention engaged** – **notices** and actively **investigates** to take in more information

Preventer **interprets, judges, makes perceptual decision** on whether crime risk or event exists – assessing opportunity, criminal readiness, intent

**Considers** alternative responses, and **decides** whether to respond

Preventer **responds** – directly, or mobilises others by various media

Preventer **guides** own/others' response – retrospective/real-time

Use of surveillance witness recall and/or CCTV recordings in **criminal investigation/ evidence for trial**



# Surveillance as process – Performance issues

- How do we **define good and bad performance** of the surveillance process?
- What factors **influence** that performance?
- How does **design of environment** help or hinder performance at each stage of process?

# Surveillance as process – performance issues

## *What is good performance at surveillance?*

- **Vigilance** – paying attention
- **Receiver Operating Characteristic**
  - Balancing probability and consequences of **false alarms** versus **misses** ... and of successful **hits**
- **Appropriateness/ timeliness of response**
  - Both **own** response and response **summoned** via any communications system
  - **Guidance of wider response** by info from surveiller (reported & real-time)
- **Witness quality** – description, recognition, identification
- All of these considered relative to **risks** faced by preventer (eg from criminal event or later reprisal) and **opportunity cost** (time, effort, technology costs to undertake surveillance)

# **Surveillance as process – performance issues**

## ***What factors influence performance?***

- Preventer factors
- Offender factors
- Target factors
- Environmental factors

**These influences affect each stage of surveillance process**

# Surveillance as process – performance issues

## *What factors influence performance?*

- **Preventer factors**

- Perceptual **acuity**
- **Vigilance**
- Knowing what to look for – **search images**
- ‘**Social/psych acuity**’ – judging intention from offender behaviour and situation
- **Motivation** to surveill and to respond – eg responsibility, territoriality, confidence, collective efficacy
- **Emotion and other mental states** eg stress or anger, influencing cognitive factors and motivation aroused by perception of particular crime or risk
- Knowing **how to respond**, and **personal resources to respond** (eg how to report, how to challenge)

- How individual preventer relates to **community** in terms of motivation, response and support for response is important – social capital/ cohesion

# Surveillance as process – performance issues

## *What factors influence performance?*

- **Offender factors**

- **Obviousness** of criminal intent – depending in turn on **capabilities** including **perpetrator techniques** designed to counter surveillance, **technical resources** (ranging from hoodies to electronic signal jammers) and ability to give **convincing explanation** to neutralise challenge
- **Motivation and resources to intimidate surveillers** and affect *their* motivation

- **Target factors**

- **Concealability** from **surveillance**
- **Concealability** from **offender**
- **Effort** to remove/carry
- **Protest/alarm**

# Surveillance as process – performance issues

***How do environmental factors help or hinder performance of surveillance and offender's countersurveillance?***

- Environmental factors give 1 or other conflicting party, balance of **instrumental advantage** (perception, judgement, response) and/or **emotional/motivational supremacy/confidence**
- **Scripts** – a way of describing instrumental interactions by setting out different stages of criminal event – eg:
  - Seek, see, take, escape, sell
- **Script clashes** between preventer/victim and offender
  - Surveillance/concealment
  - Ambush/evasion
  - Pursuit/escape etc

# Features & properties of environment that help or hinder offenders/preventers – incl at surveillance

- **Structural Features**

- Nodes
- Paths
- Barriers
- Screens
- Enclosures
- Furniture
- Signage

- **Movable content eg**

- Vehicles
- People's bodies
- Containers

- **Properties**

Physical, informational, psychological, social

Described in **functional** terms relating to human purpose, and **causal** terms relating to human motivation

- Space
- Movement
- Manipulation/force
- Perception/prospect
- Shelter/refuge
- Understandability
- Information
- Motivation/emotion (ownership, territoriality)
- Competition and conflict

**All of these properties influence the performance of surveillance, but perception/prospect the most**



# Perception and Prospect – how do properties and features of environment influence Vision for surveillance?

Sightlines

Who/ what can be seen from where

**Structural features** affecting this property of environment:

- Bends, screens, barriers, recesses, enclosures

**Content** affecting this property:

- Human/vehicular presence, plants, containers

Light

Intensity, colour, contrast, direction/glare, fluctuation etc

**Structural features** affecting this property of environment:

- Barriers, surfaces - reflectivity

**Content** affecting this property:

- Vehicle lights, trees/shrubs, containers

Background

Discriminability – camouflage etc

**Structural features** affecting this property of environment:

- Surfaces - pattern

**Content** affecting this property:

- Vehicle lights, plants, containers, litter

# **Improving performance of surveillance – technology and design**

# Technology and performance

Technology can influence each of the performance factors

- Preventer
  - Spectacles, night vision, remote listening
- Offender
  - Tagging
- Target
  - Alarm, tracker
- Environment
  - CCTV, movement/presence sensors, sniffers

**But we can't live by technology alone**



# Enter the designer

- Design deliberately manipulates structural features and functional properties of environments and targets in order to meet particular requirements – which may or may not include crime reduction/ community safety
- Design can help or hinder surveillance
  - inadvertently
  - deliberately – incorporating **surveillance adaptations**
- Surveillance adaptations can be ‘**natural**’ (eg a particular sightline to a car park) or ‘**technological**’ (eg a mirror or CCTV to create new sightlines) – design incorporates technology but is not a slave to it!
- Design requirements may **compete** for priority, or **conflict** with each other
- Designer’s job to reconcile these **Troublesome Tradeoffs...**

# Surveillance – Troublesome Tradeoffs

- TTs *between* crime reduction and:
  - Privacy
  - Carbon footprint
  - Light pollution
  - Aesthetics
  - Permeability
- TTs *within* crime reduction/community safety:
  - Barriers keep offenders out but once in, may conceal them from surveillance
  - Overt surveillance may sometimes heighten fear
- Ingenuity of design, plus appropriate technology, can relax the tradeoffs

# Techno-fix?

- Can make fence see-through
- But it's hideous and perhaps fear-inspiring



# Design

- Aesthetic?





# Design

- And fun not fear





# Contact us at

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**www.designagainstcrime.com**

**www.designagainstcrime.com/web/crimeframeworks**

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