

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN: THE PATH TO STANDARDIZATION

Review Article

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Abstract: Contemporary cities face numerous challenges, ranging from environmental to security issues. One of the most significant security challenges is the rise of urban crime and how to prevent it. Numerous examples have shown that the design of the environment can influence criminal behavior. Globally, the model known as Crime prevention through environmental design (CPTED) is recognized. To enhance urban safety, it is essential to implement crime prevention measures, and this model is particularly effective. Therefore, the aim of this paper is to highlight the importance of CPTED for improving urban safety by shaping public urban spaces to be safe and attractive for citizens. Given that this model is still new in Republika Srpska, the goal is to present the development path and significance of CPTED standardization, as well as its application on a global level. This will form a theoretical research base and lay the foundations for initial research at institutes and universities, aiming for a comprehensive approach to urban safety analysis.

Keywords: urban safety, crime prevention, CPTED, Republika Srpska

INTRODUCTION

We are witnessing rapid changes and unpredictable challenges faced by cities and their inhabitants, ranging from environmental and natural challenges and disasters to security issues. The concept of 'security' is a very complex and multifaceted social phenomenon. Etymologically, it originates from the Latin word *securitas-atis*, which means safety, the absence of danger, confidence, protection, etc. (Маслеша, 2007). The human security agenda focuses on protecting and enhancing the security of people and communities, making crime

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prevention one of the greatest security challenges in urban places. To improve urban safety, it is essential to implement crime prevention measures.

Alongside measures implemented by criminologists, crime prevention can also be influenced through the design and arrangement of public spaces, that is, urban design. Appropriate design and effective use of space can reduce the fear of crime, decrease crime rates, and improve the quality of life for people (Cozens, Saville, & Hillier, 2005). This approach allows for the planning, designing, and construction of safe communities (Crowe & Zahm, 1994). Various crime prevention models exist, but this paper focuses on Crime Prevention Through Environmental Design (CPTED).² CPTED posits that there is a connection between the design of specific urban zones and crime rates, suggesting that the appearance and organization of an urban space influence the commission of criminal acts. The goal of CPTED is to make every location unsuitable for criminal activities while simultaneously ensuring it is safe for citizens.

CPTED is not a new model globally, but it is relatively new and insufficiently researched in Republika Srpska. Therefore, the subsequent sections of this paper outline its developmental path and application, aiming to demonstrate its significance and lay the groundwork for initial research at institutes and universities. This will help define guidelines for the preparation of planning and project documentation. It is essential to incorporate the standards, strategies, and principles of CPTED into the legislative and political framework, national policy guidelines, and city regulations for urban design and planning.

DEVELOPMENT OF CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

In the 1960s and 1970s, journalist, urban theorist, and activist Jane Jacobs, along with urban writer Elizabeth Wood and architect Oscar Newman, established principles and postulates of secure architecture that later became the core principles and strategies of the CPTED. Jacobs advocated for a safe city adapted to people, combining attractiveness and accessibility with a system of openness through participation and the right to open access to urban space. In her book *The Death and Life of Great American Cities*, she argued that crime in residential blocks could be reduced by orienting buildings toward the street, clearly distinguishing between public and private spaces. Open spaces, according to her, connect the community and increase the number of ‘eyes on the street.’ She also believed that urban design, to reduce crime opportunities, should promote a diversity of space usage (mixed-use) rather than mono-functional blocks and should enhance the free flow of people to increase ‘natural surveillance’ (Jacobs, 1961). The CPTED strategy of *natural surveillance* for crime prevention directly emerged from these early ideas. Elizabeth Wood (Wood, 1960; Wood,

² For more information, see: <http://www.cpted.net/>

1961) also contributed significantly to the early development of CPTED with her works *A New Look at The Balanced Neighborhood* and *Housing Design: A Social Theory*. The CPTED formulations for territorial and social control, particularly the presence of people, were directly derived from her work. In his book *Defensible Space: Crime Prevention Through Urban Design*, Oscar Newman developed an approach based on the defensible space theory, offering very pragmatic solutions to crime problems. However, it was relatively narrow as it focused on residential structures and communities through *territoriality* (creating perceived zones of territorial influence), *natural surveillance* (opportunities for residents and their agents to observe), and *image and milieu*—now referred to as *image and maintenance* (perception of the project’s uniqueness, isolation, and reputation). These concepts later became the main strategies of the first generation of CPTED. The design of defensible space provides people with the opportunity to take control over the space and activities outside their homes, offering them an environment for comfortable living and the chance to improve their space so that their identity with it is strengthened (Newman, 1972). This concept suggests that all space in a human environment can be defended if residents consider the space their own and protect it from criminal use. During the same period when Newman was developing his concept of defensible space, academic solutions for crime control were proposed by the founder of CPTED, criminologist Clarence Ray Jeffery, in his book *Crime Prevention Through Environmental Design*. Jeffery argued that the criminal justice system (police, courts, prisons) was not functional as crime remained a fundamental social problem. He believed that crime and the fear of crime could be reduced by reshaping built spaces (the external physical environment), which mediate in the brain processes of individuals, acting as environmental stimuli and influencing changes in their behavior (Jeffery, 1971). “Behavior is a product of the brain, rather than environment. For behavior to occur, the environment, including social class, education, and age as social roles, must enter the brain and be processed” (Jeffery, 1990: 309). He proposed a broad, system-based approach between crime and the environment. His conceptualization included the internal environment (the brain), the external environment (the living environment), and the social environment, and the interaction of these different levels has the power to predict and prevent crime (Jeffery, 1971).

Twenty years later, criminologist and crime prevention consultant Timothy D. Crowe published a book with the same title *Crime Prevention Through Environmental Design*. The concepts presented in this book explain the relationship between urban design and human behavior. Understanding this relationship can enable planners to use natural environmental factors to reduce crime. Crowe worked as the director of the National Crime Prevention Institute at the University of Louisville and created his own CPTED training program, which serves as an important resource for anyone involved in urban design, planning, and space management (Crowe, 1991).

Henry Cisneros, former U.S. Secretary of Housing and Urban Development, published the monograph *Defensible Space: Deterring Crime and Building Community* in 1995. It was significant that a high-ranking federal leader acknowledged the impact of CPTED on crime reduction, and his book gained widespread recognition (Cisneros, 1995). A year later, Oscar Newman reasserted his concepts of defensible space in his book *Creating Defensible Space* (Newman, 1996). Five years later, the American Planning Association published *SafeScapes: Creating Safer, More Livable Communities Through Planning and Design* (Zelinka & Brennan, 2001), solidifying CPTED as an integral part of the planning process in many American cities.

Additionally, the U.S. National Institute of Justice developed studies demonstrating that appropriate (re)design and effective management of the physical environment can control and/or prevent crime (Fleissner & Heizelmann, 1996). The physical environment significantly impacts crime, the fear of crime and quality of life. CPTED works by reducing the ability of criminals to commit crimes and increasing the likelihood that citizens will witness crimes.

Today, CPTED is a holistic approach that holds a significant place within criminology and urbanism. In the early 21st century, CPTED strategies and principles³ gained global acceptance by police forces, architects, urban planners, spatial planners, and city authorities, becoming integral parts of various city regulations for planning, design, construction, and maintenance. The topic remains relevant in academic circles even after half a century. In 2020, professors Rachel Armitage and Paul Ekblom published the book *Rebuilding Crime Prevention Through Environmental Design: Strengthening the Links with Crime Science*. The authors define CPTED as a practice-oriented approach aimed at reducing crime risk by modifying the built environment (Armitage & Ekblom, 2020).

CPTED, as it is known and practiced today, is a closer adaptation of Newman's defensible space concept than Jeffery's original idea, although it combines elements of both approaches. It has evolved beyond its physical focus from '1st generation CPTED' into more mature approaches of 2nd and 2rd generations CPTED and continues to merge with other place-based crime prevention strategies such as situational crime prevention and crime geography, as well as space syntax, new urbanism, gated communities, and the 'responsibility' of spaces and objects (Kitchen & Schneider, 2007). The gradual expansion of the CPTED theory has grown from a small micro-scale at the architectural level, the focus of 1st generation CPTED, to a medium meso-scale with its focus on social conditions in neighborhoods - second-generation CPTED. 2nd generation CPTED was introduced by Cleveland and Saville (1997) during the second

3 The CPTED strategies are as follows: 1st-generation CPTED: natural surveillance, access control, territoriality, and image and milieu (image and maintenance); for 2nd-generation CPTED: social cohesion, community culture, connectivity, and capacity threshold; for 3rd-generation CPTED: environmental sustainability, social sustainability, economic sustainability, and public health sustainability.

annual conference of the International CPTED Association (ICA). According to this association, crime prevention through environmental design is defined as a “multidisciplinary approach to crime prevention that utilizes urban and architectural design and the management of built and natural environments.” CPTED surpasses traditional security methods by naturally integrating security measures into the community. The goal of all CPTED applications is to: “Enhance quality of life! Reduce fear of crime! Reduce crime!”⁴ With the expansion of 2nd generation CPTED in the 2000s, a new era of CPTED theorization began, focusing on activity generators, crime displacement, and movement predictors. Emerging from the urban planning roots of CPTED is the Smart Growth movement, which offers a new perspective on urban planning by analyzing urban sprawl, housing, transportation, environmental sustainability, and their impacts on community life and safety (Goetz, 2005). The desire to integrate planning, crime prevention, and neighborhood life into the new expectations and requirements of contemporary living environments is clearly emphasized. Through 1st generation CPTED, opportunities for crime were reduced, while 2nd generation CPTED focused on decreasing the motivation for criminal behavior. However, no consideration is given to the internal psychological and biological environment related to the external environment of the places where we live. This is the foundation from which ideas for 3rd generation CPTED began to emerge. Saville & Mihinjac (2022) introduced 3rd generation CPTED by emphasizing the importance of developing neighborhoods that meet the highest levels of needs in Abraham Maslow’s hierarchy of human needs (Maslow, 1943). As an integrated approach, 3rd generation CPTED offers a method to maintain both crime prevention and various aspects of neighborhood livability, as presented by the authors in their book *Third-Generation CPTED: Integrating Crime Prevention and Neighbourhood Liveability*. Additionally, the United Nations’ 2030 Agenda (also known as Habitat III) stipulates that sustainable cities and communities must also be made safe, with one of the proposed specific goals being to ensure equal access to safe, inclusive, and accessible green and public spaces by 2030 (UN-SDSN, 2012). General principles and frameworks for the process of crime prevention through environmental design were established in 2022 within the document *Prevention of Crime – Urban Planning and Building Design - CEN 14383*, which represents the first European standard aimed at reducing crime and fear of crime through urban planning. CEN standards from the 14383 series, particularly the overarching standard *Urban Planning (ENV 14383-2:2003 replaced by TR 14383-2:2007 and TS 14383-2:2022)*, are based on the ideas of Jane Jacobs and Oscar Newman regarding crime prevention and the fear of crime. Work on this standard began in 1995, and approximately 25 years later, the result is not only a complete series of European standards CEN 14383 but also the *SafePolis manual (2008)* and the global ISO standard on CPTED (*ISO 22341:2021*). The *SafePolis manual* was created as a practical explanation of

4 The International CPTED Association (ICA) is the world’s first professional non-profit CPTED organization, established in 1996 in Calgary, Canada. For more information, see: <https://www.cpted.net/>

the guidelines in the TR 14383-2 standard. This standard provides guidelines and strategies for CPTED, offering a 'step-by-step' process involving all relevant actors in urban planning and crime reduction. The standard and manual offer practical knowledge on how to prevent crime, reduce the fear of crime, and antisocial behavior through urban design and planning. The TR 14383-2 standard is said to be "the only standard for crime prevention in Europe since the Roman Empire" (COST Action TU1203, 2014: 50), and the same applies to the revision of TS 14383-2:2022 (van Soomeren, 2022). The global ISO standard on CPTED, ISO 22341:2021, aims to promote a shared understanding of crime prevention through environmental design (in the realm of security, law enforcement, and related risks and their preventive measures) and through the design and management of the environment. This document addresses the understanding of crime in the context of the physical environment and security risk factors, the fundamentals of CPTED through its historical background, considerations of CPTED strategies, the implementation process of CPTED, and general principles for the CPTED process (balanced conceptual approach, cost-effectiveness, sustainability and resilience, ecological approach, adaptive application, and evidence-based approach). The global ISO standard on CPTED provides guidelines for establishing the fundamental elements, strategies, and processes for preventing crime and the fear of crime in new or existing built environments. It includes examples of strategy implementation and best practices, but the applications of CPTED are not limited to these examples (ISO, 2021).⁵

The significance of this developmental path of CPTED towards standardization is considerable, highlighting the importance of integrating CPTED standards, strategies, and principles into urban regulations for planning, design, and management, as well as into national policy guidelines and the legislative framework of the state.

APPLICATION OF CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

A significant part of CPTED's developmental path arises from the gradual incorporation of its strategies into local building and development codes in the United States and national policy guidelines in the United Kingdom. CPTED has been most extensively applied in English-speaking regions and Northern European countries, but it is also increasingly developing in nations such as Italy and France, as well as in Eastern Europe, Turkey, and the Middle East (Ekblom, 2011). In the UK, modern CPTED is endorsed by the national government and has been declared as local authority policy within the context of the Secured by Design (SBD) program (Kitchen & Schneider, 2007). Although it involves other government agencies, SBD is essentially a police-led initiative aimed at applying place-based crime prevention principles to the built envi-

⁵ For more information, see: <https://www.iso.org/obp/ui/#iso:std:iso:22341:ed-1:v1:en>

ronment. In the mid-1980s, the British Standardisation Institute (BSI) became the first standardization institute in Europe to publish standards for crime prevention for residential housing, street layout (emphasizing cul-de-sacs), as well as for shops and offices. In contrast, the United States⁶ and Asia⁷ do not have national CPTED guidelines, leaving states to develop their own planning and design guidelines. However, the national governments of Australia⁸ and New Zealand⁹ have developed legislative and policy frameworks for using CPTED, ensuring that all federal states have CPTED codes or guidelines (Балгач, 2013).

Urban security is a fundamental component of modern democracies within the European Union. Therefore, it is urgent that European local urban authorities begin to embrace their role in creating and implementing security policies. In Europe, the European Urban Charter endorsed the right of urban space residents to a safe and secure city in 1992 (CE, 1992). In 2008, the European Council adopted the European Urban Charter II – Manifesto for New Urbanity, where crime prevention is imperative as a condition for city security (CE, 2008). In 2017, the European Commission issued the Action Plan to support the protection of public spaces, which includes crime prevention through environmental design (EC, 2017). The Urban Agenda on Security in Public Spaces was published in 2019.

The mentioned European Union documents are highly significant, but unfortunately, they have not been adopted in Republika Srpska or Bosnia and Herzegovina. The Republic of Serbia has adopted the aforementioned Action

6 For example, in 2000, the CPTED Committee in Virginia Beach issued a guide for designers and planners titled Crime Prevention Through Environmental Design - General Guidelines for Designing Safer Communities. This guide outlines CPTED strategies and provides specific guidelines for implementing these techniques in various spaces. For more information, see: <https://www.biblioteca-deseguranca.com.br/wp-content/uploads/2023/04/crime-prevention-through-environmental-design.pdf>

7 In Asia, the Singapore National Crime Prevention Council issued the “Crime Prevention Through Environmental Design Guidebook” in 2003. For more information, see: <https://appdev.ifdemo.com/ncpcorgsg/images/media/CPTED.pdf>

8 For instance, in 2005, the Government of the Australian state of Victoria, through its Department of Sustainability and Environment, published the Safer Design Guidelines for Victoria. This document emphasizes the importance of the built environment in reducing crime and the fear of crime, highlighting how good investment in the design and appearance of the environment brings numerous social and community benefits. For more information, see: https://www.planning.vic.gov.au/__data/assets/pdf_file/0014/4631/Safer_Design_Guidelines.pdf. Additionally, in 2007, the government of the Australian state of Queensland issued the Crime Prevention through Environmental Design - Guidelines for Queensland, which provides specific guidelines for the implementation of the CPTED principles. For more information, see: <https://www.police.qld.gov.au/sites/default/files/2021-07/Crime%20Prevention%20Through%20Environmental%20Design%20-%20Guidelines%20for%20Queensland%202021%20v1.pdf>

9 In 2011, the Auckland Police Department in New Zealand released a manual titled Crime Prevention Through Environmental Design (CPTED) - Security Handbook. This manual presents a comprehensive range of the CPTED principles categorized according to components such as territoriality, surveillance, maintenance, and access control, along with guidelines for their effective implementation. For more information, see: <https://www.rockridgencpc.com/documents/fliers/CPTED%20Security%20Handbook-rev%20simlin.pdf>

Plan to support the protection of public spaces. However, provisions related to CPTED are absent in the current Law on Planning and Construction of the Republic of Serbia,¹⁰ so architects and urban planners are not required to analyze or incorporate them into their work. In contrast, field research in Serbian cities shows that urban security is important to citizens and influences how they use certain open spaces in their environment (Антонић, Ђукић, Ваништа Лазаревић, & Марић, 2022). In 2007, the Urban Planning Institute of Belgrade published the manual *Safer Places: A Planning System and Crime Prevention*. The manual describes seven CPTED attributes of urban security (УЗБ, 2007).

Urban security and CPTED are not included in the current Spatial Planning Act of the Republic of Croatia.¹¹ The Spatial Development Strategy of the Republic of Croatia states that any intervention and transformation of space directly impacts health, security, climate, and overall living conditions.¹² Juričić (2016) suggests that the implementation of CPTED in Croatia could easily be achieved through existing programs or strategies, such as the Community Policing model, which is compatible with the defensible space model and is fundamentally very similar to CPTED. CPTED and the Community Policing strategy are comprehensive crime prevention strategies and involve close cooperation between police and neighborhood residents in preventing crime and the fear of crime.

The policing system in Bosnia and Herzegovina is complex due to its division into state and entity levels (Federation of BiH and Republika Srpska), with the Brčko District of BiH also having its own autonomous police structure. This complex organization highlights the challenges in applying certain crime prevention models at the national level. Urban security and CPTED principles are not currently included in the Law on Spatial Planning and Construction¹³ or the Law on Strategic Planning and Development Management in Republika Srpska.¹⁴ This indicates that professionals are not required to address urban security, despite the need for public urban spaces to be safe. It is crucial to integrate CPTED strategies and principles into spatial planning processes and to include security issues in planning documents to effectively prevent crime and the fear of crime.

10 Закон о планирању и изградњи Републике Србије [Law on Planning and Construction of the Republic of Serbia], Службени гласник РС, бр. 72/09.

11 Закон о просторном уређењу Републике Хрватске [Spatial Planning Act of the Republic of Croatia], Народне новине РХ, бр. 153/13.

12 Стратегија просторног развоја Републике Хрватске [Spatial Development Strategy of the Republic of Croatia], Народне новине РХ, бр. 106/17.

13 Закон о уређењу простора и грађењу Републике Српске [Law on Spatial Planning and Construction], Службени гласник РС, бр. 40/13.

14 Закон о стратешком планирању и управљању развојем у Републици Српској [Law on Strategic Planning and Development Management in Republika Srpska], Службени гласник РС, бр. 63/21.

CONCLUSION

Crime and the fear of crime are significant issues in modern society, negatively impacting the quality of life for citizens. Therefore, it is essential to devise effective crime prevention strategies. The built environment should be designed to enhance the lifestyle and quality of life by meeting people's physical, social, and economic needs, as well as providing a safe place to live. This can be achieved through crime prevention through environmental design (CPTED).

Crime prevention through environmental design represents a significant link between security theories and urban design and planning, offering numerous solutions for enhancing the safety of open public spaces through various strategies, principles, and guidelines. The primary obstacle to the broader application of CPTED is a lack of knowledge and insufficient understanding of this concept, despite its successful use over many years and substantial research confirming its effectiveness. Therefore, it is necessary to actively work on educating engineers, criminologists, sociologists, psychologists, and other professionals and citizens who can assist in developing strategies, principles, and guidelines for crime prevention. Existing legal and technical regulations should incorporate current CPTED standards, strategies, and principles, considering the importance of CPTED standardization at the European and global levels. Examples of their successful implementation can be useful for developing planning and project documentation, particularly in Republika Srpska, where this field is still relatively unknown.

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