

Regis University

ePublications at Regis University

Regis University Student Publications
(comprehensive collection)

Regis University Student Publications

Summer 2013

Hot-Spot Policing and the Use of Crime Prevention Through Environmental Design

Heather L. Merigan
Regis University

Follow this and additional works at: <https://epublications.regis.edu/theses>



Part of the [Criminology and Criminal Justice Commons](#)

Recommended Citation

Merigan, Heather L., "Hot-Spot Policing and the Use of Crime Prevention Through Environmental Design" (2013). *Regis University Student Publications (comprehensive collection)*. 225.
<https://epublications.regis.edu/theses/225>

This Thesis - Open Access is brought to you for free and open access by the Regis University Student Publications at ePublications at Regis University. It has been accepted for inclusion in Regis University Student Publications (comprehensive collection) by an authorized administrator of ePublications at Regis University. For more information, please contact epublications@regis.edu.

Regis University
College for Professional Studies Graduate Programs
Final Project/Thesis

Disclaimer

Use of the materials available in the Regis University Thesis Collection ("Collection") is limited and restricted to those users who agree to comply with the following terms of use. Regis University reserves the right to deny access to the Collection to any person who violates these terms of use or who seeks to or does alter, avoid or supersede the functional conditions, restrictions and limitations of the Collection.

The site may be used only for lawful purposes. The user is solely responsible for knowing and adhering to any and all applicable laws, rules, and regulations relating or pertaining to use of the Collection.

All content in this Collection is owned by and subject to the exclusive control of Regis University and the authors of the materials. It is available only for research purposes and may not be used in violation of copyright laws or for unlawful purposes. The materials may not be downloaded in whole or in part without permission of the copyright holder or as otherwise authorized in the "fair use" standards of the U.S. copyright laws and regulations.

Running head: HOT-SPOT POLICING AND THE USE OF CPTED

HOT-SPOT POLICING AND THE USE OF
CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

by

Heather L. Merigan

A Research Project Presented in Partial Fulfillment
Of the Requirements for the Degree
Masters of Criminology

REGIS UNIVERSITY
August, 2013

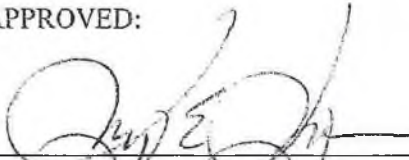
HOT-SPOT POLICING AND THE USE OF
CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN


by
Heather L. Merigan

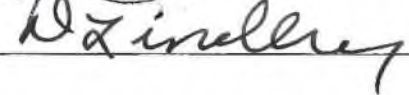
has been approved

August, 2013

APPROVED:


_____, Faculty Facilitator


_____, Thesis Advisor


_____, Faculty Chair

Abstract

An existing gap found in current literature is whether or not prevention-oriented methods have been implemented within crime hot-spots and if these methods have been implemented, it is unknown how effective have they been. The following paper is an evaluative study conducted to examine the use and effectiveness of Crime Prevention Through Environmental Design (CPTED) methods when implemented by police departments within crime hot-spots. This was done by distributing an on-line survey to 56 Police Chiefs and researching the websites of 136 police departments located within ten counties of the western United States. The results indicated that the use of CPTED methods within crime hot-spots is occurring, but that additional research will be needed to fully evaluate the level of effectiveness CPTED methods have when implemented within crime hot-spots.

Keywords: crime prevention through environmental design, cpted, hot-spot policing, police departments, situational crime prevention, environmental criminology

TABLE OF CONTENTS

Chapter	Page
1. INTRODUCTION.....	5
Statement of the Problem.....	6
Overview of the Problem.....	6
Purpose of the Project.....	7
Definitions.....	8
Crime.....	8
Crime Hot-spot.....	8
CPTED.....	8
Limitations.....	9
2. REVIEW OF LITERATURE.....	10
Theoretical Framework.....	11
Hot-spot Policing.....	11
Crime Prevention Through Environmental Design.....	13
Chapter Summary.....	17
3. METHOD.....	18
Research Design.....	18
Sample.....	19
Measurement.....	19
Chapter Summary.....	20
4. RESULTS.....	21
Survey Results.....	21
Website Research Results.....	26
Chapter Summary.....	28
5. DISCUSSION.....	29
Survey Results.....	30
Website Research Results.....	30
Chapter Summary.....	31
REFERENCES.....	32
APPENDICES	
A. Survey Questions.....	35
B. Figures.....	36

Chapter 1

INTRODUCTION

The first documented implementation of hot-spot policing was in Minneapolis, MN in 1988 and 1989 (Sherman & Weisburd, 1995). Since that time, this style of policing has quickly spread to police departments throughout the United States. The typical response tactics used by police departments within crime hot-spots have been enforcement-oriented, such as the use of directed patrols, saturation of the area with police presence, and/or zero tolerance in terms of violations (Kochel, 2011). The first scholarly recognition of Crime Prevention Through Environmental Design (CPTED) was published by C. Ray Jeffery in 1971 (Robinson, 1996). CPTED looks at residential and commercial areas to identify elements that may have the potential to attract or deter criminal activity. Later in the 1970s, CPTED became intertwined with the concepts of Defensible Space, which was developed by architect Oscar Newman. These programs share a common purpose: “They restructure the physical layout of communities to allow residents to control the areas around their homes” (Newman, 1996, p. 9). The use of CPTED methods has proven results in not only their capability to reduce crime, but also to bring people of different incomes and races together to form a mutually beneficial union (Newman, 1996). These two concepts, hot-spot policing and CPTED, have been studied individually, but have yet to be studied and fully evaluated in their combined implementation.

In 2011, an estimated 1,203,564 violent crimes and an estimated 9,063,173 property crimes occurred in the United States (Federal Bureau of Investigation, 2013). Even though these numbers have decreased since 2007, they are still staggeringly high, especially when considering

for every crime there is at least one victim and with each victim there is a family, a community, a city, and sometimes even a state or an entire nation that has felt the negative effects.

Statement of the Problem

Hot-spot policing with the use of crime mapping has been successful in reducing crime rates and have quickly been implemented within police departments throughout the United States. In 1988, the first documented use of hot-spot policing occurred in Minneapolis, MN. Eighteen years later, in 2006, a survey of police departments in the United States with 100 or more sworn officers found that 81% of the police departments claimed to map crime data and identify hot-spots (Kochel, 2011). However, limited information has been collected and analyzed in regards to the type of responses used by police within hot-spots. According to Kochel (2011) the current, but limited information available has indicated that most police departments respond to these areas with enforcement-oriented methods, which include directed patrols, saturation of the area with police presence, and/or zero tolerance in terms of violations. These aggressive methods have been found affective, but short-term in their success (Kochel, 2011). A gap in current literature is whether or not prevention-oriented methods have been implemented by police departments within hot-spots and if these methods have been implemented, it is unknown how effective have they been.

Overview of the Problem

Kochel (2011) acknowledged this gap in current literature after conducting an in-depth literature review on the social construction (to include the empirical, theoretical, social-political, technological, and media contexts) of the rapid and widespread diffusion of hot-spot policing throughout the United States. Kochel (2011) suggests that police departments currently implementing or using situational crime prevention, CPTED, or other place-oriented responses

within their crime hot-spots should to evaluate the effectiveness of these methods in order to fill in the gap. This gap indicates a need for further study and analysis of prevention-oriented responses used by police departments within crime hot-spots. This type of information and data could be beneficial in providing a new avenue to prevent and deter future criminal activity from occurring and prevent further victimization within our communities.

Purpose of the Project

A gap in current literature is whether or not prevention-oriented methods have been implemented by police departments within hot-spots and if these methods have been implemented, it is unknown how effective have they been. The goal of this study was to evaluate the use and effectiveness of CPTED methods when implemented within crime hot-spots. The specific research question proposed for this study was: How effective are CPTED methods when implemented by police departments within crime hot-spots? The purpose of this study was to: (a) research and discover how many police departments within ten counties of western United States use crime mapping technology to locate hot-spots within their area of responsibility; (b) tabulate the number of departments that have implemented CPTED methods within crime hot-spots and document the methods they have used; and (c) if CPTED methods have been implemented and crime rate data is available, then this study was to also examine the effectiveness of the CPTED methods used. As a result, this research was intended to fill the gap in current literature by determining the use and effectiveness of CPTED methods when implemented within crime hot-spots.

Definitions

Crime

For the purpose of this study, the term crime refers to all violent crime, non-violent crime, and property crime. This broad definition of crime is used within this study to ensure that each police department's definition of crime is covered.

Crime Hot-spot

Currently, there is no universal definition for crime hot-spot and often the meaning is dependent upon the geographical location and surrounding area of where it is used, but there is a common understanding of the term. Also referred to as a hot spot of crime, Eck, Chainey, Cameron, Leitner, & Wilson (2005) state "the common understanding is that a hot spot is an area that has a greater than average number of criminal or disorder events, or an area where people have a higher than average risk of victimization" (p. 2). For this study, the above common understanding is used to define a crime hot-spot.

CPTED

CPTED is the acronym for Crime Prevention Through Environmental Design. The concept of CPTED was first developed in the early 1970's by C. Ray Jeffery and then later in the 1970's Oscar Newman intertwined CPTED with the concepts of Defensible Space. Zahm (2007) states the following:

Crime prevention through environmental design is an approach to problem solving that considers environmental conditions and the opportunities they offer for crime or other unintended and undesirable behaviors. CPTED attempts to reduce or eliminate those opportunities by using elements of the environment to (1) control access; (2) provide

opportunities to see and be seen; and (3) define ownership and encourage the maintenance of territory. (p. 5)

For the purpose of this study, the statement above is used to define CPTED.

Limitations

A possible limitation within this study is the use of the survey for data collection. According to Babbie (2013) there are several disadvantages in the use of surveys, these include possible disconnects with the context of social life, the results may appear superficial in its coverage of complex topics, and surveys tend to be inflexible. Another possible limitation within this study are the constraints placed on the allotted amount of time to collect, analyze, and format the results of this research. The eight weeks given to learn about and fully develop a completed research study may hinder the ability to collect a large enough sample size to ensure an accurate representation is made.

Chapter 2

REVIEW OF LITERATURE

The following literature review was compiled using the Regis University On-line Library to locate scholarly articles examining the topic of hot-spot policing and Crime Prevention Through Environmental Design (CPTED). Since there has not been a study done that examines the combined topic of hot-spot policing and the use of CPTED methods, the following literature review is divided into two sections; the first section covers the topic of current research done on hot-spot policing and the second section covers the topic of recent studies involving CPTED methods. The hot-spot policing section of this literature review is comprised of six journal articles; two of which were controlled experiments, one was an evaluation of a new development in policing experiments, and three were comprehensive reviews of current literature and data. Each of the scholarly articles of this section were found using the following key words as search criteria: “crime hot-spot” and “hot-spot policing”. The CPTED section of this literature review is comprised of four recent journal articles, which compare and study CPTED methods and concepts in relation to the following topics: victimization, fear of crime, implementation within gated and non-gated communities, and implementation within a single event at a specific period of time. Each of the scholarly articles of this section were found using the following key words as search criteria: “crime prevention through environmental design”, “cpted”, “defensible space”, “crime prevention”, and “environmental design”.

Theoretical Framework

In the 1980s, several theories emerged to form environmental criminology. These theories included Routine Activity theory, Situational Crime Prevention Theory, Broken Windows Theory, Crime Opportunity Theory, Social Disorganization Theory, and Crime Pattern Theory (National Institute of Justice, 2009). Although each of these theories plays a role in environmental criminology, this study will focus on Situational Crime Prevention Theory and how it applies to hot-spot policing. Clarke (1997) describes Situational Crime Prevention as a theory that seeks to make criminal action less attractive to offenders by employing discrete managerial and environmental changes to reduce the opportunity for crimes to occur. This theory suggests that crime and public disorder can be prevented by reducing the situational and environmental opportunities that exist prior to a crime occurring. Thus, it focuses on the settings for crime, such as a crime hot-spot, instead of the offenders committing the crime (Clarke, 1997).

Hot-spot Policing

Sherman and Weisburd (1995) conducted a randomized and controlled experiment in the city of Minneapolis, MN to assess how an increase in police presence affected the number of calls for service and the number of observed incidents of crime and disorder within hot-spots. This study was the first documented implementation of hot-spot policing in the United States. In this study 110 hot-spots were divided into two equal groups of 55. This was completed by an independent statistician, who used a “computerized pseudo-random number generator” to ensure the hot-spots were allocated equally. One group of 55 hot-spots was the treatment/experimental group, within this group officers conducted “intensified but intermittent patrol...a crackdown-back off pattern” where the officer(s) would remain stationed within their assigned hot-spot until called for assistance to another location. The officer(s) would then unexpectedly return to their

hot-spot afterwards, with a goal of at least three hours a day of patrol presence. The other group of 55 hot-spots was the control group, within this group police did not increase their patrols, instead these hot-spots were patrolled the same as they were prior to the experiment. The experiment lasted from December 1, 1988 to November 30, 1989, during this time the independent variable was the amount of police presence. The first dependent variable was the police calls for service within the hot-spots and the second dependent variable was the observed incidents of crime and disorder within the hot-spots. The results of this study clearly indicated there was a modest, but general deterrent effect found when there was an increase in police presence within crime hot-spots.

Ratcliffe, Taniguchi, Groff, and Wood (2011) conducted a random and controlled experiment in the city of Philadelphia, PA to assess if targeted police foot patrols in violent crime hot-spots could significantly reduce the level of violent crime within the hot-spots. In this study 120 hot-spots were equally divided into two equal groups of 60. One group of 60 hot-spots was the treatment/experimental group, this group was patrolled by two pairs of officers. These officers patrolled the hot-spots Tuesday through Saturday in rotating shifts, one from 10am-6pm and the other from 6pm-2am. The second group of 60 hot-spots was the control group, this group received no foot patrol policing. The experiment lasted for six months in total from March 2009 to September 2009. The dependent variable in this study was the number of violent crimes occurring during the operational phase (three months of targeted foot patrols) and independent variable was the count for violent crime occurring during the preoperational phase (three months prior to the targeted foot patrols). The results of this study found that the police foot patrols prevented an estimated 90 crimes within the violent crime hot-spots, but the results also indicated that 37 of these crimes may have been displaced to nearby areas. Thus, the total crime

prevention effect from the targeted foot patrols was found to have prevented an estimated 53 crimes.

Wang (2009) discussed a new approach quickly growing in popularity that is used in studying a variety of policing experiments. This new technology is computation simulation technology. According to Wang (2009) this technology can be used to construct a virtual world and safely conduct scientific studies that would be impossible to do in reality due to ethical and moral concerns. The backbone of this crime simulation laboratory is the modern environmental criminology theories, such as Routine Activity Theory, Crime Pattern Theory, and Rational Choice Theory, that synthesizes the computer program. One of the strong benefits of this type of research is the control of environmental variables. Another benefit is the ability to quickly and accurately process the collected data and store it for later analysis. This type of approach in studying policing has been predicted to become common place in future criminological studies.

Braga (2007), Kochel (2011), and Weisburd (2005) each conducted a comprehensive review of current literature and data on the topic of hot-spot policing. Each review discussed and analyzed current hot-spot policing trends, experiments such as those described above, the limitations these experiments had, and the levels of effectiveness found in each of these experiments.

Crime Prevention Through Environmental Design

Kang (2013) set out to analyze the crime prevention measures used in the foreign residential areas of Garibong-Dong and Wongok-Dong, South Korea during 2001-2011 and to analyze the crime hot-spots of 2011 in these areas in regards to following five types of crime: murder, burglary, rape, robbery, and violence. The methods used to conduct this study were an analysis of pertinent crime data through Geographic Information System (GIS) and the Statistical

Package for Social Science (SPSS), a field survey of foreign residential areas, and a comprehensive analysis of the relationship between criminal acts and environmental factors. The field survey checklist was comprised of CPTED principles and a Likert scale to indicate the level of use for each item. The field survey was conducted in both residential areas and in commercial areas. The results indicated that comprehensive environmental improvement would need to be implemented for better crime prevention in Garibong-Dong. The results also indicated it would be necessary to reinforce the crime prevention measures already used in the commercial areas of Wongok-Dong. The study found that the environment of both areas had influenced various crimes because of their similarity to crime hot-spots. The author concluded that CPTED would be a valuable measure in the prevention of crime in these areas and would increase support of community activities in the foreign residential areas of South Korea.

Marzball, Abdullah, Razak, and Tilaki (2012) studied the relationship between CPTED, victimization, and fear of crime. The area of study was the community of Minden Heights, centrally located in Penang, Malaysia. Penang is one of the most developed areas in Malaysia with a population of 1.5 million people. In this study, two independent data collections were used. The first collection was an on-site observation of the area of study to measure current CPTED dimensions already in use. The second collection of data was a self-administered questionnaire used to record residents' expressed fear of crime and victimization experiences. Of the 300 households that were selected at random to participate in this study, a total of 164 participants took part. The results indicated that CPTED has a negative relationship to victimization and that there is a significant positive direct influence between victimization and fear of crime. However, there was no direct significant relationship found between CPTED and fear of crime, but there was a negative indirect relationship found between CPTED and fear of

crime when observed through victimization. The authors conclude that this study indicated a need for additional research to be done that focuses on measuring CPTED in different neighborhood settings and to analyze the impact CPTED has on different types of crime.

Sakip, Johari, and Salleh (2012) studied the relationship between the practices and the perceptions associated with CPTED and the fear of crime in gated and non-gated residential areas. The areas of study were Putrajaya and Bandar Baru Bangi, located in the central part of Malaysia. The population of these two areas combined consisted of 476 residents, 20 of these residents were excluded as they were unoccupied. The method of collection used in this study was a structured questionnaire administered in a formal interview on a face-to-face bases with the head of each household. Of the 456 occupied residents in the study areas, 171 participated giving the study an overall response rate of 38%. The results of this study found that CPTED perceptions have a positive relationship with fear of crime and CPTED practices have a negative relationship with fear of crime. The authors of this study recommend that the variables of CPTED perceptions, CPTED practices, and the fear of crime should continue to be studied in different residential areas, such as flats, semi-detached houses, and terrace houses to further add to this body of knowledge.

Letch, McGlenn, Bell, Downing, and Cook (2011) compared the effectiveness of 1st and 2nd generation CPTED measures as they were implemented on Australia's Rottnest Island during their annual Leavers events. A Leavers event is an end of the year post exam celebration put on by secondary school students in Australia. These students will plan gatherings in a variety of locations to celebrate, often with 'rite of passage' activities that often include alcohol, drugs, and peer pressure. These factors increase the risk of crime and anti-social behavior occurring at these events. The authors of this study compiled three collections of data. The first collection was of

known CPTED measures used at past Leavers events on the island to determine which factors were present or had already been used. The second collection was observations made about the environment by researchers when they visited Rottnest Island. The third collection of data was from in-person and telephone interviews conducted with key personnel on Rottnest Island or that had a connection to the island and the Leavers events. The researchers also conducted an assessment of known crime data collected from the Office of Crime Prevention (OCP) and the Western Australian Police Service. The assessment included a comprehensive review of current and past on-line information of the events found on social media sites. After tabulating all of the collected data, the perceived efficacy and acceptance of 1st and 2nd generations of CPTED measures, indicated that 1st generation CPTED measures hold less acceptance than 2nd generation measures. The 1st generation measures not only resulted in low acceptance by Leavers, but they may also have indirectly encouraged Leavers to commit acts of crime as part of a heightened response to rules and mainland parental control. The researchers theorized that the Leavers behavior is a reflection of their poor peer group conduct and that the addition of 2nd generation CPTED measures embedded with a commitment to some form of social interaction can promote social cohesion and reduce opportunistic criminal activity. The results also found that an increase in physical and social connectivity leads to a stronger sense of threshold, which allows for large groups of people to interact over several days with minimal involvement in criminal behavior. The researchers concluded after the evaluation of 1st and 2nd generation CPTED measures implemented on Rottnest Island that there is a strong practicality in using crime prevention strategies that combine socially cohesive interactions.

Chapter Summary

Since there has not been a study done that specifically examines the combined topic of hot-spots policing and the use of CPTED methods, this literature review was divided into two sections. The first section covered the topic of current research done on hot-spot policing and the second section covered the topic of recent studies involving CPTED methods. The scholarly journal articles discussed in this literature review relate to this study in that the articles describe the types of studies recently done on each topic and they describe the current findings and knowledge gained in this field of study. By reading through and analyzing these studies, it becomes clear that there is a lot of information available on this topic and that hot-spot policing is a subject in need of continually study, but it also becomes clear that none of these studies examine crime prevention methods used in hot-spots. Additional research is needed to further examine the police response tactics used in crime hot-spots in order to discover if preventative methods, such as CPTED, have been implemented and what their level of effectiveness has on crime rates.

Chapter 3

METHODS

Research Design

This evaluative study was designed using mixed methods, qualitative and quantitative, to research the level of effectiveness CPTED methods had when implemented by police departments within crime hot-spots. A brief five question survey was created on SurveyMonkey.com. A link to this survey, along with a letter of consent, was e-mailed to the Police Chief of 56 police departments throughout ten counties within the western United States. The survey began with a 'yes or no' question to first determine if the department uses COMPSTAT or another type of crime mapping software to locate crime hot-spots within their area of responsibility. If they selected no, their survey was complete. If they selected yes, there were two 'yes or no' questions, with space provided for comment, regarding the department's implementation of CPTED methods within hot-spots and the effectiveness of the methods used, if any. The fourth question was a short answer question used to determine what the police department's typical response tactics were within crime hot-spots. The survey concluded with a 'yes or no' question, asking if their department had plans to implement CPTED methods within crime hot-spots in the future. Appendix A of this study provides the specific questions used within this survey.

This study's proposal was reviewed and approved by the Regis University Institutional Review Board (IRB). This author received IRB approval as an exempt study on July 26, 2013. The IRB number for this project is #13-214.

Sample

The population of interest in this study was the police departments from within ten counties of the western United States. Each of these counties varied in population size ranging from several hundred thousand to several million (United States Census Bureau, 2013). The study's sample police departments were determined based on the police department listings provided by county websites and usacops.com, all of which are accessible on-line through the World Wide Web. Of the 137 police department listed within these ten counties, 136 had department websites. Of these websites, 56 provided the name and email address of their Chief of Police. It was these 56 Police Chiefs that received this study's survey.

Measurement

This survey was designed to gather information on how many police departments within these ten counties use crime mapping software and of those how many implement CPTED methods within their crime hot-spots. In evaluating the survey results, a literal text analysis and descriptive statistics were used to examine (a) how many police departments use crime mapping technology, (b) how many use CPTED methods in general, and (c) how many use CPTED methods within their crime hot-spots. If the departments using CPTED methods within hot-spots have crime rate data available, then this information would also be evaluated to determine the level of effectiveness CPTED has had when implemented in crime hot-spots. This type of analysis would add to the existing body of knowledge for hot-spot policing and the use of CPTED by developing a current understanding of how and if CPTED affects crime rates in areas of high criminal activity.

Chapter Summary

In summary, this evaluative study used an on-line survey, made up of five 'yes or no' and short answer questions to determine the level of effectiveness CPTED methods have when implemented by police departments within crime hot-spots. This survey was sent to the Police Chief of 56 police departments located within ten counties in the western region of the United States. In evaluating the survey results, a literal text analysis and descriptive statistics were used to examine (a) how many police departments use crime mapping technology, (b) how many police departments implement CPTED methods in general, and (c) how many police departments implement CPTED methods within their crime hot-spots. If the departments using CPTED methods within hot-spots have crime rate data available, then this information would also be evaluated to determine the level of effectiveness CPTED has had when implemented within crime hot-spots.

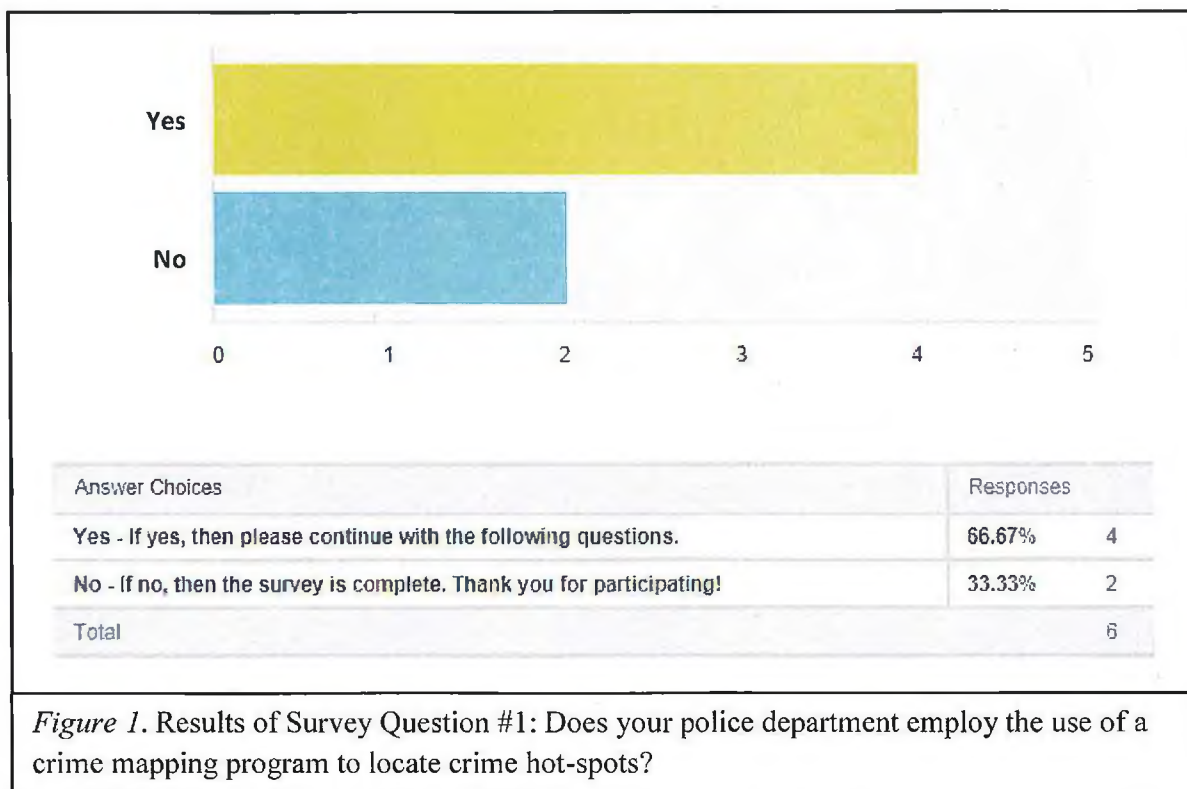
Chapter 4

RESULTS

An evaluative research design was used to examine the survey results of this study to determine the use and effectiveness of CPTED methods when implemented within crime hot-spots. Of the 56 on-line surveys distributed, only 6 responses were received. This equates to a response rate of 11 percent. Due to this low response rate, the survey results may be deemed unreliable, so an evaluation of each police department's website was completed to further examine the use of CPTED methods within crime hot-spots. In total 137 police departments were listed within the ten counties that were examined; only one department did not have a website. So, of the 136 police department websites available, each was examined to discover (a) if the department uses a crime mapping program, (b) if they use CPTED methods in general, and (c) if they use CPTED methods within their crime hot-spots. Below is a breakdown of each survey question along with its corresponding responses and the results of the police department website research.

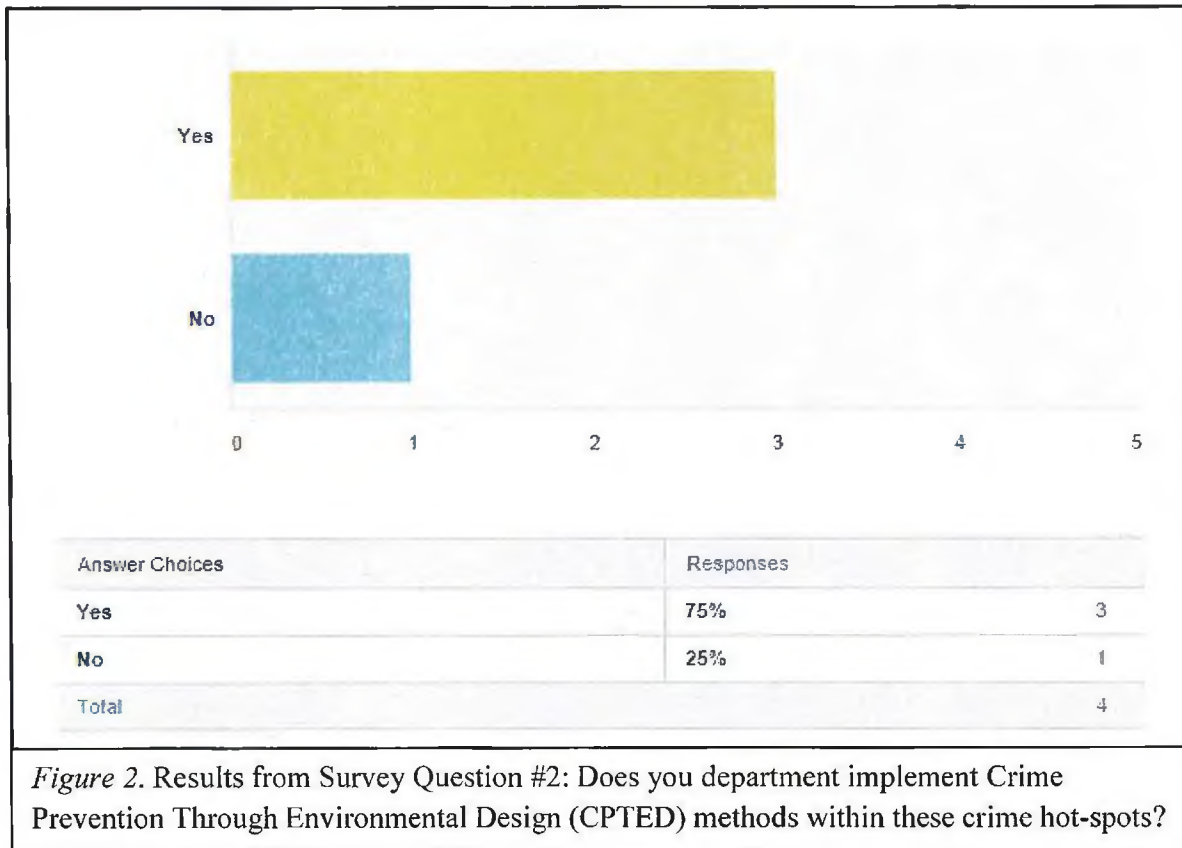
Survey Results

The first survey question was a 'yes or no' question, it asked "Does your police department employ the use of a crime mapping program to locate crime hot-spots?". Of the six responses received, four participants answered yes and two participants answered no. Figure 1 displays these results.



The two participants that answered no, their departments did not employ the use of a crime mapping program, were exempt from the remaining survey questions. The four participants that answered yes, their departments did employ the use of a crime mapping program, were asked to continue with the remaining survey questions.

The second survey question was also a 'yes or no' question, it asked "Does your department implement Crime Prevention Through Environmental Design (CPTED) methods within these crime hot-spots?". Of the four remaining participants, three answered yes and one answered no. Figure 2 displays these results.



A comment section was included with survey question #2 for the participants that answered yes to describe the CPTED methods their department has used within crime hot-spots. Their comments were comprised of the following statements:

- “To address burglary hot-spots – the Community Outreach Unit (COU) educates residents, business owners, Neighborhood Watch groups, and property managers about the use of basic CPTED principles to prevent burglary, property theft, and other crimes of opportunity”
- “Target Hardening”
- “Involving Stakeholders in problem solving”
- “Access and Visibility Control”

- “Directed patrols during peak times”

The third survey question was a ‘yes or no’ question, it asked “Has there been a measurable difference (positive or negative) in the crime rate within these hot-spots since the implementation of CPTED methods?”. Of the four responses, three participants answered yes and one participant answered not applicable (n/a). Figure 3 displays these results.

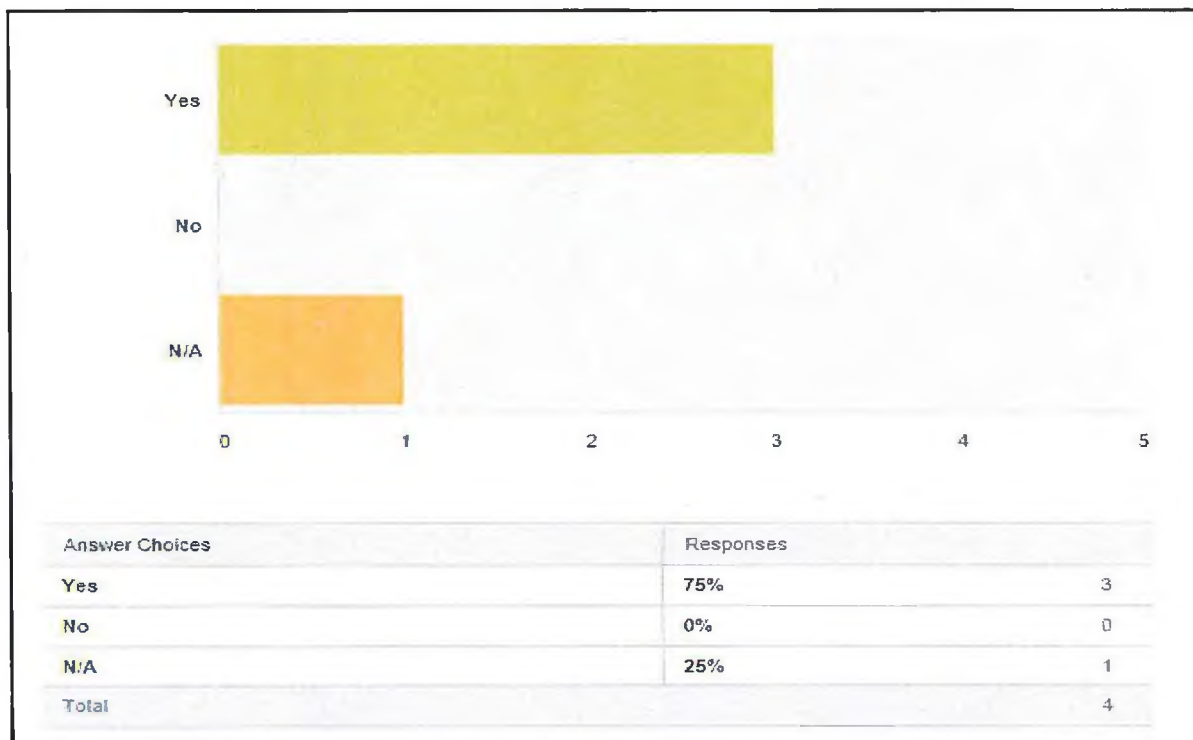


Figure 3. Results from Survey Question #3: Has there been a measurable difference (positive or negative) in the crime rate within these hot-spots since the implementation of CPTED methods?

A comment section was also included with survey question #3 for the participants that answered yes to describe what their crime rate percentage of change has been. Their comments were comprised of the following statements:

- “Our Department has not conducted a formal evaluation regarding the effectiveness of CPTED methods within hot spots. Nevertheless, there are national studies that have

shown the benefits of CPTED strategies as crime deterrent tactics, therefore, law enforcement practitioners could argue that measurable reductions in hot spot areas could be associated with the implementation of CPTED practices. With respect to our Department, the Smart Policing Initiative project evaluation will be measuring the effectiveness of various burglary crime prevention strategies in targeted areas of the city. CPTED methods have been incorporated into the current burglary prevention hot spot model—these methods will be included in the evaluation plan”

- “We are in the early stages and have not noted a change as of yet”
- “CPTED is used in various projects with varying levels of success but the overall use of CPTED is positive”

The fourth survey question was a short answer question, it asked “What are the typical response tactics used by your department within crime hot-spots?”. The four remaining participants answered with the following statements:

- “The Department’s response tactics are driven by hot-spots policing tactics, such as directed patrol, deployment of Special Enforcement Teams, Community Policing and Evidence-Based policing tactics”
- “Recommend increased lighting and protective barriers such as gates, etc.”
- “Identification of problem location Identification of problem perimeters (i.e. times, suspect descriptions, MOs, etc.) Notifying patrols of increases in activity Contacting stakeholders and providing available resources and partnership CPTED inspections by Crime Prevention Specialist Monitoring of activity by Crime Analyst Reevaluation and readdress problem given previous application of resources”
- “Direct patrol resources to area as time allows”

The fifth survey question was a ‘yes or no’ question, it asked “Does your department have plans to implement CPTED methods within hot-spots in the future?”. Of the four responses, all four participants answered yes. Figure 4 displays these results.

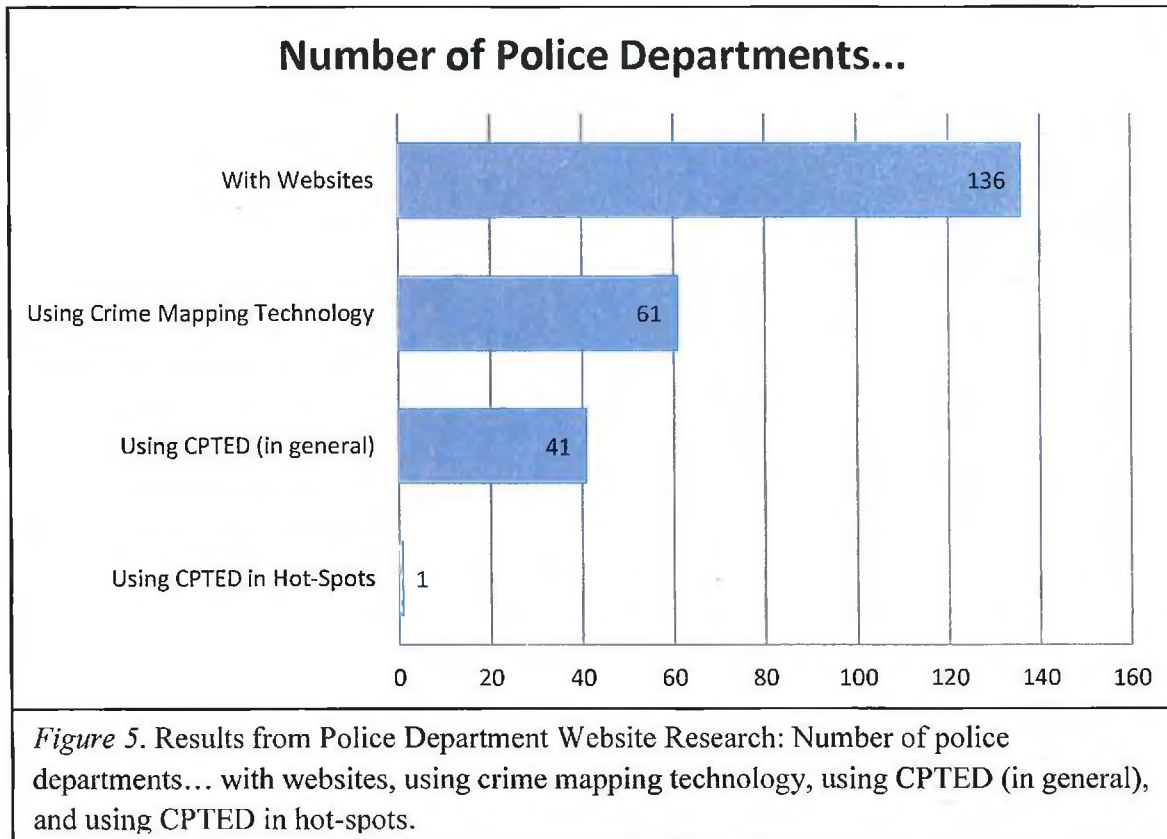


Figure 4. Results from Survey Question #5: Does your department have plans to implement CPTED methods within hot-spots in the future?

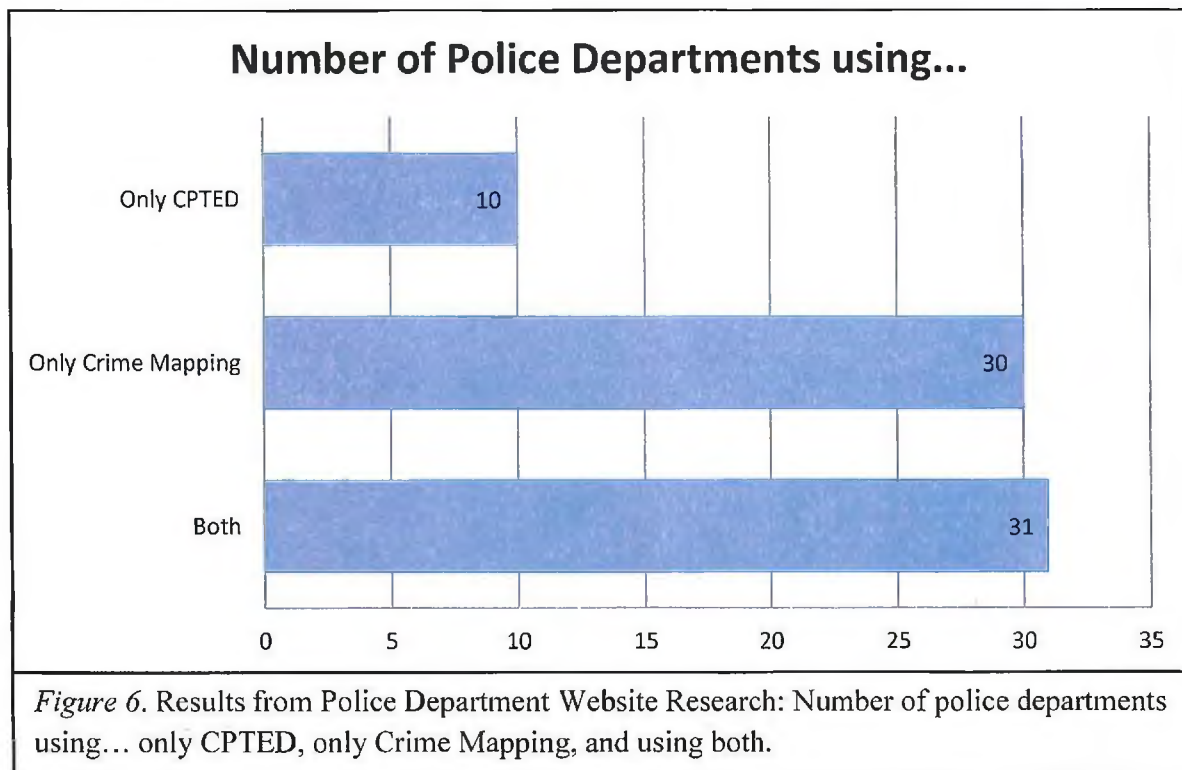
Website Research Results

In total, 137 police departments were listed within the ten counties that were examined; only one department did not have a website. So, of the 136 police department websites available, each was examined to discover (a) if the department uses a crime mapping program, (b) if they use CPTED methods in general, and (c) if they use CPTED methods within their community’s crime hot-spots. The results found that 61 police departments (or 44.5%) use crime mapping technology to locate hot-spots within their community, 41 police departments (or

30.1%) use CPTED methods in general within their community, and one department indicated their use of CPTED methods in crime hot-spots. Figure 5 displays these results.



To allow for further evaluation, the number of police departments using both crime mapping technology and CPTED methods was calculated to be 31 police departments (or 22.8%), the number of police departments using only crime mapping technology was 30 police departments (or 22.1%), and the number of police departments using only CPTED methods was 10 police departments (or 7.3%). Figure 6 displays these results.



Chapter Summary

Of the 56 on-line surveys distributed, only 6 responses were received, this equates to a response rate of 11 percent. Due to this low survey response rate, an evaluation of each police department's website was completed to further examine the use of CPTED methods within crime hot-spots. In total, 137 police departments were listed within the ten counties examined and of those, 136 police department had websites available. The results found that 61 police departments (or 44.5%) use crime mapping technology to locate hot-spots within their community, 41 police departments (or 30.1%) use CPTED methods in general within their community, and that 31 police departments (or 22.8%) use both crime mapping technology and CPTED methods within their community.

Chapter 5

DISCUSSION

Since the late 1980s, hot-spot policing has quickly spread to police departments throughout the United States. According to Kochel (2011) the current, but limited information available has indicated that most police departments respond to crime hot-spots with enforcement-oriented methods, which include directed patrols, saturation of the area with police presence, and/or zero tolerance in terms of violations. A gap in current literature is whether or not prevention-oriented methods have been implemented by police departments within crime hot-spots and if these methods have been implemented, it is unknown how effective have they been. The goal of this study was to conduct an on-line survey to evaluate the use and effectiveness of CPTED methods when implemented within crime hot-spots. The specific research question examined was: How effective are CPTED methods when implemented by police departments within crime hot-spots? The purpose of this study was to: (a) research and discover how many police departments within ten counties of western United States use crime mapping technology to locate hot-spots within their area of responsibility; (b) tabulate the number of departments that have implemented CPTED methods within crime hot-spots and document the methods they have used; and (c) if CPTED methods have been implemented and crime rate data is available, then this study would also examine the effectiveness of the CPTED methods used. As a result, this research was intended to fill the gap in current literature and determine the level of effectiveness CPTED methods have in reducing criminal activity within crime hot-spots.

Survey Results

The survey results of this study may be deemed unreliable due to the low response rate of 11 percent, but overall this survey proves the legitimate need for additional research to examine the effectiveness of CPTED methods when implemented within crime hot-spots. Of the four police departments that stated they use crime mapping technology, three (or 75%) also stated they use CPTED methods within their crime hot-spots. Of these three police departments, one “has not yet conducted a formal evaluation regarding the effectiveness of CPTED methods within hot spots”, a second was “in the early stages and have not noted a change as of yet”, and a third has “varying levels of success but the overall use of CPTED is positive”. These results indicate that the use of CPTED methods within crime hot-spots is occurring, but that additional research is needed to fully evaluate their level of effectiveness. An interesting note is that all four of the police departments using crime mapping technology have plans to implement CPTED methods within their crime hot-spots in the future.

Website Research Results

The police department website research provided additional information as to the number of departments currently using crime mapping technology and CPTED methods, and amplified the legitimate need for additional research to be conducted in this area of study. Having 61 out of 136 police departments (or 44.5%) displaying that they use crime mapping technology and 41 out of 136 police departments (or 30.1%) displaying that they use CPTED methods (in general) within their communities indicates that the potential to conduct an in-depth and larger scale study is possible. Having 31 of the 136 police departments (or 22.8%) displaying that they are currently use both crime mapping technology and CPTED methods within their community further indicates the potential to conduct this study again and obtain results that would be more

accurate in measuring the use and effectiveness of CPTED methods when implemented within crime hot-spots.

Chapter Summary

This study was able to research and discover that 61 police departments within ten counties of the western United States use crime mapping technology to locate crime hot-spots within their area of responsibility, and that 41 police departments have implemented CPTED methods (in general) within their community. The specific research question examined was: How effective are CPTED methods when implemented by police departments within crime hot-spots? This study was not able to answer this question due to the time constraints and the low response rate of the on-line survey. The eight week time constraint hindered the ability to collect a large enough sample size and along with the low survey response rate, led to the inability to determine the effectiveness of CPTED methods when implemented within crime hot-spots. For future research in this area of study, in-person interviews may be a more effective method of data collection to use as they ensure a higher rate of response when compared to on-line surveys.

Overall, this research was intended to fill the gap in current literature by determining the use and effectiveness of CPTED methods when implemented within crime hot-spots. This study was not able to fill this gap, but it was able to show that crime mapping and the implementation of CPTED methods are being utilized within the same police departments, and that several of these police departments are implementing CPTED methods within their crime hot-spots. Additional research in this area of study is needed to fully evaluate the effectiveness of CPTED methods within crime hot-spots. With the proper time and resources, this research is possible and it has the potential to provide new information to assist in the prevention and deterrence of future criminal activity and reduce the level of victimization occurring within our communities.

REFERENCES

- Babbie, E. (2013). *The practice of social research* (13th ed.). Belmont, CA: Wadsworth.
- Braga, A. A. (2007). Effects of hot spots policing on crime. A Campbell Collaboration systematic review. Retrieved from:
http://www.sfi.dk/graphics/Campbell/reviews/Hot_spots_policing_review.pdf
- Clarke, R. V. (1997). *Situational crime prevention: Successful case studies*. Retrieved from
http://www.popcenter.org/library/reading/PDFs/scp2_intro.pdf
- Eck, J. E., Chainey, S., Cameron, J. G., Leitner, M., & Wilson, R. E. (2005). *Mapping crime: Understanding hot spots*. Retrieved from <https://www.ncjrs.gov/pdffiles1/nij/209393.pdf>
- Federal Bureau of Investigation. (2013). Crime in the United States 2011. Retrieved from
<http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/crime-in-the-u.s.-2011>
- Kang, S. (2013). Crime prevention in ethnic areas focusing on crime prevention through environmental design. *Journal of Building Construction and Planning Research*, 1. Retrieved from <http://www.scirp.org/journal/PaperDownload.aspx?paperID=29583>
- Kochel, T. R. (2011). Constructing hot spots policing: Unexamined consequences for disadvantaged populations and for police legitimacy. *Criminal Justice Policy Review*, 22(3). Retrieved from <http://cjp.sagepub.com.dml.regis.edu/content/22/3/350.full.pdf>
- Letch, J., McGlenn, E., Bell, J. F., Downing, E., & Cook, D. M. (2011). An exploration of 1st and 2nd generation cpted for end of year school leavers at rottneest island. *The fourth Australian Security and Intelligence Conference*. Retrieved from
<http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1012&context=asi>

- Marzball, M. H., Abdullah, A., Razak, N. A., & Tilaki, M. J. M. (2012). The influence of crime prevention through environmental design on victimization and fear of crime. *Journal of Environmental Psychology, 32*(2). Retrieved from <http://www.sciencedirect.com.dml.regis.edu/science/article/pii/S0272494411000892>
- National Institute of Justice. (2009, October 14). *Why crime occurs in hot spots*. Retrieved from <http://www.nij.gov/nij/topics/law-enforcement/strategies/hot-spot-policing/why-hot-spots-occur.htm#crimeprev>
- Newman, O. (1996). Creating defensible space. *U.S. Department of Housing and Urban Development Office of Policy Development and Research*. Retrieved from <http://www.huduser.org/publications/pdf/def.pdf>
- Ratcliffe, J. H., Taniguchi, T., Groff, E. R., & Wood, J. D. (2011). The Philadelphia foot patrol experiment: A randomized controlled trial of police patrol effectiveness in violent crime hotspots. *Criminology, 49*(3). Retrieved from [http://www.jratcliffe.net/papers/Ratcliffe%20et%20al%20\(2011\)%20The%20Philadelphi%20a%20Foot%20Patrol%20Experiment.pdf](http://www.jratcliffe.net/papers/Ratcliffe%20et%20al%20(2011)%20The%20Philadelphi%20a%20Foot%20Patrol%20Experiment.pdf)
- Robinson, M. (1996). The theoretical development of 'cpted': 25 years of responses to C. Ray Jeffery. *Advances in Criminological Theory, 8*. Retrieved from <http://www.pscj.appstate.edu/vitacpted2.html>
- Sakip, S. R., Johari, N., & Salleh, M. N. M. (2012). The relationship between crime prevention through environmental design and fear of crime. *Procedia – Social and Behavioral Sciences, 68*. Retrieved from <http://www.sciencedirect.com.dml.regis.edu/science/article/pii/S1877042812057370>

- Sherman, L. W., & Weisburd, D. (1995). General deterrent effects of police patrol in crime “hot spots”: A randomized, controlled trial. *Justice Quarterly*, 12(4). Retrieved from <http://www.houseofmouse.ca/sites/default/files/Sherman-General%20deterrent%20effects%20of%20police%20patrol%20in%20crime-1995.pdf>
- United States Census Bureau. (2013). *State and county quick facts* [Data file]. Retrieved from <http://quickfacts.census.gov/qfd/states/06000.html>
- Wang, N. (2009). Analyzing spatial effects of hotspot policing with a simulation approach. Retrieved from <http://etd.ohiolink.edu/send-pdf.cgi/Wang%20Ninghua.pdf?ucin1245164864>
- Weisburd, D. (2005). Hot spots policing experiments and criminal justice research: Lessons from the field. *The ANNALS of the American Academy of Political and Social Science*, 599(1). Retrieved from <http://ann.sagepub.com.dml.regis.edu/content/599/1/220.full.pdf>
- Zahm, D. (2007). Using crime prevention through environmental design in problem-solving. *Problem-Oriented Guides for Police Problem-Solving Tools Series No. 8*. Retrieved from <http://www.popcenter.org/tools/pdfs/cpted.pdf>

APPENDIX A

Survey Questions

Study: *Hot-Spot Policing and the Use of Crime Prevention Through Environmental Design*

1.) Does your police department employ the use of a crime mapping program to locate crime hot-spots? Yes or No

If Yes, then please continue with the following questions.

If No, then the survey is complete. Thank you for participating!

2.) Does your department implement Crime Prevention Through Environmental Design (CPTED) methods within these crime hot-spots? Yes or No

If Yes, what CPTED methods have been used?

3.) Has there been a measureable difference (positive or negative) in the crime rate within these hot-spots since the implementation of CPTED methods? Yes or No or N/A

If Yes, what has the percentage of change been?

4.) What are the typical response tactics used by your department within crime hot-spots?

5.) Does your department have plans to implement CPTED methods within hot-spots in the future? Yes or No

Thank you for your participation!

APPENDIX B

Figures**Figure 1 – page 22**

Results of Survey Question #1: Does your police department employ the use of a crime mapping program to locate crime hot-spots?

Figure 2 – page 23

Results from Survey Question #2: Does your department implement Crime Prevention Through Environmental Design (CPTED) methods within these crime hot-spots?

Figure 3 – page 24

Results from Survey Question #3: Has there been a measureable difference (positive or negative) in the crime rate within these hot-spots since the implementation of CPTED methods?

Figure 4 – page 26

Results from Survey Question #5: Does your department have plans to implement CPTED methods within hot-spots in the future?

Figure 5 – page 27

Results from Police Department Website Research: Number of police departments... with websites, using crime mapping technology, using CPTED (in general), and using CPTED in hot-spots.

Figure 6 – page 28

Results from Police Department Website Research: Number of police departments using... only CPTED, only Crime Mapping, and using both.