

DESIGNING OUT CRIME

FROM EVIDENCE TO ACTION

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DESIGNING OUT CRIME: FROM EVIDENCE TO ACTION.

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Abstract

Designing Out Crime is an increasingly fashionable crime prevention approach, which is being implemented on a global scale (Cisneros, 1995) despite criticisms concerning the apparent lack of evidence to support this approach. This paper reviews the evidence and argues that although residual uncertainty remains, there is a large body of research, which supports Designing Out Crime as a pragmatic and effective crime prevention approach. The paper discusses an innovative approach adopted in Western Australia, which is seeking to embed Designing Out Crime within the State's planning process and public policy frameworks.

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Introduction

In Western Australia (WA) crime prevention through environmental design (CPTED) is known as Designing Out Crime. State government has established a Designing Out Crime Unit within the Office of Crime Prevention (OCP) and is committed to embedding these ideas into the planning process and mainstream public policy. This paper briefly examines the evidence for Designing Out Crime and discusses the State's evidence-based policy approach and Designing Out Crime Strategy. It presents five key goals to embed Designing Out Crime within the WA planning system and public policy.

WA has a population of two million spread over one million square miles, or nearly one third of the Australian continent. The majority of people reside in the southwest of the State, with about one and half million people living in the capital, Perth. The Government's planning vision for the future, Network City, estimates that 375,000 new homes will be required by 2031 and 60% will be built in existing urban areas (WAPC, 2004a). This has obvious planning and policing implications for WA, and Designing Out Crime can assist in meeting these objectives whilst providing a safer and more sustainable future. Furthermore, the potential for evaluating the criminogenic capacity of new developments has been discussed elsewhere (Cozens *et al.*, 1999).

The 2004 State Community Safety and Crime Prevention Strategy. *Preventing Crime* (OCP, 2004) describes how the WA Government will make its community safer. It outlines five clear goals to achieve this vision:

- Supporting families, children and young people;
- Strengthening communities and revitalising neighbourhoods;
- Targeting priority offences;
- Reducing repeat offending; and;
- Designing out crime and using technology.

These goals are underpinned by a series of priority actions, and a new strategic implementation framework based on partnerships, which were established to ensure that these actions are effectively and efficiently met. The strategy is guided by the principles of sustainability, working better together, inclusiveness, targeted efforts, evidenced-based decision making, a focus on results, and sharing knowledge. Clearly, goals two and five of *Preventing Crime* have direct designing out crime implications.

The Western Australian Planning Commission (WAPC) and the Department for Planning and Infrastructure (DPI) oversee much of the planning and development in WA and consistently encourage 'good' design. However, 'good' design does not always mean that the potential for crime has been a primary consideration. Liveable Neighbourhoods (LN) is the State's tool for achieving sustainability in urban design and was established to guide the design and assessment of structure plans and subdivisions throughout the State (WAPC, 2004b). However, although LN contributes to promoting Designing Out Crime, it is currently only an optional design control policy for use on 'greenfield' sites. Crucially, there is still no systematic approach to reducing opportunities for crime using the design and management of space. The objective is therefore to adopt a State Designing Out Crime Strategy, create designing out crime planning guidelines and mandate designing out crime policy and practice by embedding it into the State's planning and development system.

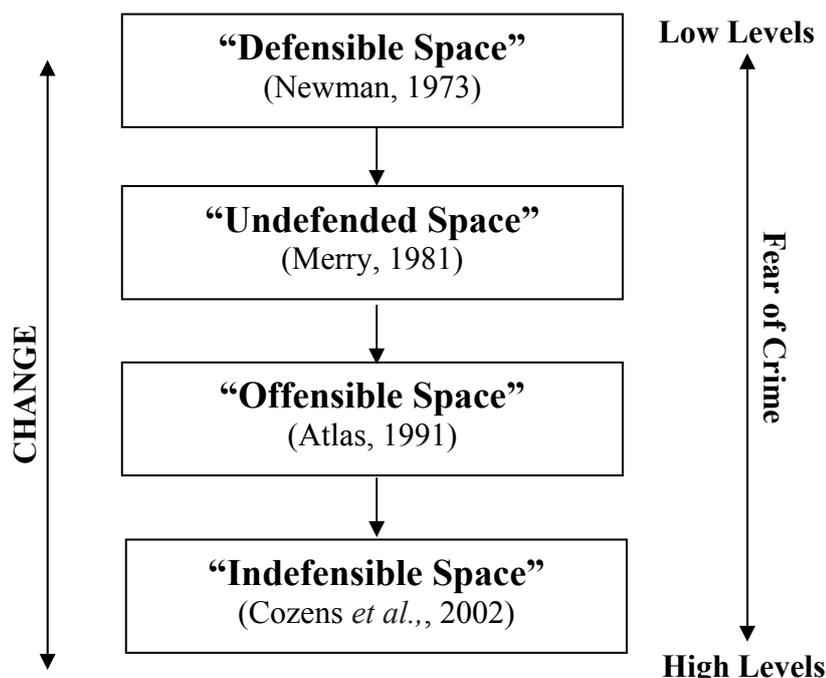
Designing Out Crime

Designing Out Crime is a place-based crime prevention approach, which emphasises techniques that exploit the opportunities in the environment “both to naturally and routinely facilitate access control and surveillance, and to reinforce positive behaviour in the use of the environment” (Crowe, 2000, p37). These strategies are not independent of one another, and they act in concert to use physical attributes to separate public, public-private and private space, to define ownership (e.g. fences, pavement treatments, signs, landscaping and artwork) and define acceptable patterns of usage, in addition to promoting opportunities for surveillance. Designing Out Crime asserts that “the proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life” (Crowe, 2000, p46).

Many of the origins of Designing Out Crime can be found in “Defensible Space, People and Design in the Violent City” (Newman, 1973, p2) where ‘defensible space’ is defined as: “...a surrogate term for the range of mechanisms; real and symbolic barriers, strongly-defined areas of influence, and improved opportunities for surveillance that combine to bring an environment under the control of its residents”. A range of theoretical criticisms of Defensible Space have been expressed (e.g. see Adams, 1973; Hillier, 1973; Kaplan, 1973; Bottoms, 1974; Mawby, 1977; Mayhew, 1979; Booth, 1981; Poyner, 1983) and are discussed elsewhere (see Cozens *et al.*, 2001a). Perhaps one of the most important was the alleged lack of consideration for socio-economics within the study’s methodology.

Indeed, since Newman, research has repeatedly demonstrated how the social dynamics of an area can affect the effectiveness of ‘defensible space’ (see Figure 1). Space which is ‘capable of being defended’ by residents represents ‘defensible space’ but can become ‘undefended’ (Merry, 1981) by residents as a consequence of fear of crime, for example. Atlas (1991) has identified ‘offensible’ space where it becomes defended and exploited by those who would seek to use it for their own illegal purposes (e.g. drug dens) and space can become ‘indefensible’ (Cozens *et al.*, 2002) whereby it is ‘incapable of being defended’ by residents (e.g. urban riot).

Figure 1. Defensible Space and Changing Social Dynamics



Source: adapted from Cozens *et al.*, (2002)

Continuing refinement, of what is now known as 1st Generation CPTED, by researchers, practitioners and policy makers, has arguably responded to criticism to craft a more robust and rigorous approach referred to as 2nd Generation CPTED (Saville and Cleveland, 1997). This refinement extends beyond mere physical design to include social factors. 2nd Generation CPTED uses risk assessments, socio-economic and demographic profiling (Saville, 1996; Plaster Carter, 2002) as well as active community participation (Sarkissian and Perglut, 1994; Sarkissian and Walsh, 1994; Saville, 1995; Sarkissian *et al.*, 1997; Plaster Carter, 2002). The emergence of crime prevention through product design is also a relatively recent development in this field (see Lester, 2001; Cozens and Hills, 2003).

The ecological threshold or ‘tipping point’ (Saville, 1996) of a neighbourhood is the notion that like any natural ecosystem, it has a limited capacity for certain activities and functions. Returning to the original social ecology formulations of CPTED from Jacobs (1961), tipping points treat neighbourhoods as social ecosystems. Environmental decline and increasing rates of vacancy in a given neighbourhood may breach the ‘tipping point’ and result in the out-migration of residents, social capital and economic resources and set in motion a vicious spiral of decline. Under such conditions all crime prevention strategies are likely to be severely limited in their effectiveness. This concept of neighbourhood capacity and the tipping point is one of the four principles of 2nd Generation CPTED, the other three being community culture, cohesion and connectivity (Saville and Cleveland, 2003a, 2003b).

An extensive literature review of Designing Out Crime and the evidence-based approach adopted by the OCP has highlighted the importance of social dynamics and the ever-changing nature of space and place. Design alone is clearly not a panacea for crime and as such, this is reflected in the adoption of the slogan “Designing Out Crime, Designing In People²” and in the goals of the Designing Out Crime Strategy.

Evidence-based Policy

Davies (1999) has defined evidence-based policy as an approach that “*helps people make well-informed decisions about policies, programmes and projects by putting the best available evidence from research at the heart of policy development and implementation*” (quoted in Davies, 2004, p7). The WA government is using an evidence-based policy approach and has developed a research programme to support Designing Out Crime policy initiatives.

Davies (2004) argues evidence-based policy requires sophisticated empirical research studies such as systematic reviews of large numbers of evaluations to guide policy (though not exclusively). Such reviews overcome the shortcomings of single studies, which are usually “sample-specific, time-specific and context-specific” (Davies, 2004, p7). As such, systematic reviews can be useful in making ‘generalisations’. However, Designing Out Crime is site, time and context-specific and making generalisations may not be the best outcome indeed, it may result in highly negative outcomes. This can occur when successful interventions from one location are naively ‘transplanted’ to another – without due regard to local contexts.

The OCP necessarily investigates the evidence that exists on any topic before pursuing a systematic policy approach that has significant ramifications for the community. The evidence-based approach adopted by the OCP has involved an extensive literature review of the evidence from recent place-based crime prevention research (see Cozens *et al.*, 2005).

² Also used by Launceston City Council, Tasmania.

Evidence for Designing Out Crime

Cozens *et al.*, (2005) highlight one of the most significant reviews of crime prevention project evaluations (Sherman *et al.*, 2002), the US Congress report *Preventing Crime: What Works, What Doesn't, What's Promising*. This review revealed that 90% of place-based crime prevention evaluations showed evidence of crime reduction effects – often relatively large reductions. The review used a framework for categorising the methodologies used in the studies evaluated to assess how empirically robust they were. The Maryland Scientific Methods Scale (Sherman *et al.*, 2002) reflects the strength of evidence about programme effects on crime (not the strength of the effects themselves). It focuses on the question of whether there is reasonable evidence that a programme has any beneficial effect at all in preventing crime (see Figure 2).

Figure 2. Maryland Scientific Methods Scale (Sherman *et al.*, 2002)

Scale	Methodology
1	Correlation between a crime prevention programme and a measure of crime or crime risk factors at a single point in time. Studies without pre-intervention measures.
2	Temporal sequence between the programme and the crime or risk outcome clearly observed, or the presence of a comparison group without demonstrated comparability to the treatment group. Pre-post design without control areas.
3	A comparison between two or more comparable units of analysis, one with and one without the programme.
4	Comparison between multiple units with and without the programme, controlling for other factors, or using comparison units that evidence only minor differences.
5	Randomised assignment and analysis of comparable units to the programme and comparison groups.

In Sherman *et al.*, (2002) the effectiveness of the majority of the place-based initiatives was categorised as ‘unknown’ and most failed to meet the highest methodological and evaluative standards. Indeed, only two place-based studies (Crow and Bull, 1975; Eck and Wartell, 1996) met level 5³ on this scale (Sherman *et al.*, 2002). However, this does not necessarily mean that studies below Level 5 did not function effectively, merely that it cannot be empirically ‘proven’ that they did.

A sizeable number of studies (36%) attained Level 2 using pre-post design without control areas and over half (51%) achieved Level 3 and established pre-post designs with control areas or time-series design methodologies. Crucially, Level 3 studies represent the minimum acceptable standard of methodological rigour according to Sherman *et al.*, (2002).

Although a detailed discussion of this issue is beyond the scope of this paper, it is interesting to note that empirically, studies which claim to demonstrate that Designing Out Crime does not function effectively – are arguably tainted with the same methodological shortcomings (and would not meet Scientific Methods Scale Level 3). Moreover, studies which do not fully support Designing Out Crime, often report that design factors were less effective than other variables, rather than reporting no effectiveness whatsoever. Draper (2000) also notes how Designing Out Crime clients are often unwilling to fund follow-up research evaluating interventions and that even when this is an objective, client confidentiality can often result in the non-dissemination of findings. More

³ The most empirical studies which use randomised controlled experiments

significantly, perhaps, the extensive review of *Designing Out Crime* and the associated evidence has also informed the evidence-based policy approach in terms of the limitations to *Designing Out Crime*.

Significantly, Sherman *et al.*'s review (2002) reported that there were no place-based evaluations that did *not* function effectively and that the existing empirical uncertainty about what works, at which places, and against which crimes “should not distract us from the broader finding that opportunity blocking tactics at places can be productive” (Eck, 2002, p281). Other significant reviews (eg. Poyner, 1993; Taylor and Harrell, 1996; Feins *et al.*, 1997; Sorenson, 2003) all indicate that research consistently yields results suggesting *Designing Out Crime* can lead to crime reductions.

More specifically, studies have shown that offenders use territoriality to evaluate risk (Brown and Bentley, 1993) and territoriality can also influence levels of fear of crime (Brown and Altman, 1983; Taylor *et al.*, 1985; Brown, 1987; Taylor, 1988; Brown and Perkins, 1992; Perkins *et al.*, 1992; Perkins and Taylor, 1996; Brown, 2001 and Ratcliffe, 2003). Research supports the use of surveillance as a crime prevention strategy (Pascoe, 1993; Steventon, 1996; Painter and Tilley, 1999; Hillier and Shu, 2000; Cozens *et al.*, 2001; Weisel, 2002; Cozens *et al.*, 2003;) and image maintenance and space management is supported by numerous studies (Wilson and Kelling, 1982; Sloan-Howitt and Kelling, 1990; Spelman, 1993; Kraut, 1999; Ross and Mirowsky, 1999; Ross and Jang, 2000). Additionally, research on access control (Newman, 1973, 1980, 1996; Poyner, 1983; Coleman, 1985; Poyner and Webb, 1991; Atlas and Le Blanc, 1994) indicates an association between design features and levels of crime; particularly features that allowed unrestricted pedestrian movement through residential complexes. There is a growing body of research on activity support and mixed-use neighbourhoods where opportunities for crime are reduced by virtue of the increased range of activities in spatial and temporal terms (Poyner and Webb, 1991; Pettersson, 1997; Wekerle and Whitzman, 1995; Office of the Deputy Prime Minister, 2004).

There has been much research on the crime reduction effects of street lighting (for a review see Cozens *et al.*, 2003), with a recent systematic review (Farrington and Welsh, 2002). Indeed, Pease (1999, p48), argues that the case is proven; “reading the research and evidence now leads to the inescapable conclusion that street lighting can help in crime control”. The installation of CCTV (Armitage 2002; Welsh and Farrington, 2002) and target hardening (Tilley and Webb, 1994; Budd, 1999; Knights and Pascoe, 2000; Sorenson, 2003) all indicate reductions in crime.

Empirical studies (Armitage, 1999; Brown, 1999 and Pascoe, 1999) evaluating Secured By Design (SBD) – a UK *Designing Out Crime* initiative - have demonstrated *Designing Out Crime* can function effectively, albeit without demonstrating exactly why (for a review see Cozens *et al.*, 2004). While recorded crime is reduced, the complexities of policy may make it impossible to know the precise contribution made by each individual intervention. Research also demonstrates that *Designing Out Crime* strategies function best when community participation is optimised (Sarkissian and Perglut, 1994; Sarkissian and Walsh, 1994; Sarkissian *et al.*, 1997) and it should be noted that rather than displacing crime elsewhere, it will often result in the diffusion of benefits to adjacent areas (Clarke and Weisburd, 1994). Finally, the available evidence strongly suggests *Designing Out Crime* is contextually specific and operates most effectively as part of a multi-agency approach (Schneider and Kitchen, 2002).

Research has also underpinned the links that exist between sustainable development and *Designing Out Crime* (eg. see Du Plessis, 1999; Knights *et al.*, 2002; Cozens, 2002; Cozens, 2004). Indeed, Del Carmen and Robinson (2000) have recently highlighted the important role that *Designing Out Crime* played in controlling consumption (tuberculosis) between the early 1800s and early 1900s. They observe how “efforts of the health and criminal justice systems in the United States were combined to achieve prevention of consumption and crime” (Del Carmen and Robinson, 2000,

p268-9). Ironically, currently in Australia a review of the Public Health Act 1911 is underway.

Crime Reduction through Product Design (CRPD) is arguably part of Designing Out Crime. This “involves integrating protective features into products in order to reduce their potential to become targets of criminal activity (such as theft, fraud and damage), as well as preventing their use as instruments of crime” (Lester, 2001, p1).

Generally speaking, design features are distinct from the core product and are not necessarily required for it to perform its intended use. For example, security technology may be installed in goods at the production stage (digital watermarks embedded in computer software) or separately applied after production (encryption methods for data protection). CRPD does however, emphasise integration between the product and its security features, which can be more effective than any subsequent reliance on target hardening measures.

Products can also be made less attractive to thieves by reducing their desirability as stolen goods. This may be achieved by considering ‘CRAVED’ attributes in products. This acronym concerns product characteristics that make them more ‘Concealable’, ‘Removable’, ‘Available’, ‘Valuable’, ‘Enjoyable’ and ‘Disposable’ (Clarke, 1999). Goods that are available, enjoyable (desirable) and valuable are therefore more sought after by potential thieves. Such items become increasingly vulnerable to theft if they are readily removable, concealable and disposable (for a summary see Cozens and Hills, 2003).

In terms of the evidence, Sherman *et al.*, (2002) reviewed numerous studies on property marking, parking meters and metal detectors, demonstrating reductions in crime, with most evaluations ranging from Level 2 to Level 4 on the Maryland Scientific Methods Scale. A review by Webb (1997) demonstrated the effectiveness of steering locks in reducing car theft.

Although this area is relatively new, Tilley and Laycock (2002) argue there is no doubt that some products are more attractive to thieves than others and that both research and common sense agree on this (Felson, 1998). Tilley and Laycock, (2002, p9) comment “it is also clear that this attractiveness can in many circumstances be ‘designed out’ or otherwise dealt with”.

In summary, the review of the Designing Out Crime components of surveillance, access control, territorial reinforcement, activity support, image / management, and target hardening intimates that they have all contributed to reducing crime and the fear of crime in numerous studies. There is also a growing body of evidence supporting the use of product design to reduce opportunities for crime. Furthermore, reviews of crime prevention interventions have consistently found that Designing Out Crime can reduce crime – albeit without establishing precise empirical ‘evidence’ that it does.

Action - The Designing Out Crime Strategy

Most States in Australia have developed Designing Out Crime guidelines and some have devised policies. After the Australian and New Zealand Ministerial Crime Prevention Forum adopted Designing Out Crime as one of six key priority areas in November 2003, it was much easier to commence the complex task of Designing Out Crime policy development. However, the evidence-based policy approach in WA is significantly broader than merely developing policy, it is a strategy – a plan for action. Primarily, it will make Designing Out Crime practice, part of the routine daily operations and thinking of crime prevention policymakers, urban planners, developers and a host of others who in various ways influence either the urban form or product design. A discussion of the highly complex WA planning system is beyond the scope of this paper however, the whole system was analysed with a view to developing and embedding Designing Out Crime policy at local, regional and State levels. This involves embedding Designing Out Crime within various decision-making statutory planning policy documents, planning instruments and planning processes. In summary, the Designing Out Crime Strategy has 5 key goals.

- To embed Designing Out Crime principles within all relevant State and local planning

policies, practices and major projects to reduce opportunities for crime and the fear of crime.

- To increase the knowledge, awareness and understanding of Designing Out Crime through the provision of training, education and marketing.
- To apply an across Government, multi-agency, social and community development approach when implementing Designing Out Crime policies and practices.
- To legislate and amend policy frameworks to ensure that product designers consider the ‘crime potential’ of their products and government will use emerging technologies to reduce opportunities for crime.
- To ensure that the built and landscaped environment is well maintained and managed and that procedures are in place to rapidly repair vandalism and graffiti and reduce the incidence of long-term vacancy and dereliction.

The strategy has an extensive range of associated actions to achieve these objectives. In terms of actions to date, the OCP have established a Designing Out Crime Unit and provided funding in 2004/5 of \$2 million for local government Designing Out Crime projects. The OCP has also provided research and development funds for Designing Out Crime and has co-funded and co-managed the production of soon-to-be-endorsed State Designing Out Crime planning guidelines. The OCP are working with local governments on Community Safety and Crime Prevention Plans and has developed a two-day Designing Out Crime training course. In policy terms, various submissions have been made to a variety of State planning documents and instruments and the OCP is working with specific local governments to develop local town planning policies.

Conclusions

This paper has outlined the evidence-based approach to Designing Out Crime adopted by the State government in Western Australia and has briefly discussed the evidence. This approach, supported nationally and Statewide has involved the analysis of the planning system, an extensive review of the evidence and the systematic development of a Designing Out Crime strategy. Although it is clear that further empirical studies are necessary before Designing out Crime is a “proven” approach, research strongly indicates that it can reduce crime and the fear of crime (for a review see Cozens, *et al*, 2005).

In time the strategy will be approved by Government, new planning policies will be adopted and design guidelines mandated. While Government mandated policies and guidelines do not guarantee that the practice will be effectively adopted, it does mean that a robust framework is in place and it is clear what the Government intends. The next step will be to implement the many actions in the strategy and to embark on the complex task of evaluating the effectiveness of the strategy itself.

While Designing Out Crime activity has been only a minor part of a much broader effort to reduce crime, it has nonetheless featured as an easily understood and practical crime prevention strategy. The fact that responsibility for Designing Out Crime in WA lay with a central agency (Department of Premier and Cabinet) is a significant advantage (Weatherburn, 2004). It provides authority and leadership, and facilitates a multi-agency approach to developing the new policy framework and setting and achieving the goals of the State’s Designing Out Crime strategy.

It could be argued that none of this is particularly innovative and that Designing Out Crime is merely common sense. However, the extent to which the WA Government is attempting to think systematically and embed Designing Out Crime securely within the planning system and public policy is clearly innovative. If successful, this will go some way to ensuring that ‘common sense’ becomes ‘common practice’.

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