# ASSESSMENT
## OF SAFEWAYS

Dr. Angela Madden, UofM
*Public Safety Institute*

Dr. Stephen Watts
*UofM Dept. of Criminology & Criminal Justice*

Sarra Kchouk, M.A.
*Graduate Assistant*

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# INTRODUCTION

SafeWays is a Memphis-based nonprofit 501(c)(3) organization that helps Shelby County apartment owners and managers of apartment communities reduce crime and improve quality of life for their residents. Working with owners, managers and residents, the Memphis Police Department (MPD), and other governmental, nonprofit, and community organizations, SafeWays achieves its objectives through:

- Improving the amount and quality of information about crime and calls for police available to property management and security personnel;
- Increasing communication and engagement between residents, management, security, and law enforcement;
- Strict enforcement of the Shelby County District Attorney's Anti-Trespass Program on SafeWays client sites;
- Educating property management and staff on place management best practices that reduce crime;
- Providing connectivity to social and other service providers for apartment residents in need; and
- Remediating physical conditions on and around apartment communities which foster and facilitate criminal activity.

The primary tool SafeWays uses to address risk conditions on a property is "Crime Prevention through Environmental Design" (CPTED, pronounced "sep-ted"). CPTED's foundational principle is that the physical environment influences human behavior. Strategic changes to the physical environment to increase visibility, reduce isolation, control boundaries, and project "territoriality" help prevent or reduce crime by eliminating or limiting opportunities for criminal acts to be committed. In addition to CPTED being considered an effective problem-oriented policing strategy, it also is one of the most effective mechanisms to reduce fear of crime in communities (Sakip, Johari & Mohd Salleh, 2012).

Although clients may choose from a variety of available consulting and information services, such as one-time or short-term inspection, statistical reporting, or consultation, SafeWays' most popular service is its Certification

Program. Certified properties and applicants receive regular detailed reports and in-depth analysis of all criminal activity on their sites, along with tracking of trespassers, assistance with neighborhood watch, and regular site visits and inspections, in addition to other services. Each property is subjected to an extensive exterior physical inspection focused on crime prevention, along with a detailed lighting survey and review of security measures already in place. Place management policies and procedures also are reviewed, and a list of certification requirements and professional recommendations is generated. Once all certification requirements are met, a SafeWays sign is installed on site, and the property may advertise its status as a "SafeWays Certified Community." Certification standards must be maintained continuously, and re-inspection and re-certification occurs annually. While a property is certified or in process, the client receives the full range of SafeWays services.

SafeWays services are completely voluntary, and property owners must pay for those services. Many apartment communities in need of SafeWays services are simply unwilling to make the investment. That unwillingness is often driven by property owners located elsewhere with no connection to Memphis beyond the rents collected. They may never care to join unless ways are developed to hold them accountable for inordinately high crime rates. Other apartment communities desire SafeWays services but feel they cannot afford to pay for them. Even with these challenges, though, there is a desire among key stakeholders to expand SafeWays into more apartment communities.

In 2016, the Memphis Shelby Crime Commission (CC) spearheaded development of a five-year "Safe Community Plan" (2017-2021) designed to reduce crime in Memphis and Shelby County.  Approximately 400 citizens participated in development of the plan, which was subsequently approved by the 50-member CC Board of Directors. A key objective in the plan is to "expand SafeWays' intensive crime prevention program for Shelby County apartment communities." This objective was included because, through August 2016, nearly 20% of all reported crime in Shelby County was in multi-family residential housing communities (i.e., apartments), including 25% of domestic violence (DV) offenses, 15% of non-DV violent crime, and 12% of property crime.  When crime is concentrated in densely populated areas, residents are, and feel, less safe. Reducing crime in apartment communities will increase the actual and

perceived safety among residents, as well as their quality of life. Moreover, limited law enforcement resources will be freed up to engage in proactive policing throughout the county.

By agreement between the CC and the University of Memphis, the Public Safety Institute (PSI) is evaluating the impact of all plan objectives that have been implemented, including the SafeWays objective. The PSI is an interdisciplinary part of the university community committed to rigorous engaged research to identify and advance best practices in the field of public safety. This report uses data from prior to plan implementation through June 2019 to measure SafeWays' progress on the following key outcome indicators at the Safe Community Plan's halfway point:

1. At least 50% of 100+ unit properties will have received SafeWays inspection/consultation services by the end of 2021 (this includes "monitored safety plans");
2. At least 30% of 100+ unit properties will be participating in the SafeWays certification program by the end of 2021; and
3. Post-certification reported crime in participating properties will be 25% lower than pre-certification levels by the end of 2021.

## LITERATURE REVIEW

SafeWays is based on "crime prevention through environmental design" (CPTED, pronounced "sep-ted"), manipulation of the physical environment to create safer areas.  CPTED derives from environmental criminology, which suggests that crime is influenced by a person's physical environment. These concepts were first introduced in America during the 1960s but did not receive formal recognition as being a sub-area of the general study of criminology until the early 1980s.

The first person recognized for building the foundation for CPTED is Elizabeth Woods, who found that public housing limited the "sense of community" necessary for communities to survive and stressed the importance of design features of public housing in urban communities (Woods, 1961, 1967).  Around

the same time, Jane Jacobs (1961) argued in *The Death and Life of Great American Cities* that urban renewal strategies were demolishing the social framework mandatory for effective self-policing, especially in regard to having "natural surveillance" or "eyes on the street." She suggested that urban renewal strategies should focus on improving social ecology and neighborhood health instead of isolating members of communities from one another. Contrary to popular beliefs of urban planning during that time, she suggested three elements for safe city streets: (1) clear demarcation between private and public space; (2) diversity of use; and (3) a high level of pedestrian presence.

These elements were reiterated and reinforced in an early study of street crime in which the author concluded that the physical environment directly influences crime locations by proscribing territories, by manipulating accessibility with boundaries and pathways, and by enabling citizen and law enforcement surveillance (Angel, 1968). The consensus established by these early scholars is that the design of a physical environment can strengthen or weaken the likelihood of crime being committed and can restrict or facilitate the action of offenders.

## *"First-Generation" CPTED*

These ideas were formalized in the 1970s when Jeffery (1971) coined the term "CPTED" in his classic book, *Crime Prevention Through Environmental Design*, based on his study of juvenile offenders and their environments. Jeffery argued that environment is a social cause of crime that needs to be merged with other unconnected theoretical approaches: social, behavioral, political, psychological, and biological (Cozens & Love, 2015). Jeffery's work was complex and offered a multidisciplinary approach, which may explain why it was largely ignored at the time (Andresen, 2010; Cozens & Love, 2015).

Architect Oscar Newman, however, received notable attention for his examination of two New York City public housing developments in *Defensible Space – Crime Prevention Through Urban Design* (1972). In this book, written in a time of rising crime rates and failing crime prevention tactics, Newman provided four elements of "defensible space":

- Territoriality: the space feels as one's own or feels private, and people know how to use the space. High-rise projects have weak territoriality. For example, a high-rise resident may share a common area with hundreds of other residents which significantly limits individual privacy.
- Natural surveillance: residents have the ability to provide sufficient surveillance. A key issue with high-rise buildings is that they are generally taller than others, so people may not be able to see events at ground-level.
- Image and milieu: this involves how the building looks in terms of being unique, well-maintained, and non-isolated. High-rise buildings were more likely to have poorly maintained spaces presenting a weak image.
- Geographical juxtaposition: the location of space in relation to the urban environment is a factor. Criminal activity in nearby crime-ridden areas may spread into the building's area.

Newman argued that residential areas with these elements would flourish because residents would develop a sense of community, ownership, and responsibility towards their space, resulting in less crime.

Newman's work received immediate recognition, led to a major shift in urban planning within only two years of its publication, and influenced both the nature of crime prevention and the field of environmental design (Minton, 2018). A great deal of support and federal funding was given to Newman's defensible space concepts (e.g., the U.S. Department of Housing and Urban Development; the Department of Justice), so that residential housing developments could be created to test Newman's concepts. The defensible space concepts were not limited to public housing projects, but broadened to include other forms of residential housing, commercial and retail properties, schools, hospitals, transportation junctions, town centers, and sporting locations (Cozens & Love, 2015).

Another vital contributor to first-generation CPTED was Timothy Crowe, a criminologist and former director of the National Crime Prevention Institute (NCPI). In 1985, Crowe developed the first of several CPTED training programs and later published *Crime Prevention through Environmental Design:*

*Applications of Architectural Design and Management Concepts* (1991, 2000), making CPTED training accessible to police and other stakeholders. Crowe (1991) defined CPTED as the use of the built environment to prevent or reduce crime and the fear of crime, and to improve quality of life.  An example of this approach is playing classical music in front of a store to prevent young kids from loitering. More complex tactics include open space environments to promote surveillance and heighten the perceived risk of offenders being caught, maintenance of properties or facilities to show that they are cared for and owned, sufficient signage that reinforces ownership and legitimate use, and adequate lighting (Letch, McGlinn, Bell, Downing, & Cook, 2011).

When CPTED environments are designed correctly, it can reduce crime and the fear of crime (Crowe, 2000; Hillier, Saville, & Cozens, 2005; Schneider, 2005; Wortley & Mazerolle, 2008). First-generation CPTED included many of the same concepts as Newman's "defensible space," along with some additions, as illustrated in Figure 1:

- Territoriality: create "a sense of ownership" of a space that clearly delineates a space as public. This design concept reduces criminal opportunities by discouraging illegitimate users from invading the space.
- Surveillance: enhance the ability for legitimate users to engage in their normal activities and observe the space around them. The placement of windows, design of the street, and the location of entrances are important for this design concept to function.
- Access control: deny access to a crime target and the increase of perceived risk for the offender. There are different types of access control. "Informal" includes local stakeholders who watch over the space, "formal" includes organized persons (e.g., security guards), and "mechanical" includes non-persons (e.g., locks).
- Target hardening: increase the obstacles that an offender must go through to commit crime. Physical barriers, for example, include fences, gates, security patrols, and locks;
- Activity support: use design and signage to encourage acceptable or "safe" behavior of the usage of public space. Law-abiding pedestrians are attracted to safe activities and potential offenders are discouraged.

- Image management: ensure that the physical environment is functioning effectively (e.g., routine maintenance of the built environment) and that the space projects a positive image.
- Geographical juxtaposition (environment): the six dimensions are surrounded by this mechanism. The environment has the power to affect the security of its surrounding spaces.
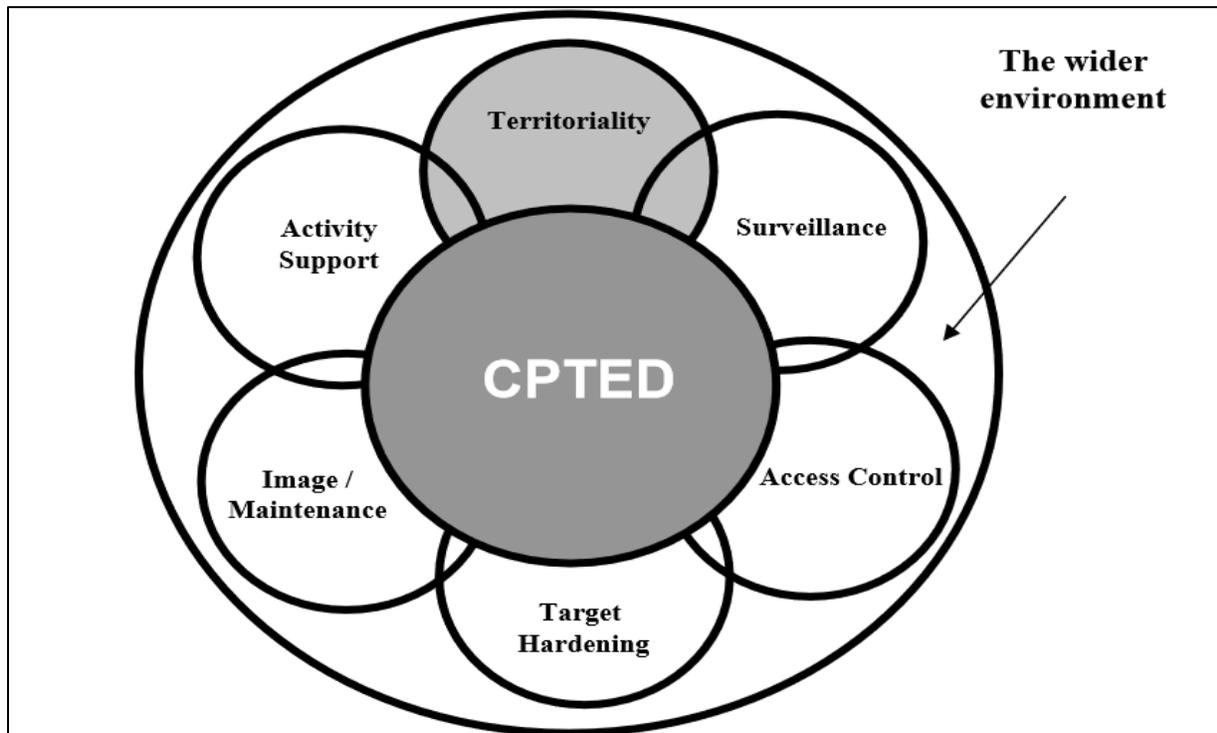


**Figure 1.** *First-generation CPTED principles (Adapted from Moffat, 1983)*

The first-generation CPTED had mixed success. Criminologists argued that many of the environmental strategies would change the environment only for a short period of time and some suggested that the strategies displaced crime to some other time, place, or target rather than reducing it (Atlas, 2008). Furthermore, the first-generation CPTED was criticized for being a limited theory for crime prevention because of its key assumption that criminal behavior is a rational choice (Letch et al., 2011). Ultimately, this generation of CPTED was declared a limited approach that focuses exclusively on architecture and physical design for crime prevention. The most controversial component of this CPTED iteration was "target-hardening" because it reduced the likelihood of self-policing by

alienating members of the community with physical barriers (Cozens et al., 2005).

## *"Second-Generation" CPTED*

As a result of these criticisms, Newman and others looked for ways to improve and advance CPTED. The first-generation CPTED focused on the physical design of the environment and therefore considered only external motives. Using Jeffery's work, attention was directed to the internal motives of crime that environmental design could combat. Specifically, the "second-generation" CPTED considers the social and cultural dynamics in an individual neighborhood (Atlas, 2008). The primary goal of second-generation CPTED ("community" or "social" CPTED) is to improve social ecology and neighborhood health (Carter 2002; Mallett, 2004).

This form of CPTED is not meant to replace the first-generation version but functions as a supplemental extension that strengthens physical design by incorporating social cohesive strategies. In addition, while the first-generation CPTED changes the environment quickly and only for a short period, the second-generation form promotes change in the environment over a longer time.

The work of other scholars informed CPTED modifications. To better understand the motives of crime, for example, scholars examined the routine activities both of offenders *and* victims (see Brantingham & Brantingham; 1981; see Cohen & Felson, 1979). The Brantinghams concurred with Jeffery's argument that a multi-disciplinary approach is needed for CPTED and suggested that crime patterns could be detangled through geographic, environmental, and temporal conditions instead of solely from social, economic, and cultural observations. This position supports "hotspot" analysis as an important tool for CPTED (Brantingham & Brantingham, 1981; 1993).

An improved CPTED takes a more holistic approach employing enhanced and more realistic crime prevention strategies that consider important social factors, such as community, social cohesion, and collective efficacy (Sampson, Raudenbush, & Earls, 1997). The second-generation CPTED strategies, for

example, can be applied to alcohol-related crime, where rational choice is likely absent due to intoxication (DOCRC, 2011). Below are the primary additional principles included in second-generation CPTED:

- Social cohesion: create a nurturing environment with mutual respect, trust, and appreciation among members of the community. A socially cohesive community values diversity, shares a common vision and sense of belonging, and makes efforts to build positive relationships with others in the community.
- Community connectivity: build with partnerships (with government and nongovernment agencies) in the community and coordinate activities and programs for members of the community. Stronger, more well-connected, and more integrated communities are more likely to "self-police," which discourages criminal behavior.
- Community culture: community members come together to create traditions in the community and to share a sense of place. Ways to promote this can be done through festivals, cultural events, and fundraisers.
- Threshold capacity: ensure that neighborhoods are not exceeding the threshold capacity, the threshold capacity must be recognized and managed. Promoting human-scale and pedestrian-oriented land uses and activities will help to do this. When the threshold capacity is exceeded, this may lead to an increase in criminal and antisocial behaviors. For instance, too many bars in a community will increase the density of patrons and likelihood of offending and exceed the ability for emergency personnel to effectively perform.

## *Dynamic Integrated Model of CPTED*

In an effort to consolidate and integrate the first- and second-generations of CPTED, Cozens (2014) developed the Dynamic Integrated Model (Figure 2) using concepts derived from the work of previous scholars: 1) routine activities theory (Cohen & Felson, 1979); 2) crime generators and crime attractors (Brantingham & Brantingham, 1995); 3) crime detractors (Kinney, Brantingham, Wuschke, Kirk, & Brantingham, 2008); 4) crime facilitators (Clarke and Eck 2005), and 5) crime precipitators (Wortley, 2008).  This current model summarizes the many factors

at play in creating the "defensible space" as conceptualized by Jeffery and Newman and provides a multi-disciplinary approach to crime prevention.
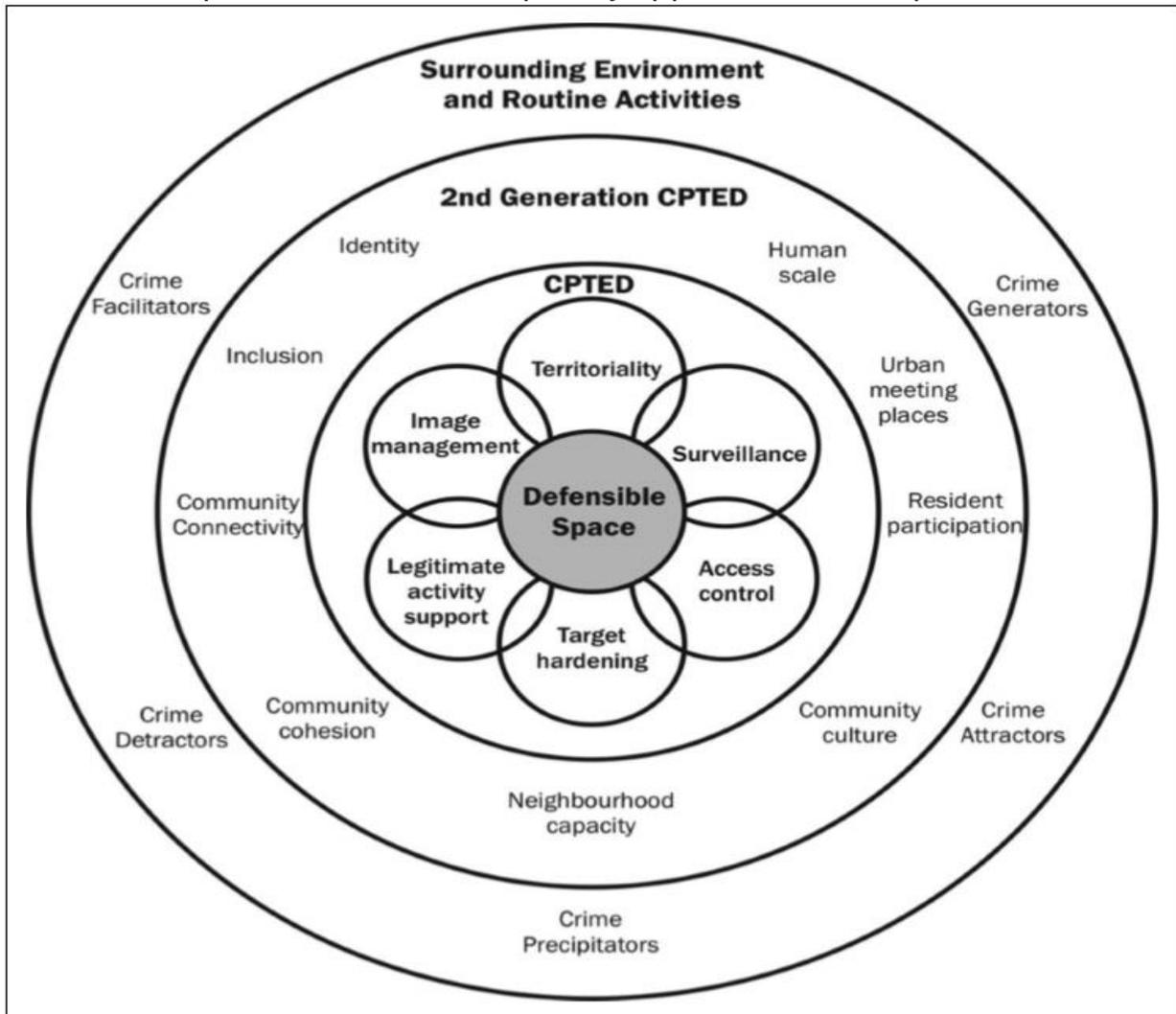


**Figure 2.** The Dynamic Integrated Model of CPTED (Adapted from Cozens, 2014).

## Apartment Communities and Crime

Since the early 1970s, CPTED principles primarily have been applied to housing developments and neighborhoods in both urban and rural areas (Newman, 1972; Armitage, 2013; Atlas, 2008, Clarke, 1989; Cozens et al. 2001; DeKeseredy, Donnermeyer, & Shwartz, 2009). Many existing CPTED programs focus on multi-family/apartment communities because studies have shown these areas to have high traffic, high crime, and low home values (Clark & Bichler-Robertson, 1998;

Eck & Weisburd, 2015; Kinney et al., 2008). While multiple explanations are likely, research has found that crime in apartment buildings is heavily influenced by management.

"Place managers," such as building owners, apartment managers, and even doormen, have been identified as playing an essential role in the dynamics and presence of criminal opportunities (Buerger & Mazerolle, 1998; Clarke & Bichler-Robertson, 1998; Eck, 1996; Madensen, 2007; Eck, 2018). According to Madensen (2007), place management has four functions: 1) *organizing space*; 2) *regulating conduct*; 3) *controlling access*; and 4) *acquiring resources*. All four of these functions can be linked to the various explanations for high-crime places and concepts identified in the Dynamic Integrated Model for CPTED:

- Physical design: how a space is organized is very important (Newman, 1972; Jeffery, 1997).
- Informal social control: this focus on the ability to conform to the norms and values of society (Gottfredson & Hirschi, 1990). This concept has been recently applied to neighborhood crime (Weisburd, Groff, & Yang, 2014). Place managers are responsible for regulating conduct and those who lack control.
- Crime reporting: how much crime is being reported will affect police records for a place. Place managers may discourage crime reporting because it brings negative attention to their apartments – not acquiring the resources that are needed.
- Crime attractor: as Brantingham and Brantingham (1993) suggest, high crime places attract many offenders – making controlling access to apartments vital.
- Crime generator: apartments have many potential crime targets. This makes apartments vulnerable to becoming crime generators (Brantingham & Brantingham, 1993).


## *Notable CPTED Participants*

Communities and law enforcement throughout the world have embraced CPTED strategies. The cities of Federal Way and Seattle in Washington, and Des

Moines, Iowa, for example, have incorporated CPTED principles into their city code requirements for project design. Others have optional programs in place to educate homeowners and/or businesses on CPTED strategies to reduce criminal opportunity and promote social ecology and neighborhood health. With the support of numerous comprehensive CPTED strategies, Cozens et al. (2005) argue that CPTED programs are effective in reducing crime, fear of crime, and improving quality of life. Ohio's Five Oaks housing project, for example, reported a 26% decrease in recorded crime following the implementation of CPTED strategies (Schneider & Kitchen, 2002).

One existing CPTED program that is commonly mimicked by others is the Blue Star Multi-Housing Program led by the Houston Police Department's Apartment Enforcement Unit. It is a proactive program that creates a collaborative effort between law enforcement, apartment owners or managers, and apartment residents to reduce crime and enhance the quality of life for those in "Blue Star" communities. To receive "Blue Star" designation, the apartment community has met all the guidelines and successfully fulfilled the program's three phases. The process includes Houston police officers training the apartment owners or managers about CPTED's concepts in a class. Then, a CPTED survey of the property ensures that the community is safely designed by checking for things such as properly trimmed landscape, deadbolts on exterior doors, and access gates in working condition. When any deficiencies noted in the report are resolved and the safety of the property is confirmed, the apartment is awarded the Blue Star Multi-Housing certification.

## METHODS

This assessment was conducted to determine whether SafeWays is on target to accomplish its five-year Safe Community Plan objectives of increasing operations in larger apartment communities and decreasing crime in those communities. Whereas the determination of whether operations increased is simply a matter of numbers and percentages (requiring only descriptive analysis), the determination of whether crime decreased was a more complex endeavor.

To determine the extent to which crime changed from pre-certification ("pre-cert") to post-certification ("post-cert"), we used a "within-group" pre/post interrupted time-series design to compare the average number of pre-cert crimes per unit to the average number of post-cert crimes per unit.  An interrupted time-series compares trends before and after an "interruption." In this case, the average number of crimes per unit before and after certification are compared (i.e., certification is the interruption). Per unit averages are used to account for complexes of varying sizes. That is, if numbers of crimes were compared, larger apartment communities would be at a disadvantage because they would be likely to always have higher numbers.

SafeWays tracks various categories of reported offenses using monthly data from the Memphis Police Department (MPD). For purposes of this assessment, we focus on two: 1) "major tracked offenses" (MTOs), which are homicide, rape, aggravated assault, robbery, simple assault; intimidation/DV, burglary, larceny theft, and motor vehicle theft (MVT); and 2) "property offenses" (POs), a subset of MTOs that includes larceny theft, burglary, and MVT.

The time-series component of the analyses was complicated by the fact that apartment communities were certified at different times and for different lengths of time as of June 30, 2019. This means the "interruption" of certification occurred at a different time for each community and that, as of June 30, 2019, some apartment communities had been certified for several years, while others only a few months.  To address this issue, we obtained the certification date for each of the 100+ unit complexes (n = 13) and used the average number of reported crimes per unit during the immediately preceding 12-month period as the pre-cert baseline with which to compare post-cert averages. Because most apartment communities had been certified for several years and did not just have one 12-month post-cert period, multiple post-cert periods were constructed for each 12-month period following certification.

## *Research Questions*

This interim assessment addressed the following three questions:

1.  *What percentage of 100+ unit properties received SafeWays inspection/consultation (including "monitored safety plans") by June 30, 2019?*
    a.  The objective is for at least 50% of 100+ unit properties to receive SafeWays inspection/consultation services by the end of 2021;
2.  *What percentage of 100+ unit properties were participating in the SafeWays Certification Program by June 30, 2019?*
    a.  The objective is for at least 30% of 100+ unit properties to be participating in the SafeWays certification program by the end of 2021; and
3.  *To what extent did reported crime change in communities that obtained SafeWays Certification through June 30, 2019?*
    a.  The objective is for a 25% reduction in reported crime from precertification to post-certification by the end of 2021.

## ANALYSIS AND RESULTS

The first two research questions are answered descriptively. For Question 1, the percentage of 100+ unit properties that had received inspection/consultation by June 30, 2019 was determined by dividing the number of 100+ unit properties by the number of 100+ unit properties that had received inspection/consultation by that date. The same process was followed for Question 2, except that the percentage of 100+ unit properties participating in the certification program was calculated.

1.  *What percentage of 100+ unit properties received SafeWays inspection/consultation (including "monitored safety plans") by June 30, 2019?*
    a.  On January 1, 2017 (the start date for the current Safe Community Plan), Shelby County had 293 100+ unit properties (the baseline)

and 59 (20.1%) had received SafeWays inspection/consultation.  To accomplish the Safe Community Plan objective at the end of five years (increase from 20.1% to 50%), an additional 88 100+ unit properties will need to receive SafeWays inspection/consultation.
   b. *As of June 30, 2019 (the halfway point),* **94/293 (32.1%)** *100+ unit properties* **had received SafeWays inspection/consultation.**

2. *What percentage of 100+ unit properties were participating in the SafeWays Certification Program by June 30, 2019?*
   a. On January 1, 2017, 12 of 293 (4.1%) 100+ unit properties (the baseline) were participating in the SafeWays certification program. To accomplish the Safe Community Plan objective at the end of five years (increase from 4.1% to 30%), an additional 76 properties need to be certified.
   **b.** *As of June 30, 2019 (the halfway point),* **16/293 (5.5%)** *100+ unit properties* **were certified.**[1]

The third question about crime reduction required more sophisticated analysis of pre-cert and post-cert crime data. First, dates of certification and number of units were obtained for all 13 certified properties.[2] Then, the number of offenses during each of the 12 months immediately preceding each property's month of certification were divided by the number of units in the property to derive the 12-month pre-cert average number of reported offenses per unit for each category of comparison (MTOs & POs). This same process was followed to calculate multiple post-cert average numbers of reported offenses per unit (i.e., each set of 12-months following the month of certification were used to derive multiple sets of post-cert data). Nine properties, for example, were certified in 2013 and have six full sets of 12-month post-cert data. Two others have five sets, one has four sets, and one has three. Finally, the post-cert averages were averaged and compared to the pre-cert averages to provide a broader look at change over time.

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[1] An additional 8 properties had previously been certified but had certification terminated by June 30, 2019, but it is unknown how many of these were 100+ unit properties.

[2] SafeWays' June 2019 report indicated the addition of 3 newly certified 100+ unit properties to bring the total to 16, but these were not included in time to obtain data required for analysis.

## *Major Tracked Offenses (MTOs)*

Table 1 provides the results from pre-cert to post-cert comparisons for each of the 13 certified properties. The "Pre MTO" column reports each property's average number of MTOs per unit in the 12 months immediately prior to its certification, ranging from a low of .03 MTOs per unit at "The Posts" to a high of .51 MTOs per unit at Greenbriar. The following "Post MTO" columns represent the average number of MTOs per unit in each successive 12-month period following the property's certification, along with the percentage change from pre- to post- during that period. For properties with decreases in per unit MTOs, the percentage is in green font, whereas properties with increases in per unit MTOs, the percentage is in red font. The last column contains the average number of per unit MTOs in all the post MTO periods and the percentage represents the decrease (in green) or increase (in red) as compared to the pre-cert average number of MTOs per unit in each property.

| *Property Name* | *Pre MTO* | *Post MTO1* | *Post MTO2* | *Post MTO3* | *Post MTO4* | *Post MTO5* | *Post MTO6* | *Post Avg MTO* |
|---|---|---|---|---|---|---|---|---|
| Greenbriar | **0.51** | 0.38 **(26%)** | 0.42 **(18%)** | 0.33 **(36%)** | 0.42 **(17%)** | 0.31 **(40%)** | 0.38 **(25%)** | **0.37 (26.80%)** |
| Pershing Park | **0.21** | 0.06 **(73%)** | 0.02 **(91%)** | 0.18 **(17%)** | 0.19 **(8%)** | 0.15 **(29%)** | 0.11 **(50%)** | **0.12 (43.65%)** |
| Saint's Court | **0.17** | 0.15 **(13%)** | 0.12 **(31%)** | 0.03 **(91%)** | 0.17 **(1%)** | 0.19 **(10%)** | 0.35 **(98%)** | **0.17 (0.98%)** |
| Breezy Point | **0.34** | 0.37 **(10%)** | 0.29 **(14%)** | 0.36 **(5%)** | 0.27 **(21%)** | 0.32 **(7%)** | 0.30 **(10%)** | **0.32 (6.37%)** |
| Rolling Hills | **0.15** | 0.05 **(66%)** | 0.04 **(76%)** | 0.04 **(71%)** | 0.06 **(61%)** | 0.09 **(37%)** | 0.08 **(47%)** | **0.06 (60.00%)** |
| Autumn Ridge | **0.22** | 0.15 **(32%)** | 0.11 **(51%)** | 0.14 **(35%)** | 0.10 **(55%)** | 0.16 **(25%)** | 0.10 **(55%)** | **0.13 (42.42%)** |
| University Highlands | **0.19** | 0.2 **(7%)** | 0.35 **(83%)** | 0.26 **(37%)** | 0.19 **(1%)** | 0.22 **(14%)** | | **0.24 (28.42%)** |
| Eton Square | **0.13** | 0.14 **(7%)** | 0.08 **(41%)** | 0.09 **(33%)** | 0.12 **(8%)** | 0.06 **(52%)** | 0.12 **(8%)** | **0.10 (21.79%)** |
| Ellington at Kirby | **0.15** | 0.09 **(39%)** | 0.09 **(43%)** | 0.09 **(39%)** | 0.04 **(76%)** | 0.07 **(51%)** | 0.06 **(59%)** | **0.07 (51.11%)** |
| The Coves at Yale | **0.29** | 0.11 **(62%)** | 0.10 **(64%)** | 0.12 **(58%)** | 0.15 **(49%)** | 0.15 **(49%)** | | **0.13 (56.55%)** |
| The Posts | **0.03** | 0.09 **(310%)** | 0.08 **(252%)** | 0.10 **(349%)** | 0.12 **(407%)** | 0.07 **(233%)** | 0.04 **(36%)** | **0.08 (177.78%)** |
| College Park II | **0.05** | 0.04 **(17%)** | 0.04 **(13%)** | 0.06 **(17%)** | 0.06 **(17%)** | | | **0.05 (0.00%)** |
| Todd Creek | **0.21** | 0.14 **(33%)** | 0.19 **(11%)** | 0.30 **(40%)** | | | | **0.21 (0.00%)** |
| **Total Avg.** | **0.20** | | | | | | | **0.16 (20.00%)** |

**Table 1**: Pre-cert & post-cert comparisons of MTOs at SafeWays Certified properties

One must be careful when interpreting change data with very small numbers because a slight change will provide a very large percentage change. For example, The Posts had an average of .03 MTOs per unit during the 12 months

prior to certification. During the first 12 months after certification, they had an average of .09 MTOs per unit, an increase of more than 300%,[3] still a small number but triple their baseline number.

Six properties (Greenbriar, Pershing Park, Rolling Hills, Autumn Ridge, Ellington at Kirby, The Coves at Yale) had no post-cert periods in which the average number of MTOs per unit was higher than the average number of MTOs per unit during their respective pre-cert periods (i.e., they had consistently fewer MTOs across time). While each of these properties had post-cert periods with increased averages over the prior post-cert period, none had any 12-month post-cert period in which the average number of MTOs was higher than the pre-cert period.

Conversely, one property (The Posts) had no post-cert period in which the average number of MTOs per unit was lower than the average during the pre-cert period (i.e., it had consistently more MTOs across time). Although it reached a high average of .12 MTOs per unit during its fourth post-cert period, the average steadily declined in the last two post-cert periods to just slightly higher than the pre-cert average. The remaining properties had mixed results, sometime with lower post-cert averages and sometimes with higher post-cert averages.

While the average numbers of MTOs per unit fluctuated over time in many properties, they generally decreased from their pre-cert level. Nine properties (69.2%) had fewer average MTOs per unit across time after certification, two properties had more average MTOs (University Highlands & The Posts), and two properties had no change (College Park II & Todd Creek). Although some changes were very small (e.g., less than a 1% decrease in Saint's Court) and many numerical changes may not be statistically significant changes, any decrease is a move in the right direction.

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[3] The average number of MTOs per unit is rounded to 2 decimals for the table, but percentages are calculated based on the full, unrounded number.

## Property Offenses (POs)

The same process was followed to assess change in POs across time within each property (Table 2). The same six properties that had post-cert per unit averages of MTOs consistently lower than their pre-cert per unit average also had consistently lower post-cert per unit averages of POs (Greenbriar, Pershing Park, Rolling Hills, Autumn Ridge, Ellington at Kirby, The Coves at Yale). Likewise, the same property that had consistently higher post-cert per unit averages of MTOs also had consistently higher post-cert per unit average of POs (The Posts). Except for Eton Square, the remaining properties primarily experienced post-cert per unit average number of POs that were higher than their respective pre-cert per unit averages. Eton Square had only one post-cert period in which its per unit average of POs was higher than its pre-cert average.

| Property Name | Pre PO | Post PO1 | Post PO2 | Post PO3 | Post PO4 | Post PO5 | Post PO6 | Post Avg. PO |
|---|---|---|---|---|---|---|---|---|
| Greenbriar | 0.14 | 0.12 (19.5%) | 0.07 (50%) | 0.04 (70%) | 0.11 (24%) | 0.08 (43%) | 0.09 (36%) | 0.09 (39.29%) |
| Pershing Park | 0.06 | 0.03 (56.5%) | 0 (100%) | 0.06 (2%) | 0.06 (2%) | 0.03 (56.5%) | 0.02 (67%) | 0.03 (44.44%) |
| Saint's Court | 0.04 | 0.03 (21.5%) | 0.05 (18%) | 0.02 (61%) | 0.06 (57%) | 0.06 (57%) | 0.11 (275%) | 0.06 (37.50%) |
| Breezy Point | 0.11 | 0.18 (59%) | 0.13 (18%) | 0.14 (23%) | 0.12 (2.5%) | 0.11 (3%) | 0.09 (23%) | 0.13 (16.67%) |
| Rolling Hills | 0.06 | 0.02 (61%) | 0 (100%) | 0.01 (87%) | 0.02 (61%) | 0.04 (35%) | 0.04 (35%) | 0.02 (63.89%) |
| Autumn Ridge | 0.10 | 0.10 (0%) | 0.02 (79%) | 0.07 (29%) | 0.04 (57.5%) | 0.04 (57.5%) | 0.04 (65%) | 0.05 (48.33%) |
| University Highlands | 0.13 | 0.14 (11%) | 0.20 (56%) | 0.14 (11%) | 0.14 (11%) | 0.09 (33%) | | 0.14 (9.23%) |
| Eton Square | 0.09 | 0.08 (11%) | 0.04 (50%) | 0.04 (50%) | 0.11 (23%) | 0.02 (72%) | 0.08 (5%) | 0.06 (31.48%) |
| Ellington at Kirby | 0.09 | 0.07 (28%) | 0.06 (34%) | 0.04 (63%) | 0.02 (74%) | 0.05 (47%) | 0.05 (47%) | 0.05 (46.30%) |
| The Coves at Yale | 0.14 | 0.07 (49%) | 0.07 (53%) | 0.08 (45%) | 0.08 (41%) | 0.06 (57%) | | 0.07 (48.57%) |
| The Posts | 0.01 | 0.06 (500%) | 0.05 (450%) | 0.05 (450%) | 0.07 (600%) | 0.05 (400%) | 0.02 (150%) | 0.05 (400%) |
| College Park II | 0.02 | 0.019 (2%) | 0.02 (21%) | 0.02 (3%) | 0.03 (58%) | | | 0.02 (11.25%) |
| Todd Creek | 0.03 | 0.02 (35%) | 0.05 (50%) | 0.07 (236%) | | | | 0.05 (55.56%) |
| Total Avg. | 0.08 | | | | | | | 0.06 (19.81%) |

**Table 2**: Pre-cert & post-cert comparisons of POs at SafeWays Certified properties

While the average numbers of POs per unit fluctuated over time in most properties, just more than half of properties (53.8%) had fewer average POs per unit across time after certification. Six properties (46.2%) had more average POs, although two of those had post-cert per unit averages that were only slightly higher than their pre-cert average (University Highlands & College Park

II). Again, caution must be used when interpreting changes in very small numbers (i.e., from .01 to .02). While such change is numerically meaningful, it may not be statistically significant or practically meaningful for residents.

As a reminder, Research Question 3 asked the following:

3.  *To what extent did reported crime change in communities that obtained SafeWays Certification through June 30, 2019?*
    a.  The objective is for a 25% reduction in reported crime from pre-certification to post-certification by the end of 2021.
    b.  For MTOs, 6 of 13 properties experienced at least a 25% reduction in the average number of MTOs per unit after certification:
        i.  Greenbriar, Pershing Park, Rolling Hills, Autumn Ridge, Ellington at Kirby, The Coves at Yale
    c.  For POs, 7 of 13 properties experiences at least a 25% reduction in the average number of POs per unit after certification:
        i.  Greenbriar, Pershing Park, Rolling Hills, Autumn Ridge, Eton Square, Ellington at Kirby, The Coves at Yale
    d.  For MTOs, for all 13 properties, the post-cert average number of MTOs per unit across all post-cert periods was .16 compared to a pre-cert average of .20, which represents a 20% reduction in MTOs across properties across time.
    e.  For POs, for all 13 properties, the post-cert average number of POs per unit across all post-cert periods was .06 compared to a pre-cert average of .08, which represents a 19.81% reduction in POs across properties across time.

## LIMITATIONS

A major limitation of this research design is the lack of a comparison group. Although "within-group" analysis provides insight into how certification may have affected certified properties, it does not provide information on the performance of non-certified properties. This is an important limitation because, if within-group analysis of certified properties reveals a significant decrease in the average number of crimes per unit, one cannot attribute that decrease to certification without information about trends among non-certified

properties. It could be that the average number of crimes per unit decreased in all properties.

Although SafeWays collects and analyzes crime data for non-certified properties, simply comparing numbers (or per unit averages) of monthly crimes in certified properties to crime in non-certified properties fails to account for several factors that could result in disparate numbers or greater apparent degree of change from one time to another.  Constructing a comparison group is possible but complicated by the fact that each certified property has a different date of "interruption" (i.e., certification data). Non-certified properties have no time boundaries within which to compare numbers of crimes because they have no "interruption."

A statistical matching process would be best to accurately compare certified and non-certified properties (i.e., match each certified property to a comparable non-certified property). This requires identifying and controlling for the important characteristics of a property that contribute to (or mitigate) crime. Some important variables include usable land area of the property (excluding lakes, fountains), type of residential building, number of units per building, number of floors per building, size of units (number of bedrooms, square footage), number of access points, location of laundry facilities (in-unit, in-building, separate building), etc.

It also is important to consider the average monthly percentage of occupied versus vacant units. A 150 unit certified property with an average monthly occupancy of 80% cannot be compared to a 150 unit non-certified property with an average monthly occupancy of 50%. The opportunities for offending and for victimization are much too different for these properties to be comparable.

Likewise, it is important to control for the average number of residents per unit. A 150 unit property with all 1 bedroom units could not be compared to a 150 unit property with all 2 or 3 bedroom units because the number of residents (and therefore potential criminal offenders and victims) would be so disparate.

# DISCUSSION AND CONCLUSIONS

This assessment considers SafeWays' progress on meeting its Safe Community Plan objectives as of June 30, 2019, the halfway point. While some progress has been made on all three objectives, it is uncertain whether SafeWays will meet its targets by the end of 2021.

SafeWays is well on the way to attaining the first objective, to provide inspection/consultation services to 50% of the 293 100+ unit properties that were operating in Shelby County at the beginning of 2017. At that time, 59 (20.1%) of the properties had received inspection/consultation. From January 1, 2017 through June 30, 2019, SafeWays provided inspection/consultation services to an additional 35 properties, for a total of 94/293 (32.1%). To accomplish this objective, SafeWays needs to provide inspection/consultation to an additional 53 properties by the end of 2021. [4]

With respect to the second objective, the outlook is a little grimmer. SafeWays aims to have certified at least 30% of the 293 100+ unit properties by the end of 2021 (n = 88).  On January 1, 2017, 12 properties had been certified. Through June 2019, SafeWays certified 4 additional properties, for a total of 16/293 (5.5%). To accomplish this objective, SafeWays needs to certify an additional 72 properties by the end of 2021. One caveat to this count is that 8 previously certified properties lost or relinquished their certifications prior to June 30. It is unclear whether these 8 should count in the number certified. (Occasionally, properties fall out of CPTED compliance due to certain conditions – such as too many lights out or overgrown landscape features blocking sight lines – until SafeWays notes the non-compliance in a site visit report and follows up with the management to get the property back in compliance.)  Even if these 8 properties count toward the target of 88, SafeWays still needs to certify 64 additional properties before the end of 2021.

SafeWays' third objective is arguably of most importance to the Safe Community Plan because it aims to reduce reported crime by at least 25% in "SafeWays Certified" properties.  To determine whether crime differed after

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[4] Through June of 2020, SafeWays had provided inspection/consultation to a total of 102 properties.

SafeWays certification in each of the 13 SafeWays "certified" properties, the monthly average numbers of "major tracked offenses," including "property offenses," per unit from the 12-months immediately preceding certification ("pre-cert" period) was compared to those same data for each of the 12-month periods following certification ("post-cert" period). Most properties (n = 9) had six sets of post-certification averages, two properties had five sets, one property had four sets, and one property had three sets. Percentage change from the pre-cert average to each of the post-cert averages was calculated for both "major tracked offenses" and "property offenses."

The definition of success depends on whether one measures change among individual certified properties, or in the aggregate across all certified properties. Examining change by property, fewer than half of the properties experienced an average reduction of at least 25% in "major tracked offenses," while more than half the properties experienced an average reduction of at least 25% in "property offenses." At the aggregate level, the average number of MTOs per unit across all post-cert times was 20% less than the average number of MTOs per unit during the pre-cert period, and the average number of post-cert POs was 19.81% less than during the pre-cert period.

If using change within individual properties as the measure, about half the properties are meeting or exceeding the 25% reduction target, but the other half are falling short. If aggregate change across all properties is the measure, certified properties experienced a 20% lower average number of crimes per unit after certification in both MTOs and POs. This is an admirable accomplishment given that, when examining data at the aggregate level, significant reductions are negated by similarly significant increases.

During the time that this assessment has been in preparation, SafeWays has taken steps to increase its outreach, has supplemented its staff, has obtained access to more and better data, has obtained more funding, has entered into several more contracts, and has streamlined how it tracks progress. It is likely that these steps have contributed to significant progress toward the objectives.

Moreover, the research team now has a clearer picture of how SafeWays collects and maintains data and how those data can be used to determine SafeWays'

impact on communities in Shelby County.  In addition to the types of analyses contained in this report, a more thorough evaluation would attempt to match certified properties to non-certified properties to facilitate the ability to control for other factors and to attribute any changes to SafeWays intervention. Also, it could specifically examine changes in the types of crimes that CPTED tactics are meant to address. Conducting more specific analyses by type of offense will likely detect changes that could be masked in more general analyses (several offenses lumped into one group).

## REFERENCES

Andresen, M. 2010. ''The Place of Environmental Criminology.'' In *Classics in Environmental Criminology*, edited by M. Andresen, P. Brantingham, and J. Kinney, 5–28. Burnaby, Canada: Simon Frazer University.

Angel, S. (1968). Discouraging Crime through City Planning. Berkeley, CA: Center for Planning and Development Research. *University of California at Berkeley*, *75*.

Armitage, R. 2013. *Crime Prevention through Housing Design: Police and Practice*. Hampshire, UK: Palgrave Macmillan. 406 Journal of Planning Literature 30(4)

Atlas, R.I. (2008) 21st Century Security and CPTED: Designing for Critical Infrastructure Protection and Crime Prevention, London: CRC Press

Brantingham, P. J., and P. L. Brantingham. 1981. *Environmental Criminology*. Beverly Hills, CA: Sage.

Brantingham, P. J., and P. L. Brantingham. 1993. ''Nodes, Paths and Edges: Considerations on the Complexity of Crime and the Physical Environment.'' *Journal of Environmental Psychology* 13: 3–28.

Buerger, M. E., & Mazerolle, L. G. (1998). Third-party policing: A theoretical analysis of an emerging trend. *Justice quarterly*, *15*(2), 301-327.

Carter, S. P. (2002). Community safety: beyond the basics. *PUBLIC MANAGEMENT-LAWRENCE-*, *84*(5), 16-19.

Clarke, R. V. G. 1982. ''Chairman's Introduction.'' In Crime and Public Housing, edited by M. Hough and P. Mayhew. Research and Planning Unit Paper No. 6. London, UK: Home Office.

Clarke, R. V., & Bichler-Robertson, G. (1998). Place managers, slumlords and crime in low rent apartment buildings. *Security Journal*, *11*(1), 11-19.

Cohen, L., and M. Felson. 1979. ''Social Change and Crime Rate Trends: A Routine Activity Approach.'' *American Sociological Review* 44:588–608.

Cozens, P., & Love, T. (2015). A Review and Current Status of Crime Prevention through Environmental Design (CPTED). *JOURNAL OF PLANNING LITERATURE*, *30*(4), 393– 412.

Cozens, P. 2014. *Think Crime! Using Evidence, Theory and Crime Prevention through Environmental Design (CPTED) for Planning Safer Cities.* Quinns Rock Perth, WA: Praxis Education.

Crowe, T (1991) *Crime Prevention Through Environmental Design: Applications of Architectural Design and Space Management Concepts*, Boston: Butterworth-Heinemann.

Cozens, P. M., D. Hillier, and G. Prescott. 2001. ''Crime and the Design of Residential Property. Exploring the Theoretical Background.'' *Property Management* 19 (2): 136–64.

Crowe, T. (2000). *Crime prevention through environmental design*. Butterworth-Heinemann.

DeKeseredy, W. S., Donnermeyer, J. F., & Schwartz, M. D. (2009). Toward a gendered second  generation CPTED for preventing woman abuse in rural communities. *Security Journal*, *22*(3), 178-189.

Designing Out Crime Research Centre. (2011). Physical Surveillance CCTV. Retrieved 01 July, 2019, from http://www.designoutcrime.org/index.php/docfaqs/18-cctv
Eck, J. E. (2018). Regulation for High-Crime Places: Theory, Evidence, and Principles. *Annals of the American Academy of Political & Social Science*, *679*(1), 106.

Eck, J., & Weisburd, D. L. (2015). Crime places in crime theory. *Crime and place: Crime prevention studies*, *4*.

Eck, J. E. (1996). Drug markets and drug places: A case-control study of the spatial structure of illicit drug dealing.

Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford University Press.

Hiller, D., Saville, G., & Cozens, P. (2005). Crime prevention through environmental design (CPTED): a review and modern bibliography. *Property Management*, 23(5), 328-356.

Jacobs, Jane. 1961. *The Death and Life of Great American Cities.* New York: Random House.

Jeffery, C. Ray. 1977. *Crime Prevention through Environmental Design*. Beverly Hills: SAGE. First published 1971.

Jeffery, C. Ray. 1978. Criminology as an Interdisciplinary Behavioral Science. *Criminology* 16: 149–69.

Jeffery, C. Ray. 2000. CPTED: Past, Present, and Future. *ICA Newsletter 3*: 1–2. Available online: http://www.cpted.net/resources/Documents/ICA%20Resources/Newsletters/Perspectives_V03_I7_April%202000.pdf (accessed on 27 June 2019).

Kinney, J. B., Brantingham, P. L., Wuschke, K., Kirk, M. G., & Brantingham, P. J. (2008). Crime attractors, generators and detractors: Land use and urban crime

opportunities. *Built environment*, *34*(1), 62-74. Mallett, S. (2004). Understanding home: a critical review of the literature. *The sociological review*, *52*(1), 62-89.

Madensen, T. D. (2007). *Bar management and crime: Toward a dynamic theory of place management and crime hotspots* (Doctoral dissertation, University of Cincinnati).

Mateja Mihinjac, & Gregory Saville. (2019). Third-Generation Crime Prevention Through Environmental Design (CPTED). *Social Sciences*, (6), 182.

Minton, A. (2018). The Paradox of Safety and Fear: Security in Public Space. *Architectural Design*, *88*(3), 84–91.

Moffat, R. (1983) Crime Prevention Through Environmental Design – A Management Perspective. *Canadian Journal of Criminology*. Volume 25, Part 4, pp19-31.

Newman, Oscar. 1972. *Defensible Space: Crime Prevention through Urban Design*. New York: Macmillan.

Newman, Oscar. 1996. *Creating Defensible Space.* Washington: US Department of Housing and Urban Development.

Sampson, Robert J. 2012. *The Great American City: Chicago and the Enduring Neighborhood Effect.* Chicago: University of Chicago Press.

Sampson, Robert J., and W. Byron Groves. 1989. Community Structure and Crime: Testing Social-Disorganization Theory. *American Journal of Sociology* 94: 774–802.

Sampson, Robert J., Stephen W. Raudenbush, and Felton Earls. 1997. Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy. *Science 277*: 918–24.

Schneider, R. H. (2005). Introduction: Crime prevention through environmental design (CPTED): Themes, theories, practice, and conflict. *JOURNAL OF ARCHITECTURAL AND PLANNING RESEARCH*, 22(4), 271-283.

United Nations Interregional Crime and Justice Research Institute (UNICRI), and Massachusetts Institute of Technology (MIT). 2011. Improving Urban Security through Green Environmental Design: New Energy for Urban Security. UNICRI; MIT. Available online: http://www.unicri.it/news/files/2011-04 01_110414_CRA_Urban_Security_sm.pdf (accessed on 1 July 2019).

Weisburd, D., Groff, E. R., & Yang, S. M. (2014). Understanding and controlling hot spots of crime: The importance of formal and informal social controls. *Prevention Science*, *15*(1), 31-43.

Western Australia Planning Commission. (2006). *Designing Out Crime Planning Guidelines*.   Perth, WA: Western Australia Planning Commission.

Wood, Elizabeth. (1961). *Housing Design: A Social Theory*. New York: Citizens' Housing and Planning Counsel of New York.

Wood, Elizabeth. (1967). Social Aspects of Housing in Urban Development. ST/SOA/71,  Department of Economic and Social Affairs, United Nations, New York.

Wortley, R., & Mazerolle, L. G. (2008). *Environmental criminology and crime analysis.* Cullompton: Willan.