

Building safer communities – reducing crime through environmental planning and design

Tinus Kruger

CSIR Built Environment Unit - Sustainable Human Settlements
Pretoria, South Africa. e-mail: dkruger@csir.co.za

Key words: crime prevention through environmental design (CPTED), safer communities, sustainable human settlements, housing.

Abstract

The paper deals with the relationship between crime and the physical (built) environment and specifically the housing environment in poorer communities. It discusses the concept of crime prevention through environmental design (CPTED) with respect to its theoretical approach, its basic principles and its application within the South African context. The strengths and limitations of this approach are also addressed.

1 Introduction

“Safe as houses.” This well-known saying has probably lost its meaning a long time ago, and some would say it is rather ironic given the crime situation in South Africa. It could be argued that crime, and the fear of crime, has in many cases resulted in people not even feeling safe in their own houses any more. According to a National Victims of Crime Survey conducted by the Institute for Security Studies (ISS) in 2003, house breaking, after murder, was the crime type that the respondents were most afraid of in the area where they live. [1] This perception may not be unfounded. The same study found that housebreaking was the most common crime type in South Africa, with 7,5 % of people over the age of 16 years having been victims of housebreaking in 2003, up from 7,2% in 1998. [1]

However, this fear extends beyond the house to the areas where people live or work. The 2003 ISS study revealed that 58% of respondents felt very unsafe when walking alone in their area after dark, a much higher percentage than the 25% in 1998. Despite the fact that South Africa’s crime rates have decreased or stabilised during the past five to seven years, the ISS victim survey indicates that the public’s fear of crime has increased between 1998 and 2003. [1]

Clearly, reducing crime could not be the responsibility of the police alone - creating safer communities requires the committed involvement of communities, various government departments, local

authorities, the private sector etc. Fighting crime also calls for a multi-pronged approach that involves law enforcement, social prevention and situational prevention. [2]

This paper focuses on an approach to crime prevention that incorporates certain environmental planning, design and management measures aimed at creating safer communities. It investigates the relationship between crime and the physical environment and highlights the role that the form and character of the built environment could play in increasing or reducing opportunities for crime. This issue is addressed within the South African context against the backdrop of the local housing environment and particularly the new comprehensive housing plan developed by the Department of Housing.

2 Housing and human settlements in South Africa

2.1 Cities and towns - the current context

South African cities and towns have been shaped to a large degree by planning practices that were a result of apartheid policies. Cities were partitioned into various zones based on race. The central business core is surrounded by residential areas traditionally reserved for the white population. These areas are usually characterised by sophisticated and well-maintained infrastructure and facilities. On the periphery of the town or city, townships were created for the migrant black labour force. Most of these areas are underdeveloped and lack adequate infrastructure and recreational facilities. Often the coloured and Indian communities were situated between the white and black areas to act as a buffer. The white communities were further separated from the townships by purposely-designed buffer zones, which were either set aside for industry or left unused. In many towns and cities informal settlements have developed spontaneously on vacant land. [3]

Some of the typical characteristics of the apartheid city are:

- the spatial dislocation of the poor, which results in long and costly commuting patterns that often leave commuters vulnerable to victimisation;
- the separation of communities through vacant land, railway lines and other means used in the past to divide different communities;
- the wide disparities in living levels evident in the depressed quality of life and degraded built environments experienced by many in the apartheid city;
- the exclusion of many residents from the amenities and economic opportunities offered by the city; and
- the rigid mono-functional zoning of land which leaves some areas deserted at night and others deserted during the day, and reduces residential areas to virtual dormitories. [4]

Despite the progress that has been made during the past ten years, housing for the poor has in many ways not lead to vastly improved living conditions. Generally speaking, the form and structure of the apartheid city has not changed significantly during the past decade despite efforts from Government.

After the 1994 elections, Government committed itself to developing more liveable, equitable and sustainable cities. Key elements of this framework included pursuing a more compact urban form, facilitating higher densities, mixed land use development, and integrating land use and public transport planning, so as to ensure more diverse and responsive environments whilst reducing travelling distances. Despite all these well-intended measures, the inequalities and inefficiencies of the apartheid space economy, has lingered on. [5]

2.2 A new vision for housing and human settlements in South Africa

The vision of the National Department of Housing is that of “A nation housed in sustainable human settlements with access to socio-economic infrastructure”. [6] This vision is expanded on and reinforced in the “Breaking New Ground” document, with the Department committing itself to meeting a number of objectives, including:

- Combating crime, promoting social cohesion and improving quality of life for the poor.
- Utilising housing as an instrument for the development of sustainable human settlements, in support of spatial restructuring. [5]

This document explicitly states that there should be a move “beyond the provision of basic shelter towards achieving the broader vision of sustainable human settlements and more efficient cities, towns and regions.” [5] This view is echoed in other government documents including the National Spatial Development Perspective (NSDP) and the Draft National Urban Strategy. The “Breaking New Ground” document highlights a number of ways to support this drive towards spatial restructuring, including the following:

- Progressive informal settlement eradication.
- Promoting densification and integration.
- Enhancing spatial planning.
- Enhancing the location of new housing projects.
- Supporting urban renewal and inner city regeneration.
- Developing social and economic infrastructure.
- Enhancing the housing product. [5]

These initiatives are directly in line with the underlying philosophy of crime prevention through environmental design. In the following sections of this paper this philosophy will be discussed and a number of principles identified aimed at creating a safer living environment and supporting the vision and objectives of the new comprehensive housing plan.

3 Crime and the physical environment

The notion that the physical environment can either increase or reduce opportunities for crime is not new. It is well-known that the form and character of the built environment can be of great significance as the local setting of a crime. The environment can also play a significant role in influencing *perceptions* of safety. Certain environments can impart a feeling of safety, while others can induce fear, even in areas where levels of crime are not high.

Internationally, the relationship between crime and the physical environment has been studied extensively from various angles over a number of decades. Earlier studies include the work of Jane Jacobs regarding the relationship between crime and street layout and land use, Oscar Newman’s attempts at using architectural form to reduce the effects of crime in public housing schemes in the United States through his “defensible space” ideas, and situational crime prevention, which involves the introduction of discrete managerial and environmental changes to reduce opportunities for specific crimes to occur. [7] The concept of “crime prevention through environmental design”, or CPTED (pronounced sep-ted) developed by C Ray Jeffery has evolved considerably during the past number of years and is widely promoted by the International CPTED Association (ICA).

South Africa has only recently started to contribute to the debate around the use of environmental design to address crime problems. In 1996, the National Crime Prevention Strategy (NCPS) was launched, and one of its four pillars focussed on “reducing crime through environmental design”. [8] This was the catalyst for the first comprehensive research project on crime and the physical environment within the South African context conducted by CSIR Building and Construction Technology and the Institute for Security Studies (ISS).

3.1 Crime prevention through environmental design (CPTED) in South Africa

Ongoing research by the CSIR has resulted in an approach to CPTED that takes into consideration international knowledge as well as the local context and realities. It defines CPTED as *aiming to reduce the causes of, and opportunities for, criminal events and address the fear of crime by applying sound planning, design and management principles to the built environment*. [4]

Within the South African context, it incorporates the following:

- physical **planning** - planning approaches used at the strategic level;
- the detailed **design** of the different elements, for example, the movement system and roads, the public open space system, individual buildings on their separate sites, etc, and
- the **management** of either the entire urban system or the different elements and precincts that make up the urban area. [4]

CPTED is based on a number of principles that may vary slightly depending on specific interpretations and contexts. Kruger et al identifies five principles which are fundamental in establishing the extent to which the physical environment either reduces or increases opportunities for crime. [4] These principles provide valuable guidance when decisions need to be made regarding the planning and design of the physical environment. They could also be regarded as performance criteria or objectives to be achieved when developing or redeveloping certain spaces. The principles are described below.

- **Surveillance and visibility**

Maximise opportunities for observance of public and private areas either by users or residents during the course of their normal activities (passive surveillance) or by police or other security personnel (active surveillance). Ensure that environments are made visible through effective lighting and uninterrupted lines of sight.



Figure 1: The glass lobby increases visibility and the watch tower ensures better lines of sight

- **Territoriality**

Encourage a sense of ownership of and responsibility for a space by employing mechanisms that will allow residents or users to identify with the space and experience it as legible.



Figure 2: Examples of people taking ownership of public space (Photo on left - ARP)

- **Access and escape routes**

Limit opportunities for offenders to utilise access and escape routes such as vacant land. Enhance the level of ease with which potential victims could find and access escape routes.



Figure 3: Green belt: easy access and escape routes; subway: no escape routes for victims

- **Image and aesthetics**

Ensure that the physical appearance of an environment creates a positive image and instil feelings of safety in users.



Figure 4: “Crime and grime” image versus a clean, positive environment (Photos - ARP)

- **Target hardening.**

Reduce the attractiveness or vulnerability of potential targets by, for instance, physically strengthening it or installing mechanisms that will increase the effort required to commit an offence.



Figure 5: A fence as target hardening measure allows for better surveillance than a solid wall

3.2 Using CPTED to create safer living environments

The CPTED principles described above directly support the aims and objectives of the new comprehensive housing plan. They could very effectively underpin the seven initiatives aimed at spatial restructuring mentioned in section 2.2.

At a strategic level, planning approaches could be adopted by local government to actively encourage the reduction of vacant land, 24-hour land use, the pedestrian use of infrastructure, equitable provision of facilities and amenities etc. This could be supported by more detailed CPTED guidelines aimed at guiding the design of the physical development at local level. Figures 6 to 9 illustrate how CPTED could be incorporated into initiatives aimed at improving the quality of human settlements. (Photos courtesy of the Alexandra Renewal Project (ARP).)



Figure 6: Improving living conditions by providing medium density housing



Figure 7: Improving infrastructure such as roads

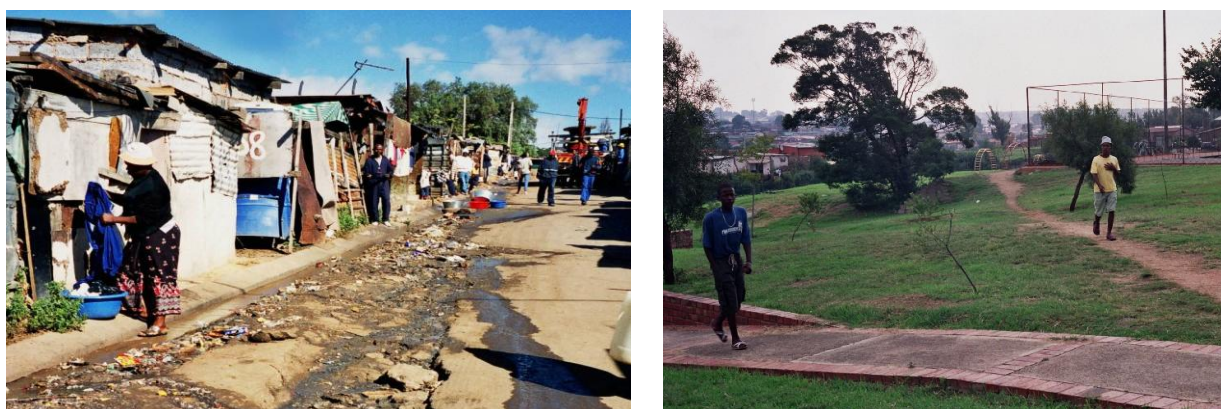


Figure 8: Improving infrastructure to make it more pedestrian friendly



Figure 9: Improving living conditions and the quality of the environment

4 Conclusion

There seem to be agreement amongst different government strategies, policies and framework documents that the form and spatial character of South Africa's cities and towns need to be restructured. The creation of safer living environments is central to the vision of sustainable human settlements.

The role that the physical environment could play in reducing opportunities for crime is widely acknowledged. However, despite the many benefits of crime prevention through environmental design, it should not be seen as a solution to all crime problems. Environmental design interventions are only appropriate to address particular crime types in particular locations. [9] There is no readily available formula that can be applied everywhere, and the dynamics of each situation need to be understood before applying any of the CPTED principles.

The value of incorporating CPTED principles into the planning and design of physical developments and other initiatives aimed at the restructuring of the environment should not be underestimated. The impact on crime may not be clearly visible in the short term, but the opportunity now exists to create an environment for future generations that is not conducive to criminal activity and supports safe living.

References

- [1] Mistry, D. *Falling Crime, Rising Fear - 2003 National Victims of Crime Survey*. SA Crime Quarterly. No 8, Nedbank ISS, Pretoria, 2004.
- [2] Liebermann, S., Landman, K., Louw, A. and Robertshaw, R. *Making South Africa Safe – A Manual for Community Based Crime Prevention*. The National Crime Prevention Centre, Pretoria, 2000.
- [3] Shaw, M., and Louw, A. *Environmental Design for Safer Communities*. Institute for Security Studies, Pretoria, 1998.
- [4] Kruger, T., Landman, K. and Liebermann, S. *Designing Safer Places - A Manual for Crime Prevention through Planning and Design*. South African Police Service & CSIR, Pretoria, 2001.
- [5] Department of Housing. *“Breaking New Ground” - A Comprehensive Plan for the Development of Sustainable Human Settlements*. Unpublished, Pretoria, 2004.
- [6] http://www.housing.gov.za/content/mandate_vision_mission.htm (15/07/2005).
- [7] Clarke, R.V., ed. *Situational Crime Prevention - Successful Case Studies (Second Edition)*. Harrow and Heston, Guilderland, New York, 1997.
- [8] Inter-departmental Strategy Team. *National Crime Prevention Strategy*. Pretoria, 1996.
- [9] Clarke, R. “CPTED in Public Housing”, in Sorenson, S.L., Walsh, E. and Myhre, M. *Crime Prevention Through Environmental Design in Public Housing*. SPARTA, Washington DC, 1998.