



CASE STUDIES ON Increasing Walking and Bicycling through Crime Prevention Through Environmental Design (CPTED)

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About the Report

This report was developed by Aashna Jain, Charles T. Brown, and James Sinclair at the New Jersey Bicycle and Pedestrian Resource Center (BPRC) within the Alan M. Voorhees Transportation Center (VTC) at Rutgers, The State University of New Jersey.

The Alan M. Voorhees Transportation Center (VTC) is a national leader in the research and development of innovative transportation policy. Located within the Edward J. Bloustein School of Planning and Public Policy at Rutgers University, VTC has the full array of resources from a major research university on transportation issues of regional and national significance.

The New Jersey Bicycle and Pedestrian Resource Center (BPRC) assists public officials, transportation and health professionals, and the public in creating a safer and more accessible walking and bicycling environment through primary research, education and dissemination of information about best practices in policy and design. The Center is supported by the New Jersey Department of Transportation through funds provided by the Federal Highway Administration.

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Table of Contents

- 1. Introduction 1**
- 2. Crime Prevention Through Environmental Design..... 2**
 - I. First-Generation Crime Prevention Through Environmental Design 2
 - II. Second-Generation Crime Prevention Through Environmental Design 4
 - III. Third-Generation Crime Prevention Through Environmental Design 4
- 3. CPTED & Streets and Roadways 5**
 - I. Literature Review 5
 - II. Detailed Case Study – The City of Paterson CPTED Project in NJ..... 6
- 4. CPTED & Parks and Open Spaces 10**
 - I. Literature Review..... 10
 - II. Detailed Case Study – Lower Kinnear Park Enhancement Plan, Seattle, WA..... 11
- 5. CPTED & Trails 15**
 - I. Literature Review..... 15
 - II. Detailed Case Study – An Analysis of the Bloomingdale Trail in Chicago, IL..... 16
- 6. CPTED & Community Engagement and Leadership Models 18**
 - I. Literature Review..... 18
 - II. Detailed Case Study – The SafeGrowth/CPTED Project in New Orleans, LA..... 19
- 7. Key Lessons Learned 23**
- 8. Future Research..... 23**
- References 24**

I. Introduction

Crime Prevention Through Environmental Design (CPTED) has been an important subject matter for urban planners, architects, and urban designers. Recently, transportation planners have also been interested in this research because environmental design of spaces can help increase walking and bicycling trips. CPTED can be referred to as the effective modification of the built and social environment to improve community safety and quality of life (Jeffrey, 1971). Utilizing CPTED approaches to encourage walking and bicycling is based on the premise that people are more likely to walk or bicycle in areas that are safe or are perceived to be safe. In this stream of research, it is not only the traffic safety measures that are important but also design and social factors such as lighting; placement of fenestrations; landscaping; and social programming that can help provide safe bicycling and walking opportunities.

Past research has identified crime, fear of crime, and disorder as some of the major barriers to walking and bicycling in communities across the country and the state of New Jersey (New Jersey Bicycle and Pedestrian Resource Center, 2017; New Jersey Safe Routes to School Resource Center, 2017). To tackle them, countless local and national organizations such as the United States Department of Transportation (USDOT), Centers for Disease Control and Prevention (CDC), New Jersey Safe Routes to School (SRTS), local police departments, and non-profits recommend incorporating CPTED in the design of streets and open spaces. However, few bicycle and pedestrian policy and planning, safe routes to school, transit, parks and open spaces, and everyday designation initiatives in New Jersey have implemented CPTED for this purpose. One of the implemented efforts involved creating a detailed CPTED plan for six high crime corridors in the City of Paterson in New Jersey.

This report looks at four case studies to identify best practices for implementing CPTED to increase bicycling and walking opportunities. These case studies focus on CPTED approaches to improve safety on streets and roadways, parks and open spaces, trails, and through community engagement and leadership. The case studies were selected based on project scope and timeframes, their extent of implementation, availability of data and information, and are as follows:

- The City of Paterson CPTED Project in NJ
- Lower Kinneer Park Enhancement Plan – Seattle, WA
- The Bloomingdale Trail – Chicago, IL
- The SafeGrowth/CPTED Project – New Orleans, LA

The second section of the report includes a brief history and overview of first-, second-, and third-generation principles of CPTED, and the next four sections are dedicated to analyzing CPTED approaches to streets and roadways (Section 3), parks and open spaces (Section 4), trails (Section 5), and through community engagement and leadership (Section 6). Each of these sections includes a detailed literature review of the latest academic and professional publications on CPTED outcomes, crime/fear of crime, and walking and bicycling in that space, as well as an in-depth case study highlighting project methodologies, implemented strategies, results and key takeaways. In addition to the data and resources available online, the researchers conducted 45-minute interviews with leading professionals involved in the projects for more information. Lastly, the final section of the report summarizes the best practices and findings for implementing CPTED to increase bicycling and walking opportunities.

2. Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) is a multi-disciplinary approach to crime prevention that uses design and management of built and natural environments to create a culture of safety. It is based on the premise that individuals make a rational decision to engage in a criminal act based on its consequences; and the physical and social determinants of a place can help determine those consequences, influencing one's decision to pursue a criminal act. Criminologist C. Ray Jeffrey coined the term in 1971, defining CPTED as the "proper design and effective use of the built environment that can lead to a reduction in the fear and incidence of crime, and an improvement in the quality of life of all residents." He argued that the existing crime control models were reactionary and emphasized that the social and physical characteristics of an environment could be designed to deter criminal behavior before it occurs.

Since the term was coined, CPTED has been refined and updated over a series of generations, as described below.

I. First-Generation Crime Prevention Through Environmental Design

First-generation CPTED focuses on how physical design factors affect crime and safety in a space. It emerged in the mid-20th century through the works of Jane Jacobs, C. Ray Jeffrey, Oscar Newman, and other researchers (Jacobs, 1961; Jeffrey, 1971; Newman, 1972; Angel, 1968; Wood, 1961). Jacobs (1961) talked about "diversity of uses" and "eyes on the streets" as some of the main characteristics of safe environments. In 1972, Newman published *Defensible Space; Crime Prevention through Urban Design*, introducing key concepts – such as "territoriality," "surveillance," and "image and milieu" – that informed how physical environments could be designed to enhance safety.

First-generation CPTED emphasizes strategies such as proper landscaping, adequate lighting, location of access points, and regular maintenance of facilities to help discourage inappropriate usage of a space by maximizing visibility, regulating access, and creating a sense of community control and ownership. Its end goal is to improve the safety and quality of life by reducing opportunities for crime that may be "inherent in the design of structures or neighborhoods."

These strategies refer to the four underlying and three additional principles of first-generation CPTED:

- **Natural surveillance** is the placement of physical features, activities, and people in a way that maximizes visibility (Figure 1). Examples of effective natural surveillance techniques include designing landscapes that allow clear, unobstructed views of surrounding areas, improving visibility with lighting or transparent building materials, avoiding lighting that creates glare, and avoiding the creation of entrapment areas.
- **Natural access control** involves regulating access to a site and location through psychological and physical barriers (Figure 2). This can be done by ensuring

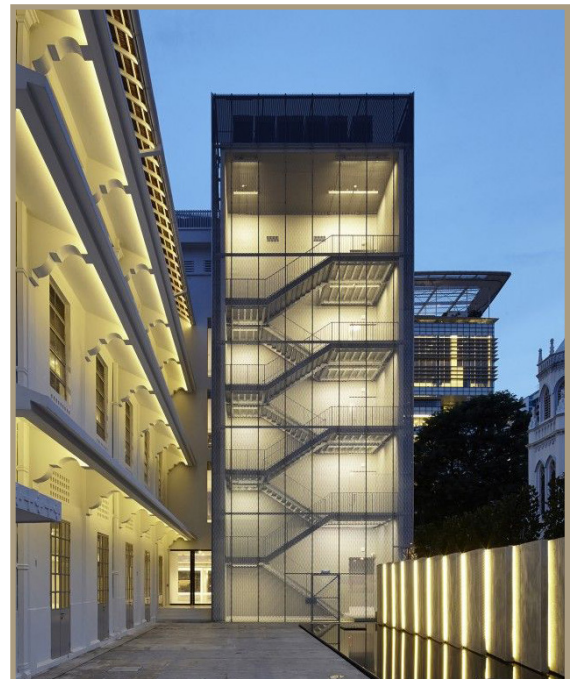


Figure 1. Staircase design enhancing visibility at the National Design Centre in Singapore. Source: Aaron Pocock



Figure 2. A well-defined access point and walkway to a commercial center. Source: Terrance Glover

entrances are visible, defining all entryways and highlighting the main entrance; marking public walkways and paths, and installing a wayfinding system for residents and visitors to the site.

- **Territorial reinforcement** refers to people's sense of ownership and the use of physical attributes that express that ownership (Figure 3). It is an umbrella concept embodying natural surveillance and access control principles. Examples include the use of physical attributes such as fencing, pavement treatments, signage and landscaping.
- **Image maintenance and management** refers to properly maintaining and managing a space that indicates active involvement of and guardianship and ownership among legitimate users (Figure 4). Examples include strategic and continued use of a space for its intended purpose(s), regular maintenance and care of a site, and branding and marking to serve as an additional expression of ownership of a site or area.
- **Legitimate activity support** refers to activities and uses that encourage legitimate users of a space (Figure 5).
- **Target hardening** refers to physical barriers such as fences and access gates that restrict access to an area. This strategy is commonly criticized for encouraging a "fortress mentality" that can injure a community's self-policing and natural surveillance capabilities (Cozens and Love, 2015).
- **Geographical juxtaposition** refers to the idea that an area's surrounding environment can influence criminal behavior and safety in that space and vice versa. This principle was included in the early definitions of CPTED but is largely excluded in the present.

Because these strategies are meant to act in congruence with one another, specific techniques can serve the purpose of fulfilling multiple of the concepts (Figure 6). Additionally, they can be contextually modified to include formal/organized and electronic forms of surveillance and access control strategies.

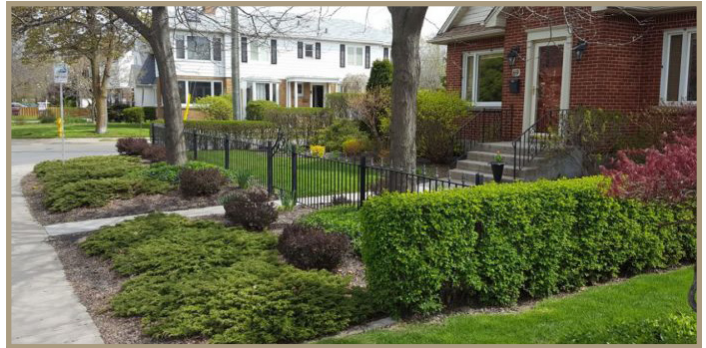


Figure 3. Well-defined property lines and a clear distinction between public, semi-private and private spaces. Source: Terrance Glover



Figure 4. An apartment complex entrance before (left) and after (right) maintenance. Source: ICP Consulting



Figure 5. Incorporation of uses that encourage public participation and enhance natural surveillance. Source: Level Crossing Removal Project



Figure 6. Natural surveillance, access control, and territorial reinforcement can be combined as depicted in this example from next to a park. Source: Marc Howard

II. Second-Generation Crime Prevention Through Environmental Design

Second-generation CPTED emerged in the 1990s, mainly in response to the criticism that CPTED was very physical form-oriented and did not address critical social factors. Saville et al. (1998) argued that what is vital to Jacobs (1961) “eyes on the streets” concept is the “quality” of those eyes, which represents a community of watchers who care and would not allow inappropriate usage.

Second-generation CPTED focuses on community building because people who are more actively involved in their community are more likely to respond to an undesirable activity in their area. By providing CPTED training and leadership opportunities, establishing resident teams, gathering feedback and organizing community meetings and events, second-generation CPTED cultivates a sense of belonging and builds a platform for residents to take unified ownership of their environment.

The aforementioned strategies refer to the five underlying concepts of second-generation CPTED:

- **Social cohesion** refers to enhancing mutual respect and understanding in a community along with an appreciation for diversity and differences, as a cohesive community is more likely to effectively undertake collective actions.
- **Community connectivity** is defined as providing opportunities to strengthen resident relationships, building their ability to develop partnerships both within, and with external organizations.
- **Community culture** is defined as encouraging opportunities for a community to get together in order to foster a sense of belonging and place, which can make them “want” to defend their area.
- **Threshold capacity** is defined as maintaining a balance in types of uses in an environment to preserve a community’s identity and sense of ownership (Figure 7).
- Lastly, the concept of **inclusivity** is central to second-generation CPTED. It ensures that all the members of a community feel as stakeholders and can participate in community activities, fostering social cohesion, connectivity, and culture.



Figure 7. A multi-modal transportation environment helps encourage all road users. Source: Jean Crowther

III. Third-Generation Crime Prevention Through Environmental Design

Third-generation CPTED, while still in development, explores how CPTED could look beyond crime reduction and take a wider approach to safety, livability, and quality of life. It is based on the premise that relying on physical and social factors alone is inadequate as a strategy to enhance safety and quality of life in the long run (Figure 8). In a recent study, Mihinjac et al. (2019) defined third generation CPTED as adopting a holistic range of strategies to address public health, sustainability, environment, and crime to construct safe and high-quality environments. The United Nations Interregional Crime and Justice Research Institute and Massachusetts Institute of Technology (2011) described it as incorporating sustainable and green practices – for instance, natural energy harvesting or using LED light – and utilizing digital means to develop safe and user-friendly environments.



Figure 8. Maslow (1943) hierarchical model of individual needs for a higher quality of life. (McLeod, 2020)

3. CPTED & Streets and Roadways

1. Literature Review

Existing research on the relationship between CPTED and walking on roadways shows that CPTED can be used to reduce crime/fear of crime and increase pedestrian usage (Lee, Park, & Jung, 2016; Painter, 1996). Lee et al. (2016) studied walking in twelve crime-ridden neighborhoods with CPTED improvements in Seoul, South Korea, compared to twelve matching communities (control group). Results indicated that the participants in the experimental group walked more and were less afraid of crime than those in the control group. Additionally, the analysis found that CPTED elements such as lighting, maintenance, and presence of CCTV cameras had a significant effect on reducing fear of crime, which then had a significant effect on increasing walking.

In another study, Painter (1996) studied the effect of street lighting improvements on people's attitudes and behaviors towards three crime-ridden streets in London, UK. The analysis compared before and after surveys of pedestrians and surrounding residents and found that over 90% of the respondents felt safer after the changes. Additionally, with better lighting, the selected streets saw a significant increase (at least 39%) in pedestrian use at night. These findings suggest that CPTED improvements could encourage people to walk/bicycle, especially in areas where crime/fear of crime is a concern.

Crime and fear of crime have been found to be associated with lower levels of walking/bicycling in communities across the country and in New Jersey (Lachapelle & Noland, 2015; New Jersey Safe Routes to School Resource Center, 2017; New Jersey Bicycle and Pedestrian Resource Center, 2017; McDonald, 2008). A 2017 New Jersey Bicycle and Pedestrian Research Center (BPRC) study analyzing three communities in New Jersey showed that violent crimes and fear of crime had an inverse relationship with walking. Additionally, a 2008 New Jersey Safe Routes to School (SRTS) effort assisting three disadvantaged communities in the state discovered that crime and disorder discouraged active transportation to schools. In another study, Lachapelle et al. (2015) analyzed a statewide survey of adults in New Jersey to find a negative relationship between violent crimes and walking, especially in the nighttime.

Additional research suggests that people are more likely to be physically active in areas that are safe or are perceived to be safe (Harrison, Gemmell, & Heller, 2006; McGinn, Evenson, Herring, Huston, & Rodriguez, 2008). McGinn et al. (2008) analyzed a survey of adults in Forsyth County, NC, and Jackson, MS that found people's perceptions of safety to be correlated with increased outdoor physical activity, which included walking and bicycling. In another study of adults in Northwest England, Harrison et al. (2007) found that people were less likely to be physically active in areas that they perceived to be unsafe.

Ferrell et al. (2008, 2012), and Appleyard et al. (2017) show that violent crimes are related to reduced walking and bicycling for transit and home-based trips. Ferrell et al. (2008) studied seven cities in the San Francisco Bay Area and found a negative association between violent crimes and the likelihood to use active modes of transportation for home trips. In another study on three Bay Area cities in Northern California, Appleyard et al. (2017) found that violent crimes significantly reduced the likelihood of using active transportation to access transit facilities. In both studies, Ferrell et al. (2008) and Appleyard et al. (2017) noted that the effect of crime on mode choice was influenced by the type of crime in a neighborhood.

Contrarily, in the case of walkable and low-income neighborhoods, some studies have also found a positive association between crime and walking (Foster, et al., 2014; Lachapelle & Noland, 2015). Foster et al. (2014) analyzed a representative sample of Perth, Western Australia and discovered walk-friendly environments to be associated with higher walking and crime rates. In a similar research, Zhu et al. (2008) studied low-income elementary school neighborhoods in Austin, TX, and found that they were both more walkable and high crime areas. Lachapelle et al. (2015) observed crime to be positively correlated with walking among low-income and carless populations. Although these studies indicate a positive relationship between crime and walking, they do not negate the basis for using CPTED to address crime/fear of crime and encourage active transportation.

In contrast, CPTED can help reduce the risk associated with walking/bicycling in communities that attract both pedestrians and offenders.

Given these findings, numerous organizations have recommended CPTED as a strategy to encourage walking and bicycling, especially in communities where crime or the fear of crime is identified as a major concern. The United States Department of Transportation (USDOT) mentions on their website that CPTED strategies can be used to increase physical activity, including walking and bicycling. Several county and city active transportation plans also recommend CPTED as a strategy. For example, the Capital Area Metropolitan Planning Organization (CAMPO) *2045 Regional Active Transportation Plan* mentions using CPTED to understand community perceptions of safety and develop proven design and social programming solutions (including better lighting, clear sightlines, police presence, community service days, and educational tours) to reduce criminal behavior. The *City of Selma Active Transportation Plan* also mentions CPTED as a supporting program to reduce crime and increase the quality and attractiveness of their walking and bicycling environment.

Examples of CPTED efforts that have undertaken this approach include California's Alameda Police Department's Community Oriented Policing and Problem Solving (COPPS) program that provides CPTED assessments to local communities. In 2018, the department's CPTED team assessed six public use pathways in the city and summarized their findings in a report. Other local agencies also offer similar programs; however, their functions are often restricted to individual buildings and properties (City of Oakland, n.d.; Chandler Police Department, n.d.).

In another example, the City of Paterson, New Jersey worked with Together North Jersey (TNJ) and a consulting team to address six crime-ridden streets in the city. The following section covers an in-depth case study of this project.

II. Detailed Case Study – The City of Paterson CPTED Project in NJ

a. Background

The City of Paterson CPTED Project aimed to improve community safety in six crime-ridden corridors in the city: namely, North Main Street, East Main Street, Rosa Parks Boulevard, 10th Avenue, Ellison Street, and Market Street. The city identified these corridors due to gang-violence, shootings, and drug-related crimes. Recent incidents along the corridors also involved teenagers being shot by stray bullets during gang crossfires. As a result, many community members were afraid to go outside, fearing for their and their children's safety.

In 2010, the City of Paterson was one of the ten most unsafe cities in the state of New Jersey with a violent crime rate of 10.73 (per 1,000 people), about 3.7 times that in the state. For this reason, the City of Paterson CPTED Project also aimed at developing a CPTED program that could be expanded in scope and size to similar neighborhoods around the city. Moreover, the effort aligns with Passaic County's *Building a Culture of Health: Blueprint for Action* plan that recognizes addressing public safety as a focus area for improving health outcomes.

In 2013, the city received a \$110,000 Local Government Capacity Grant through TNJ to develop and implement a CPTED program. The city partnered with Arterial, LLC and two other consulting teams to conduct a detailed CPTED audit of the six focus corridors and identify potential improvements.

b. Project Methodology

The City of Paterson CPTED Project encompassed creating a multi-stakeholder CPTED team; conducting extensive community outreach and engagement; developing a detailed CPTED plan for the six focus corridors; and assembling a CPTED toolkit that can be used for applying CPTED to other neighborhoods in the city. The project approach was based on the understanding that "CPTED is not something that can be done for a community, but something that is done with the community." As such, both the problems and solutions identified through the project came from the community members, with support from the project team.

At the initial stages, the city and the consultant team collaborated to identify members for creating a CPTED team comprising of residents and members from key local government and non-profit organizations, including the Paterson Police Department, Division of Planning and Zoning, Neighborhood Assistance Office, and Department of Public Works. The selected members were invited to participate in an 8-week intensive CPTED/SafeGrowth program organized by a team of nationally recognized CPTED experts, including Criminologist and Urban Planner Gregory Saville, who also led the training for the SafeGrowth/CPTED Project in New Orleans, Louisiana (see Section 6). During the training, participants learned more about CPTED, conducted a preliminary audit of the six corridors to understand existing conditions and problems, and organized a community survey to gather resident input on potential challenges and solutions.

Following the training, the project included a second round of community outreach and engagement efforts involving public workshops with residents and local officials. These workshops focused on engaging with low-income, minority, and senior residents. They were organized by the established CPTED team in coordination with local community centers through Paterson Habitat for Humanity, a local non-profit organization. The workshop included a brief presentation on CPTED and a field audit in which members identified safety concerns and issues (Figure 9 and 10). Following the audit, participants discussed the audit findings to develop short- and long-term strategies for improvement. Participants also completed a safe places audit form that is specifically designed for residents with no or minimal CPTED training.

The findings from the preliminary audits, community survey, and the two public workshops were then refined and compiled by the consultant team in a detailed CPTED recommendations plan for the focus corridors. The final document also included additional guidelines and resources to help the city in expanding the program citywide.



Figure 9. Community workshop held at Crossroads Ministry Center. (Source: Arterial, LLC)



Figure 10. Daytime Community Audit. (Source: Arterial, LLC)

c. Strategies and Implementation

Street and Park Clean-ups

The corridors faced multiple image maintenance and management issues due to overflowing trash cans, cracked sidewalks, excess litter, and overgrown vegetation. The CPTED team noted that these issues signaled that the area lacks routine maintenance and that the local community might be accepting of undesirable uses. They also contributed to an unpleasant environment that likely discourages residents and visitors, reducing public surveillance and affecting local businesses. The CPTED team recommended partnering with local organizations such as Paterson Habitat for Humanity to engage with residents and organize community clean-ups to address these issues. **As of 2019, this effort has resulted in over 24 community clean-ups in which volunteers also learned about CPTED and how to get more involved. These events signify the residents' commitment to a clean and better community and help encourage positive social interactions.**

Lighting Improvements

The corridors were inadequately lit due to broken streetlights or excess spacing between adjacent light poles, which decreased visibility and natural surveillance in the area. For instance, more than half of the streetlights along Main Street were inactive at the audit time. Residents informed that these lights were “intentionally disabled” by people with criminal intent. Although the lights are owned and maintained by the Public Service Electric and Gas Company (PSE&G), **recent efforts by Paterson Habitat for Humanity and Rebuilding Together North Jersey (RTNJ) have installed over 100 sensor-based solar lights and reflective house numbers in the area** (Parada, 2019). Additionally, these organizations are currently working with community members to improve the system for reporting broken lights.

Commercial Window Coverage

Businesses along the corridor were afraid of burglary and refrained from opening up sightlines to the sidewalk. As a result, they covered up their windows with advertisements, protecting their cash registers from being noticed, but isolating the sidewalk users. Findings noted that an existing zoning ordinance restricted businesses from covering more than 30 percent of their window space; however, many business owners were unaware of the rule. As part of initial outreach efforts, the project team talked to the storeowners, who then removed the extra signage from their storefronts. Additionally, the team recommended circulating a flyer highlighting the ordinance and its safety-related benefits among the local businesses to increase compliance.

Addressing Crime Hotspots

During the community audits, residents identified liquor stores, bodegas, restaurants, and vacant/abandoned lots where loitering, fighting, gang, and drug activities were a constant problem. Some of these stores did not follow the operating schedule permitted by the city ordinance and remained open late into the night or 24 hours a day. Residents felt that their late operational hours combined with alcohol sales invited undesirable activity into the neighborhoods, mostly when these stores were next to specific uses such as vacant lots and single-occupancy buildings (Figure 11). Enforcing the permitted hours of operation for these stores and “better”



Figure 11. Crime hotspots overlaid with vacant/abandoned properties and specific uses such as liquor stores on North Main Street. (Source: Paterson CPTED Audit report)

regulating the combination of uses along the corridor is a potential solution to addressing such crime hotspots.

Additionally, in 2015, a resident turned a blighted vacant lot at the intersection of gang violence and drug activity in the area into a community garden called Green Acre. Through New Jersey Community Development Corporation’s Paterson Youth Cares program in partnership with United Way of Passaic County, Paterson youth volunteered at the garden and helped build a greenhouse to support its operation in 2019 (Rumley, 2019). Paterson Habitat for Humanity also engages with residents to volunteer at the Green Acre Community Garden and help with supplies, materials, construction, and other operations (Figure 12). Such solutions improve safety and access to healthy food options by instituting positive uses of problem areas, helping the community regain control of their environment.

d. Results and Key Takeaways

The City of Paterson CPTED Project has implemented many community-driven strategies addressing natural surveillance, image management and maintenance, and territorial reinforcement issues along the corridors. From its early stages, the city and the consulting teams focused on engaging with community members, local organizations, and technical experts. Through training and workshops, the project team affected a community-driven approach to identify issues and challenges and develop solutions. They noted that despite high crime and a notorious reputation, there are always people who live in the neighborhood and are deeply invested in their community’s future.

The implemented strategies also involved close collaboration with local organizations such as Paterson Habitat for Humanity, New Jersey Community Development Corporation, and RTNJ who work directly with the community. These organizations created multiple platforms to continue resident training and engagement and increase resident participation in CPTED efforts. For instance, Paterson Habitat for Humanity organizes CPTED Volunteer Days through which the community youth can join in the monthly CPTED team meetings and volunteer for community events.

Because of these efforts, as of 2019, the City of Paterson CPTED program engaged over 370 volunteers who dedicated more than 1,100 hours to implement CPTED solutions (Parada, 2019). Project officials noted that there are residents involved in the early stages of the project who have continued to learn about CPTED and are still engaged in implementation efforts. Such a community-driven approach can serve as a platform where the residents manifest their commitment to a better community and learn about their collective capacity to lead change. It might be interesting to see how actual crime in the area, community perceptions of safety, and resident relationships have altered through these efforts.



Figure 12. Paterson youth painting a community garden fence. (Source: New Jersey Health Initiatives)

4. CPTED & Parks and Open Spaces

I. Literature Review

Existing research examining the relationship between CPTED and safety suggests that the physical layout and design of parks and open spaces aids in minimizing the crime/fear of crime associated with their usage (Thani, Hashim, & Ismail, 2016; Iqbal & Ceccato, 2016; McCormick, 2006). Thani et al. (2016) analyzed people's perception of safety in three urban parks in Malaysia, and found that CPTED strategies such as lighting, visibility, landscaping, and park design are essential for improving perceptions of safety in urban parks. In another study based in Sweden, Iqbal et al. (2016) evaluated the use of CPTED principles to inventory safety in an urban park, highlighting a direct relationship between crime hotspots and a park's design and maintenance. Additionally, McCormick (2006) tested perceptions of college students in the Mid-Atlantic region through virtual reality, suggesting that respondents perceived parks with CPTED principles as safer than those without CPTED. These studies demonstrate that the design and maintenance of open spaces is an essential concept that needs to be considered in their planning and development, which can be achieved through CPTED.

This is all the more important in communities where studies have found a direct relationship between crime/fear of crime and park and open space usage (Scott & Munson, 1994; Groff & McCord, 2012; News 4 New York, New York Parks Advocates, 2016). Scott et al. (1994) surveyed residents in Greater Cleveland and found about one-third of the respondents in the low-income category reporting that they were afraid of using parks because of crime. Groff et al. (2012) examined crime rates in and around neighborhood parks in Philadelphia, PA, and found that crime was higher around parks compared to the city as a whole. The analysis further indicated that parks in residential areas had higher crime levels than those in non-residential areas that have a higher level of natural surveillance. Additionally, a 2016 analysis of over 1,000 parks in New York City, NY demonstrated that crime in parks increased from 2015 to 2016 as rapes grew by 40 percent, felony assaults by 34 percent, robberies increased by 15 percent, and murders plunged by a stark 200 percent (News 4 New York, New York Parks Advocates, 2016).

Given these findings, stakeholders such as police departments, parks and recreation departments, and independent researchers have detailed how CPTED can be used to develop safer open spaces. For instance, the Prince William County Police Department in Virginia offers a list of first-generation CPTED strategies for improving the design and safety of parks, trails, and open spaces (Prince William County Police Department). Parks & Recreation, a monthly magazine by the National Recreation and Park Association (NRPA) features an article on how to use design to deter crime (Cannavino, 2016). Additional research provides design guidelines for implementing CPTED principles. For instance, to exercise natural surveillance, Atlas (2008) suggested that in open spaces, shrubberies should have a height of 24 to 32 inches, and tree canopies should be at least 7 feet high. McCormick (2011) suggested planting flowerbeds instead of grass in areas with natural access control needs as someone walking through a flowerbed would create suspicion than someone walking through grass.

Examples of local efforts include New York City Mayor's Action Plan for Neighborhood Safety (MAP) that provides \$50,000 grants to revitalize open spaces in high crime New York City Housing Authority (NYCHA) developments. In 2019, Patterson Houses in Mott Haven, Bronx, NY used this grant to convert a "gated area" to a community open space for well-being, healthy living, and substance use support. The National Crime Prevention Council's (NCPC) case studies on best practices for using CPTED also involved revitalizing underused/disregarded parks, including formulating a bike association for events, to rejuvenate an area with natural surveillance. In another example, ONE Neighborhood Builders, RI collaborated with Olneyville Housing Corporation & Community Works Rhode Island to provide CPTED training to stakeholders and revitalize a neighborhood park (ONE Neighborhood Builders, 2016). A similar effort was led by HBB Landscape Architecture that included employing CPTED strategies to improve safety in the Lower Kinneer Park in Seattle, WA (Luoma & Koonts, 2017). The following section covers an in-depth case study of this project.

II. Detailed Case Study – Lower Kinnear Park Enhancement Plan, Seattle, WA

a. Background

Kinnear Park is a 14.1-acre park on the western side of Queen Anne Hill in Seattle, Washington. It has been a designated City of Seattle historic landmark since 2001 and widely recognized for its history as the oldest planted park in Seattle with large trees, including several that are listed as “state and city champions.” The hill’s steep topography and bluff serve as a natural boundary distinguishing the upper and lower portions of the park. While the upper section of the park was both well-maintained and used, residents noticed Lower Kinnear Park falling into decline. Due to aging infrastructure and poor site visibility, many people did not feel safe or welcome to use the park. The nearby rapid transit surrounded by neglected properties made the park a hotspot for illegal drug activity, and low visibility within the park allowed for gang activity and violent crime incidents. Unhoused people who used the park for shelter were at particular risk of assault; one homeless woman was even murdered on a park bench. Lastly, a 2009 Seattle Times article reported a police raid by over 70 officers that arrested dozens of drug dealers who had “taken over Seattle’s Kinnear Park.”

Due to these issues, a group of concerned neighbors and community members came together to create FOLKpark (Friends of Lower Kinnear Park) – a local community organization committed to improving the park in 2009. Through a Department of Neighborhood small improvement grant, the organization hired HBB Landscape Architecture in 2010 to develop a concept design and enhancement plan for the park. Its three main goals were to improve safety, preserve the park’s urban forest and historic value, and reconnect the surrounding community with its environmental heritage.

b. Project Methodology

Lower Kinnear Park project planning process included park visits; community walk & talk events; public input meetings and an extensive review process involving residents, local stakeholders, and community organizations from the beginning of the project. The process gathered feedback on problems and issues, new ideas and recommendations, and resident needs/interests that directly shaped the final design and enhancement plan.

During the early stages, FOLKpark and the consulting team conducted a community walk & talk event to capture a user’s perspective of the park, its challenges and opportunities. The event was attended by over 30 residents and representatives from the Seattle Department of Neighborhoods and Seattle Parks Department. Findings from the event supplemented the consulting team park visits in which they took photographs of the site every 5-10 feet to record user experience, identify challenges, and develop potential solutions.

FOLKpark and the consulting team then coordinated various outreach programs to build awareness of the park and the project and encourage community feedback and contribution. Events hosted within or around the park included postcard distribution, public open houses, outreach events at senior centers, and a community survey. These efforts utilized a variety of means tailored to different community members – seniors, homeowners, residents, and young families. As part of the outreach efforts, the project team also included homeless advocacy groups and social services as additional stakeholders.

Feedback received in the meetings indicated issues related to natural surveillance (sightlines and blind spots), territorial reinforcement (gang-graffiti and gang-tagging), natural access control (a swing gate entrance with poor signage), and image maintenance and management (trails and sports facilities in poor condition).



Figure 13. A community outreach event. (Source: HBB Landscape Architecture)

Naturally, the design team and participating members acknowledged the need for addressing safety and criminal activity through first-generation CPTED. Additionally, the participants highlighted the need for some programming to activate the park.

Other stakeholders involved in the project process include the Seattle Landmarks Board, Friends of Olmstead Park, Uptown Alliance, Queen Ann Historical Society, Cascade Bicycle Club, Audubon Society, and COLA (Citizens for Off-Leash Areas).

c. Design Strategies

Prior to its restoration, community members felt discouraged from visiting the Lower Kinnear Park because its infrastructure was not well-maintained and failed to present a welcoming environment. Project outreach efforts revealed that there were residents living “200 feet away from the park who had no idea that they could even go into the lower part of the park” due to a lack of signage and intimidating park entrance designs.

Lower Kinnear Park’s environmental features played another role in making the park feel uninviting. High hills and dense vegetation impeded visibility and created blind spots, which led to increased criminal activity. Park users often felt isolated and vulnerable, while nighttime lighting without natural surveillance provided opportunities for crime.

To address these concerns, designers and community members sought to “open up the park,” and “get more people from the neighborhood into the park,” to increase the level of safety and “eyes in the park.” Specific strategies included, but were not limited to:

- Creating a visible entrance with directional signage and park information, designed for ADA-accessibility, walkers, and bicyclists. The design opened up the entrance by removing visual barriers, including shaving a hillside to increase natural surveillance from adjacent residences, roadways, and surrounding uses (Figure 14).
- Improving sightlines by re-grading slopes to maximize visibility and surveillance between pathways, and pathways and sports/event facilities (Figure 15).



Figure 14. Park entrance design before (top) and after (bottom) re-grading the hill. (Source: HBB Landscape Architecture)



Figure 15. Sightline between the tennis court and paved pathway before (top) and after (bottom) re-grading the hill. (Source: HBB Landscape Architecture)

- Enabling longer sightlines and wider viewing angles by keeping a clear buffer distance between trees/vegetation and trails/pathways. The rule of thumb is “to try to keep the trees 10 feet away from the edge of the trails and keep large shrubs at least 5 feet away from the trails.” Additionally, visibility around sports and event facilities was improved via see-through fence designs.
- No lighting during nighttime to prevent people with criminal intent from using the park in the absence of surveillance. This forced those with criminal intent to use their own lighting, which is more likely to alert neighboring residents and police about occurring illicit activity.
- Improving wayfinding and sense of belonging by installing directional signage; informational signage regarding tree species, birds and bird sounds present in park; interpretive signage on its natural, geologic, and human history; and marking historic trees for awareness and environmental stewardship.
- Increasing accessibility by adding ADA-accessible entryways, picnic areas, viewing locations, and installing paved pathways and staircases with railings for increased comfort while also focusing on preserving the park’s natural setting.
- Increasing community usage by renovating/expanding existing facilities and adding new facilities identified by the community during public meetings. For example, **a new off-leash dog area attracted dog walkers from around the neighborhood and the city at large, increasing the park use by three or four times** (Figure 16).



Figure 16. New off-leash dog area. (Source: HBB Landscape Architecture)

d. Programming Strategies

Due to years of deteriorating infrastructure and safety issues, Lower Kinnear Park was forgotten, and the local community was unaware of or was afraid to visit the park. However, concerned community members viewed it as a valuable community asset because of its historical and environmental significance. Additionally, the park was surrounded by a rich community of walkers, joggers, trail users, bicyclists, tennis players, and dog walkers who were deeply invested in its future. Planned programming activities aimed at involving the local community in the park development included neighborhood work parties where residents got together for clean-up and removing invasive species, and fair days sponsored by local businesses (Figure 17). In 2014, FOLKpark and other local organizations organized a community event to celebrate the park renewal, which included walking tours of the park, live music, a food drive, and games.

After the reopening, the project stakeholders organized educational tours emphasizing the environmental benefits of the trees and the urban forest in the park to encourage environmental stewardship. For example, in 2015, Seattle Parks in partnership with the consulting team and FOLKpark installed 16 signs quantifying the environmental benefits of the forest in the park (Figure 18) (McVicker, 2015). The community groups hosted an educational tour for school students, which included teaching them about the educational signs and a hands-on activity on taking care of planting beds.



Figure 17. A community clean-up event. (Source: HBB Landscape Architecture)

e. Results and Key Takeaways

The Lower Kinneer Park design and enhancement plan boasts key first-generation CPTED improvements – improved natural surveillance, welcoming entrance designs, accessible pathways to viewing locations, an off-leash dog area, and renovated sports facilities – that brought the community back to the park and helped reduce the level of criminal activity. **About five years after the project completion, the design team spoke to the local police officials, who stated that the number of crime-related calls in the park had significantly gone down, although statistical data is not available.**

Implementing first-generation CPTED approaches to design the park included “setting specific goals,” a clear understanding of the “local context,” and “the type of crime” that needed to be addressed. The Lower Kinneer Park project emphasized on reducing gang activity and drug offenses, activating the park, and reconnecting the community with the park and its heritage. As such, recommended CPTED strategies aimed at improving natural surveillance, accessibility, and inclusivity, to create a high use environment, which then resolved the criminal activity.

FOLKpark and HBB Landscape Architecture emphasized that a humane approach should be taken to rectifying the park’s problems. They strongly felt that CPTED principles should not be used to tackle crime aggressively; instead, modifying the park to make it more accessible and encourage usage would naturally reduce crime by strengthening collective surveillance. This in turn increases the user’s perception of safety creating a positive feedback loop. Excessive use of target hardening strategies such as gates, fences, walls, cameras, and warning signage, on the other hand, could deter crime but also decrease the comfort, appeal, and positive use of the park.

Project officials also noted the importance of “realizing and communicating that CPTED would not solve all the problems.” For instance, the park still experiences homeless encampments, a broader social issue that “cannot be solved by CPTED.” In 2020, KOMONEWS covered an uptick in homelessness, and mental health and drug addiction related crimes both within and around the park in the Lower Queen Anne neighborhood that still need to be addressed.



Figure 18. One of the newly installed signs marking a big leaf Linden Tree, one of the largest in the state. (Source: HBB Landscape Architecture)

5. CPTED & Trails

I. Literature Review

Existing research on real and perceived safety on trails highlight that there is an unsubstantiated opinion/fear that trails attract crime (Rails-to-Trails Conservancy, 1998; Webel, 2000; Young, 2014; Storck, Walker, & Beyer, 2017). A 1998 study of 372 rail-trails across the US discussed how “stories of trails attracting drug dealers, murderers and rapists” are based on a few incidents rather than overall statistics. Despite extensive research that has not found any association between trails and crime, concerns related to personal safety have persisted among trail users. Findings of this study indicated that only a small percentage of the 372 trails (3 percent) had witnessed major crime incidents such as mugging, assault, rape, and murder. Further analysis of 36 urban trails with about 5 million users found the major crime rates for trails to be less than 1 percent of the national major crime rates for urban areas.

Additionally, Lagerwey et al. (1987), Murphy (1992), Alexander (1995), Tedder (1995), and Harris et al. (2018) did not find any association between the existence of trails and violent crimes or incidents of vandalism in an area. Lagerwey et al. (1987) and Murphy (1992) found that the residents living near trails valued it as an amenity and believed that the trails had a positive effect on their neighborhoods’ quality of life. In a recent study, Harris et al. (2018) analyzed the safety impacts of the Bloomingdale Trail in Chicago, IL, demonstrating that the areas surrounding the trail witnessed a significant decrease in crime compared to similar neighborhoods in the city.

This observed difference in real and perceived safety on trails has given way to efforts focused on utilizing CPTED to increase their sense of safety. Reynold et al. (2007) examined the design characteristics of three urban trails regarding their usage and identified that CPTED elements such as lighting, location of access points, condition of facilities, and vegetation density, affected real and perceived safety and correlated with trail usage. Young (2014) marked issues with safety perceptions on trails and talked about how CPTED could be used to address trail safety through engineering and design. Storck et al. (2017) presentation in the International Trails Symposium talked about how CPTED could be incorporated into the design and development of trails to enhance safety from the very start of a project. Numerous trail master plans and planning and feasibility studies also refer to CPTED as a design guideline or objective for developing a safe environment (Alta Planning + Design, Iowa Bicycle Coalition, 2014; Alta Planning + Design, 2015; Alta Planning + Design, 2016; Alta Planning + Design, Community Foundation of Greater Huntsville, 2019).

Examples of trail projects utilizing this approach include conducting CPTED assessments of existing and CPTED-based planning and design of new trails. For instance, a joint effort by the planning, police, and building departments in Sarasota, FL took this approach to reimagine a crime-ridden trail in the city, developing a CPTED-based zoning code for the trail and its surrounding areas (Carter, Carter, & Dannenberg, 2003). In 1998, after about eight years of implementation, the project reported a decrease in crime and prostitution incidents in the area. In another example, the Virginia Center for Policing Innovation (VCPI) conducted a comprehensive assessment of the Rhode Island Trolley Trail, recommending safety improvements related to lighting, wayfinding, maintenance, and landscaping (Virginia Center for Policing Innovation, 2017). Additionally, Alta Planning + Design, a consultant planning and design firm, incorporated CPTED principles into the early design and development of two new trails: the Yonkers Rail Trail, NY and the R. Kelly Bryant Bridge, NC. As a case study, the following section includes a detailed analysis of the Bloomingdale Trail in Chicago, IL.

II. Detailed Case Study – An Analysis of the Bloomingdale Trail in Chicago, IL

a. Background

The Bloomingdale Trail (also known as “The 606”) is located in the northwest region of Chicago, Illinois. The trail is built on a railroad passage that became an attraction for the area’s homeless, drug users, gang members, walkers, and joggers after its abandonment in the early 2000s. In 2013, the Trust for Public Land, City of Chicago, Chicago Park District, and Chicago Department of Transportation began a 100-million-dollar project to convert the abandoned railroad into a 2.7-mile-long elevated linear trail. The trail was intended to reduce traffic congestion in the area by providing a sustainable recreation and transportation link to the surrounding community, which comprises of several socioeconomically diverse neighborhoods.

The 606 is well-integrated into the surrounding neighborhoods, parks, and transportation networks, with an access point every half a mile. It includes walking and bicycling pathways lined by greenery, seating and viewing locations, and places to gather.

This case study examines the research conducted by Park and Recreation Professional Brandon Harris on how physical and social factors impact crime, perception of safety, and usage of The 606. The data for this research is based on informal observations and interviews with trail users and local residents. While this research may not illustrate best practices for implementing CPTED, it shows how potential issues in trail implementation and use relate to CPTED approaches.

b. Findings

Natural Surveillance and Access Control

Resident interviews found that trail users were afraid to use specific sections on The 606 because of inadequate lighting and “feelings of isolation.” The natural vegetation along the trail conflicted with overhead street lighting, creating shadows and blind spots. Specific trail segments had vacant/industrial uses on the side that did not have any surveillance from surrounding residences, making the area feel isolated. Additionally, many undesirable activities on the trail – youth gathering for drug use, gang activity, and drug dealing – happened in the nighttime after trail hours when there is no surveillance. These problems relate to design elements such as lighting, sightlines, landscaping, and access gates that can help discourage specific behaviors.

Trail Maintenance

At its western end, The 606 abuts West Humboldt Park which is a predominantly Latin American community with a high share of below poverty and low-income residents. On its eastern end is Bucktown, a majority White and higher-income neighborhood. Although the trail is maintained by one agency, research observations highlighted that its western segments were neglected, and lacking maintenance compared to its eastern segments. Community members were wary of specific stretches due to overgrown vegetation that impaired sightlines and created blind spots. Other maintenance issues included unfinished construction, delays in removing graffiti, and inconsistency in general upkeep, which contributed to user discomfort and fear of victimization.

These findings indicate the need for proper maintenance and management of the trail to encourage positive user perceptions. However, it is important to note that the identified issues were prominent in the western sections of the trail than in the more affluent neighborhoods indicating inequities in trail maintenance, which appears to be a broader procedural issue that may benefit from community organization.

Neighborhood Stigmatization

The 606's West Humboldt Park area has a bad "reputation" for its high levels of crime, gang activities, and disorder. Research observations and resident interviews on the trail usage found that the more affluent, White community members who lived on the east end of the trail were afraid of and used to avoid the West Humboldt Park area because of its "reputation." They also sought to remove a series of Latin artwork from the sidewalls of The 606, which they perceived as "gang tags." However, the Latin community established that those murals were painted by resident teens and were a symbol of the community's "culture and identity" (Figure 19 and 20). Additionally, the Latin community, mainly young families with kids and youth, reported that they did not feel welcome in the white-dominated eastern sections of the trail.

These findings indicate that linear trails traversing through diverse communities may pose complex challenges relating to the perception of safety and inclusion due to neighborhood stigmatization. Neighborhood stigmatization is referred to as space-based stereotyping of a

"community based on perceptions of crime and disorder." The research recommended culturally inclusive programming and intentional efforts focused on community inclusion and empowerment to alter user perceptions of different trail segments and address community stereotypes. Such programmed events could also help facilitate interaction between different communities. For example, Chicago Park District could organize educational events communicating the cultural meaning of Latin artwork to white residents (Harris, Schmalz, Larson, Fernandez, & Griffin, Contested Spaces: Intimate Segregation and Environmental Gentrification on Chicago's 606 Trail, 2020).

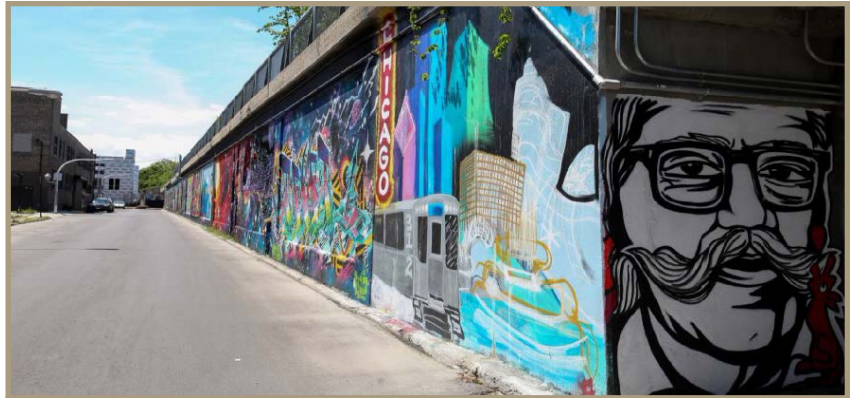


Figure 19. A mural on the sidewall of The 606 in front of Humboldt Park. (Harris, Schmalz, Larson, & Fernandez, *Fear of the Unknown: Examining Neighborhood Stigma's Effect on Urban Greenway Use and Surrounding Communities*, 2020)



Figure 20. A mural on the underpass of The 606 in Humboldt Park. (Harris, Schmalz, Larson, & Fernandez, *Fear of the Unknown: Examining Neighborhood Stigma's Effect on Urban Greenway Use and Surrounding Communities*, 2020)

6. CPTED & Community Engagement and Leadership Models

I. Literature Review

The second-generation principles of CPTED provide a working means for residents to participate in CPTED processes to foster community building and develop their ability to implement strategies on their own (Saville & Cleveland, 1998; Cozens & Love, 2015). Research indicates that resident participation in CPTED strategies (even simple clean-up, greening, or painting exercises) could enhance neighborhood social ties and feelings of cohesion (Kuo, Sullivan, Coley, & Brunson, 1998; Abdullah, H. Marzbali, & M. Tilaki, 2013). Kuo et al. (1998) studied an inner-city neighborhood in Chicago, IL, and discussed how community-engaged greening efforts could bolster informal interactions and strengthen neighborhood social ties. Abdullah et al. (2013) analyzed CPTED interventions in a residential neighborhood in Penang, Malaysia, and found that residents involved in CPTED perceived a higher level of social cohesion in their communities.

Given these findings, community engagement in CPTED is strategically used for community empowerment and capacity building through training and partnerships, advancing a community's ability to orchestrate control and plan for improvements. Aiyer et al. (2015) proposed the Busy Streets Theory (BST), highlighting how empowered communities with positive social processes/structures (social cohesion, community connectivity, social capital, and collective efficacy) could lead to formulating safe streets. Aiyer's research theorized that community engagement in neighborhood improvements could empower communities to be instruments of change by developing their positive social processes/structures.

Rupp et al. (2020) analyzed BST by studying three neighborhoods with varying levels of resident control (low, medium, and high) in a CPTED project in Flint, MI. Findings demonstrated the neighborhood with the greatest resident control to have the highest positive social constructs, while the neighborhood with the least resident control was found to have the least positive social constructs.

While BST is a new theory, CPTED has been utilized for community empowerment and capacity building in projects in the 2000s. For instance, the SafeGrowth/CPTED Project in New Orleans, LA used this approach to address crime/fear of crime issues in Hollygrove, a low-income African American community post-Hurricane Katrina (Mihinjac & Saville, 2019). In another example, a CPTED project in Seoul, South Korea, focused on active resident participation to identify community concerns and advance resident-led efforts. One of their efforts included developing a well-equipped neighborhood walking/fitness route that traversed through unsafe areas of the neighborhood to deter open-air drug dealing, addressing community safety and health (Kim, Hong, & Jeong, 2019).

In another effort based in Rio De Janeiro, the neighborhood association in Asa Branca, a low-income community, implemented CPTED to address crime through physical and social interventions, including installing windows on every wall, upgrading lighting, organizing "street parties," and other group activities (Takeda, 2016). This effort is extraordinary in that it is 100% community-led and has successfully eliminated crime in the neighborhood. It is an outstanding example of a community exhibiting cohesion, social capital, and collective efficacy to regain full control over its public spaces through CPTED.

Lastly, CPTED has also been used to educate low-income and minority communities on how environmental factors can influence a community's health, encouraging community members to advocate for relevant improvements. One example of such an effort is Multnomah County's Inner City Basketball Camp, which engages with kids in the local Black community, who have been a victim of gentrification and were displaced to more challenging urban neighborhoods (Multnomah County Health Department, n.d.). The program educates children about CPTED with the help of field visits to different parts of the county as a means to help address the challenges faced by them.

The following section discusses the SafeGrowth/CPTED Project in New Orleans, LA as a detailed case study.

II. Detailed Case Study – The SafeGrowth/CPTED Project in New Orleans, LA

a. Background

The SafeGrowth/CPTED Project in New Orleans, Louisiana was initiated to promote safety and livability for residents, seniors in particular, in a primarily African American neighborhood called Hollygrove—one of the poorest and most violent neighborhoods in the city. In the 2000s, Hollygrove faced several serious safety challenges due to drug use/violence, gang activity, and shootings. Its challenges exacerbated post-hurricane Katrina in 2005 due to abandoned/dilapidated properties around the neighborhood as many of its residents (approximately 17%) did not return following the damage incurred by the storm (Mihinjac & Saville, 2019). As a result, the neighborhood saw over a dozen murders on an annual basis in subsequent years.

High crime, fear of crime, and deteriorating neighborhood environment translated into serious safety, health, and quality of life concerns for the residents, as they did not feel safe going outside, even for everyday necessities such as going to a store or bus stop. These issues also negatively impacted their ability to create an active community life where people can come together to discuss issues and resolve problems—an absolute requirement for community empowerment and leadership.

The SafeGrowth/CPTED Project was initiated by the Louisiana Chapter of the American Association of Retired Persons (AARP Louisiana) in collaboration with Louisiana State University (LSU) and a SafeGrowth/CPTED consulting team led by Criminologist, Urban Planner, and SafeGrowth Founder Gregory Saville who interviewed with the researchers to help inform this study. In 2008, the AARP Louisiana approached the neighborhood residents to improve safety and livability for seniors using the SafeGrowth/CPTED program. Initial funding for the project included a \$410,000 grant from AARP Louisiana and a private, non-profit foundation that was supplemented by funding from various other sources during the project's life.

b. The SafeGrowth/CPTED Process

The SafeGrowth/CPTED Project in Hollygrove utilized a joint focus on CPTED and livability programming, both of which were identified as a need during AARP Louisiana's initial meetings with the residents and other stakeholders. The program relied heavily on second-generation CPTED to build the neighborhood's collective efficacy so that the residents could identify problems and implement first-generation CPTED and livability solutions on their own. This approach emphasizes the importance of centering and prioritizing residents' ideas and visions for their community and “teaching residents how to do CPTED” rather than an external party's perception and standards. It can be particularly beneficial for communities like Hollygrove where collective efficacy presents a challenge and can help people come together, enabling residents to develop a sense of ownership and territoriality, and take charge of their future.

SafeGrowth, a people-based program focusing on building community capacity understands that in most cases, community members already have a sense of belonging to their neighborhood and a willingness to bring change but may lack the resources/skills required to do so. As such, the SafeGrowth/CPTED process provides the necessary resources/skills and assistance to residents who are willing to play an active role, learn, and take control of their environment.

Following initial meetings with Hollygrove residents and stakeholders, AARP Louisiana and LSU conducted an 8-week free community leadership training for interested residents and stakeholders. The training focused on a variety of skills that the residents needed to work together, including community engagement, safety and CPTED, investments and fundraising, community organization and conflict resolution, and setting plans. The training resulted in a team of 27 participants who led the initial project efforts.

Following the training, the consulting team conducted a two-day workshop on first- and second-generation CPTED with the residents who learned more about CPTED, and then went into the field to conduct a safety audit and discuss audit findings. The team then developed specific strategies and plans for implementation

over the next two months (Figure 21). The consulting team then conducted a second two-day workshop with the resident team to help refine the developed plans and strategies, at the end of which the team progressed to implement those plans in the next few years.

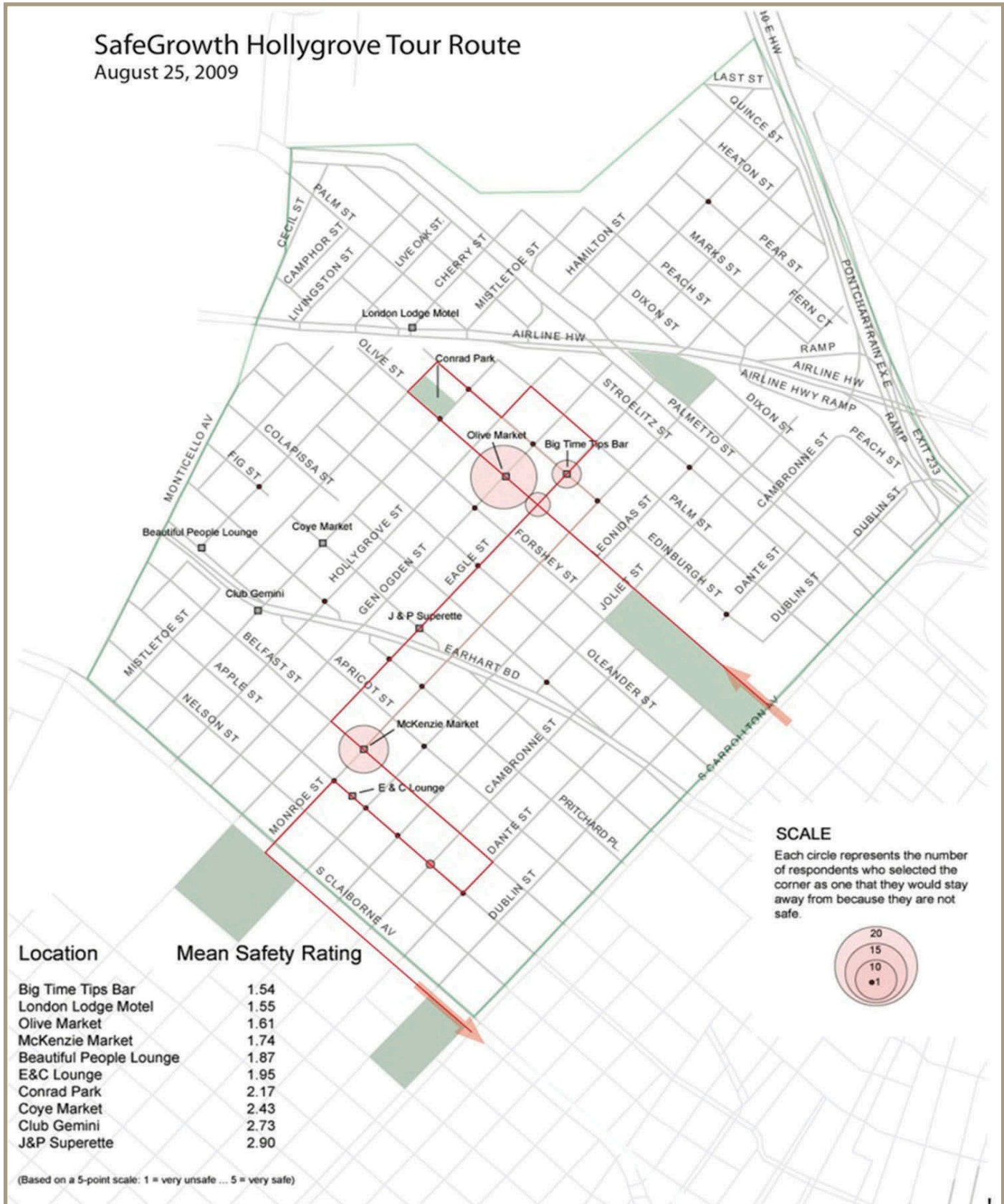


Figure 21. Map depicting high fear areas in Hollygrove. (Mihinjac & Saville, 2019)

The CPTED/SafeGrowth Project was implemented using an action research (AR) model, also known as action-based practice—another key pillar of the program—that includes re-evaluating existing conditions and developing/improving strategies in an iterative fashion (Figure 22). “Such an iterative approach helps enhance the team’s understanding of the problem and deepens the commitment to engage in action” (Mihinjac & Saville, 2019). This project approach has resulted in continual development and implementation of strategies in a decade-long effort instead of a one-time analysis and implementation of recommendations.

c. Strategies and Implementation

Soul Steppers - A Senior’s Outdoor Walking Club

One of the first strategies implemented by the resident team was to create an outdoor walking club called Soul Steppers that organized group walking events to provide safe walking opportunities to Hollygrove seniors. The strategy responded to residents’ need for recreational walking to improve health outcomes and helped deter open-air drug dealing on the streets.

The group organized its initial walking against crime events in the area near Conrad Park, which was noted for being “dead” post-hurricane Katrina by community members. These events helped in dissuading illegal usage of the park and were one of their first steps towards taking ownership of the space. **The club included about half a dozen members when it was established but quickly grew to over 100 resident members, who receive free benefits such as a bi-monthly newsletter and a pedometer to encourage walking** (Mihinjac & Saville, 2019).

Property Clean-ups and Maintaining Abandoned Lots

Hollygrove residents recognized that the abandoned/dilapidated properties around the neighborhood made it difficult to create a safe and positive atmosphere due to illicit use for selling drugs and overgrown yards. Hence, the community resorted to property clean-ups, which included litter-picking, lawn-mowing and installing fences, taking ownership of their environment and maintaining territoriality. These events were planned and organized by residents who arranged resources by sharing equipment (such as lawn-mowers) and manpower among themselves.

In another effort, the residents identified a derelict property used as a drug house and partnered with AARP Louisiana and the city to demolish it, which resulted in a decline of area drug activity.

In other efforts, the resident team coordinated with property owners to use vacant lots for community purposes, replacing illicit activities with positive uses. In 2008, they obtained temporary use of a vacant lot to create an organic farming market called Hollygrove Market and Farm. The team also created a non-profit group to manage the effort that taught residents how to grow food organically and increased access to local fresh produce, while also generating revenue. **Through this remarkable effort, Hollygrove residents earned over \$1,000,000 in a year, all of which was directed to future community initiatives** (Mihinjac & Saville, 2019).

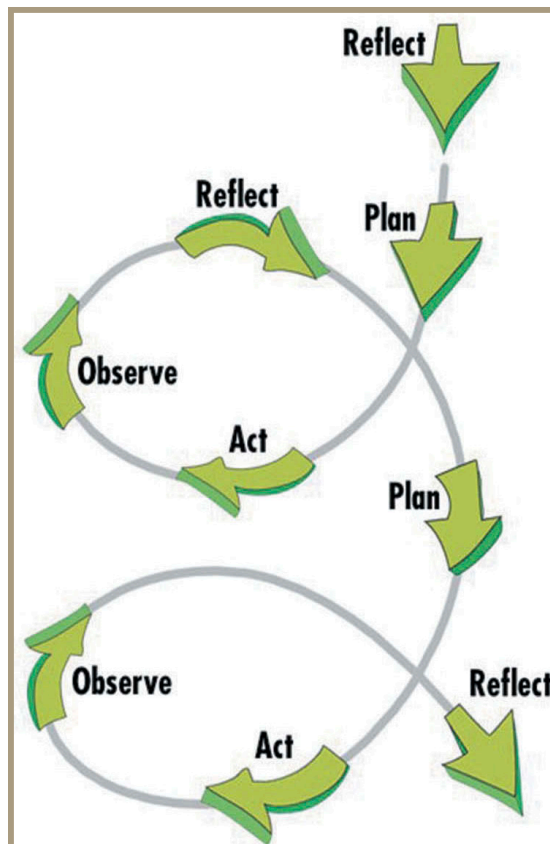


Figure 22. Action research cycle. (Source: Center for Education Innovation, The Hong Kong University of Science and Technology (Mihinjac & Saville, 2019))



Figure 23. A night out against crime event in Hollygrove. (Source: SafeGrowth Blogspot)

Addressing Local Crime Hot Spots

The residents led successful efforts analyzing trouble locations such as crime hotspots and devising strategies to reduce crime in those locations. These efforts included taking new initiatives, obtaining funds, and partnering with local organizations. For instance, in 2009, residents tried to work with the city to repair the streetlight in front of a local bar that was at the center of drug-dealing, violence, and shootings. However, when unsuccessful, they garnered funds from outside sources to install their own lighting with the help of a local community center that was actively involved with the project since the beginning. Additionally, when another shooting occurred in the area in the following months, the residents partnered with the Federal District Attorney and the Louisiana Alcohol and Tobacco Department to organize a police raid that led to the closure of the bar, eliminating the associated shootings and violence from the area.

d. Results and Takeaways

With its extensive focus on community capacity building and action-based practice, Hollygrove residents achieved great success through the CPTED/SafeGrowth Project. **The biggest and the most impactful outcome of the project was a 78 percent reduction in neighborhood crime. In particular, homicides in Hollygrove declined from 15 in 2004 to one in 2017** (Mihinjac & Saville, 2019). Given these results, Hollygrove seniors were nationally recognized for making their streets safer by Metlife from a pool of over 700 applicants from across the nation (Saville G. , 2011).

Additionally, Hollygrove residents have not only addressed critical safety and health concerns, but also realized social, economic and environmental growth through their ideas. They created an active life for their community, learned how to grow their own food, and increased access to recreational and health opportunities.

Throughout these efforts, residents demonstrated their ability to work together, identify issues, develop solutions, obtain funding, and partner with other stakeholders/organizations for implementation – a major goal of second-generation CPTED and SafeGrowth programming. In addition to the implementation successes, these skills have benefitted the community by catalyzing a potential for long-term change. For instance, in 2015, Hollygrove residents successfully campaigned against a railroad company plans to expand rail traffic through the neighborhood, which presented several challenges due to risks associated with an increase in pollution, reduction of property values, and involvement of hazardous materials (Mihinjac & Saville, 2019).

Key Takeaways

Involve Local Community Organizations

Involve local community organizations such as neighborhood groups, business associations, or local community centers who can “establish wide-reaching positive social relationships” to bring people together and instigate capacity building programs.

Find the Informal Leaders (or Change Agents)

Find and bring together residents who have a strong sense of belonging towards their community and the willingness to take an informal role in community efforts. Provide these informal leaders (or change agents) with the necessary resources and skills through CPTED/SafeGrowth training programs. Doing so, can catalyze long-term change agents who are passionate about and committed towards improving community safety and livability.

Involve Action research experts

Involve experienced subject matter experts who know “how neighborhoods work” and can work with residents to help them collect data, conduct research, and develop and implement plans using the action research model.

7. Key Lessons Learned

- Working with residents and community members from the early stages of the project can be especially rewarding in gathering key insights on the issues and challenges and shaping the project strategies. These efforts can also help develop the community's sense of belonging and ownership towards a space, which is a critical component of many CPTED strategies, including natural surveillance, territorial reinforcement, and second-generation CPTED.
- Involving local community organizations such as neighborhood groups, business associations, or local community centers, who have strong positive connections with a community is the most promising way to bring people together for advancing community-based CPTED efforts.
- In high crime neighborhoods where residents are fearful of their own streets, implementing CPTED should focus on engaging with local community members and providing them with the required skills/resources to effect change. Project officials noted that while addressing specific problems through strategies such as lighting and access control could be rewarding in the short-term, building community capacity and organization skills could lead to sustainable results in the long-term. This is especially essential for underprivileged communities, who are suffering from distrust, lack of representation and resident participation, socioeconomic disadvantage, and receive little assistance/attention from the local governments.
- Taking a people-oriented approach to CPTED strategies can help deter crime and increase accessibility and inclusivity. Project officials underlined that ultimately, CPTED is a tool for creating safe and better quality environments "for the people." On the contrary, aggressive use of target hardening and hard access control/territorial reinforcement strategies may reduce crime but also discourage people.
- Integrating CPTED evaluation strategies in projects could help assess program effectiveness and guide future efforts. Such evaluation methods could look at objective measures (for example, crime rates and bicycle and pedestrian volume) or analyze community perceptions of safety, level of engagement, and resident relationships through surveys and informal interviews.

8. Future Research

This research looked at how CPTED can be implemented to improve safety and use of bicycling and walking spaces such as streets and roadways, parks and open spaces, and trails. It demonstrated best practices and ways to engage with the local community, identify safety problems and concerns, and develop and effect CPTED solutions. However, due to the limited availability of statistical and quantitative evidence on the effectiveness of CPTED in the US and NJ, future research should be done to evaluate and quantify its effectiveness in reducing crime/fear of crime and promoting walking and bicycling through advanced quantitative and qualitative research, analyzing change in crime rates, bicycle and pedestrian volumes, feelings of safety, level of engagement in community activities or belonging within the community. Similarly, studies could examine the relationship between CPTED strategies, measures of crime/fear of crime, and the level of bicycling and walking through advanced statistical models.

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