

Crime Reduction Through Surveillance and Design

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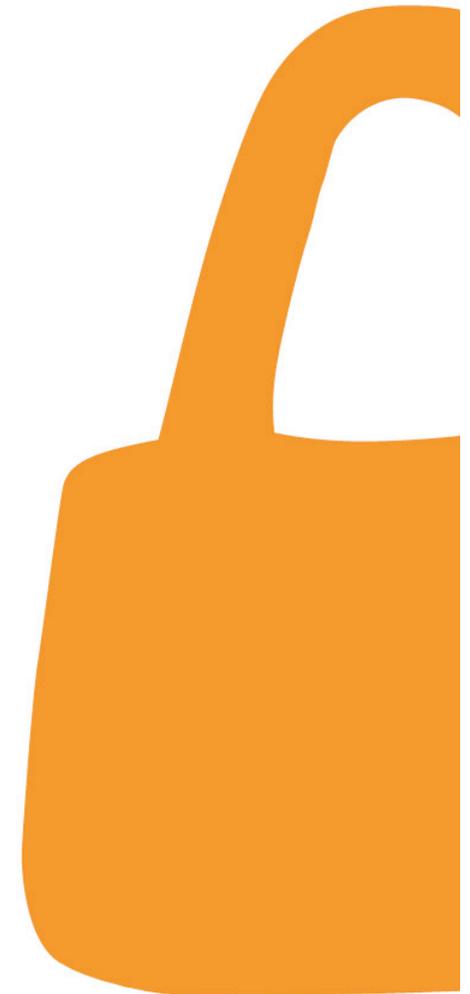
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Design Against Crime Research Centre



Arts & Humanities
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The Grippa research programme, mainly funded by AHRC, is a collaboration between the Design Against Crime Research Centre, Central Saint Martins College of Art & Design, University of the Arts London, and the UCL Jill Dando Institute of Security and Crime Science. Papers and other materials from the programme are at www.grippaclip.com and wider practical and research material on preventing bag theft at www.inthebag.org.uk



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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

on street bicycle parking

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

Other methods of security tagging for identification include:
www.datatag.com www.alpha-dot.co.uk
www.smartwater.com 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 for certified locks. Expect to pay £40 upwards for a certified locking system.

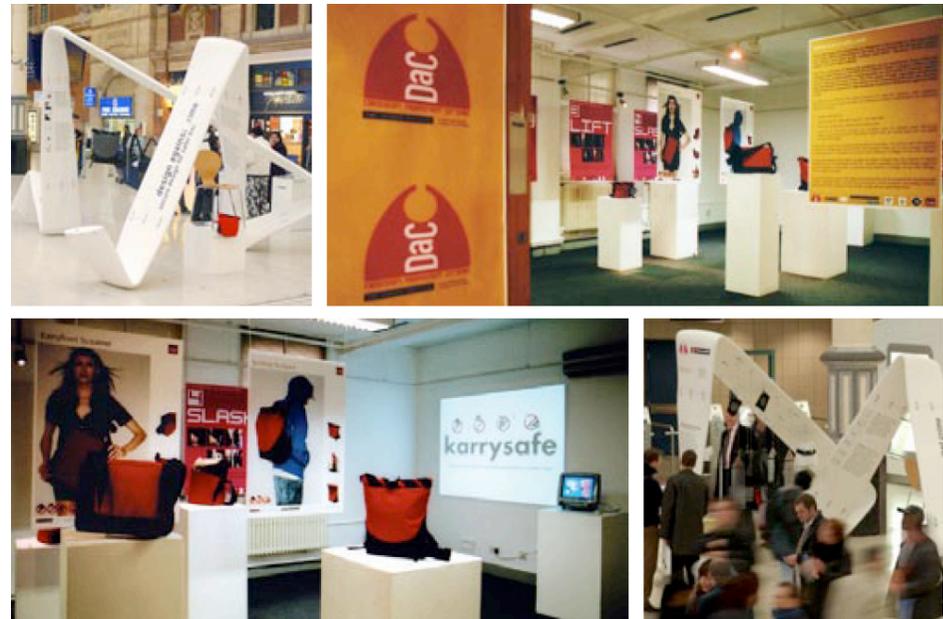
Locking mechanisms that certified locks use include:

extension cable

d-lock **heavy chain lock**

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.bikeforall.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 part of role of being a **crime preventer**
- Surveillance 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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**DESIGN
AGAINST
CRIME**

