

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN:  
CRIME FREE MULTI-HOUSING IN ARLINGTON, TEXAS

by

DAVID JOSEPH JUSIEWICZ

Presented to the Faculty of the Graduate School of  
The University of Texas at Arlington in Partial Fulfillment  
of the Requirements  
for the Degree of

MASTER OF ARTS IN CRIMINOLOGY AND CRIMINAL JUSTICE

THE UNIVERSITY OF TEXAS AT ARLINGTON

DECEMBER 2011

## ACKNOWLEDGEMENTS

I thank the faculty and staff of the Criminology and Criminal Justice Department at the University of Texas at Arlington for the encouragement they have provided, as well as dealing with all of my grief during the last few weeks of the thesis process.

This study could not have been completed without the cooperation of the Arlington, TX, Police Department. The data used in the analysis was collected by them and provided to me.

Thanks, also, to the members of my thesis committee, Dr. Elmer Polk and Dr. John Stickels, who have taken the time to read, review, and offer constructive comments to this study. Dr. Alex del Carmen was my supervising professor and for his concern and advice, thank you for being extremely patient and sharing much of your free time with me.

December 6, 2005

## ABSTRACT

### CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN:

### CRIME FREE MULTI-HOUSING IN ARLINGTON, TEXAS

David Joseph Jusiewicz, M.A.

The University of Texas at Arlington, 2005

Supervising Professor: Dr. Alejandro del Carmen

The purpose of this study is to measure and compare the calls for service at the apartment communities participating in the Crime Free Multi-Housing Program in the belief that a reduction in calls for service should translate to a reduction in crime. The review of the existing data is a cross-sectional, pre/post study of secondary data using calls for service. This method is preferred as it will represent the actual number of calls handled at each surveyed apartment community. Therefore, the conclusions provided with this data are not based on a complex statistical manipulation rather it provides a snap shot and serves as an early indicator to the body of knowledge of Crime Prevention through Environmental Design (CPTED) so that others may follow and continue the research. It is evident from the data that the implementation of the CPTED principles and the apartment community participation in the Crime Free Multi-Housing Program is correlated with the decline in calls for service.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
ABSTRACT.....	iii
LIST OF TABLES.....	v
Chapter	Page
1. INTRODUCTION.....	1
2. LITERATURE REVIEW.....	3
3. METHODOLOGY.....	34
4. FINDINGS.....	42
5. CONCLUSIONS.....	46
BIBLIOGRAPHY.....	54
BIOGRAPHICAL INFORMATION.....	66

## LIST OF TABLES

Table	Page
1 Crime Free Multi-Housing Communities.....	39
2 Calls for Service.....	44
3 Calls for Service.....	45

## CHAPTER 1

### INTRODUCTION

According to Fyfe, the answer to the U.S. crime problem is not to be found in hiring more police officers and better training them, or in building more and better prisons. Instead, it lies in attempting to change conditions in the most crime-ridden environments so that they more closely resemble those in places in which crime, violence, and fear do not shape and diminish every-day life (Fyfe, 1997). Since this is such a massive undertaking the process may take generations to implement. It is, however, an undertaking in which – by virtue of their front-row view of crime, violence, and the conditions that cause them – police can serve as activists, promoting and stimulating the kinds of changes necessary to have meaningful effects on crime (Fyfe, 1997). In addition, until the ideal state of a crime-free society is achieved, the police must continue to do everything possible to prevent and investigate crime; but they must do so in the knowledge that they hold no magic bullet that will solve the crime problem (Fyfe, 1997).

The purpose of this study is to measure and compare the calls for service in the apartment communities participating in the Crime Free Multi-Housing Program in Arlington in the belief that a reduction in calls for service should translate to a

reduction in crime.

This particular study aims at measuring calls for service as these relate to the implementation of CPTED strategies. The author acknowledges that some of the calls for service may include incidents not directly affected by CPTED (i.e. rape, domestic violence).

Chapter two examines Crime Prevention through Environmental Design (CPTED) in detail as a branch of situational crime prevention which has as its basic premise that the physical environment can be changed or managed to produce behavioral effects that will reduce the incidence and fear of crime, thereby improving the quality of life, and enhancing profitability for business. Chapter three discusses the methodology. Chapter four reveals the findings. Chapter five draws conclusions.

## CHAPTER 2

### LITERATURE REVIEW

This chapter begins with a discussion of crime prevention, explores the proposition that prevention of crime is more cost effective than a reactive approach to criminal behavior, and discusses techniques and strategies designed to preclude access to a crime target. The chapter defines Crime Prevention through Environmental Design and discusses its theoretical development through researchers like Elizabeth Wood, Jane Jacob, Schlomo Angel, Oscar Newman, and C. Ray Jeffrey. This chapter closes with a discussion of the major implications and the problems and criticisms of Crime Prevention through Environmental Design.

#### **Crime Prevention**

The core of Sir Robert Peel's mission for the police is the prevention of crime and disorder. In Peel's view, the best measure of whether this task is being accomplished is an absence of police business. Operationalizing this view has been problematic (Fyfe, 1997). The presence or absence of police business – whether related to crime, disorder, or any other matter – may have little or nothing to do with the effectiveness of the police. Second, it is easier to measure how often and well police take action in response to crime and disorder than it is to assess the effects of their prevention efforts (Fyfe, 1997). One



would argue counting crimes solved is no problem, but there is no precise way to determine how many crimes have been prevented. Newspaper headlines, movies, and television shows praise and glamorize the detectives who solve crimes, but they rarely pay heed to the crime prevention specialists whose quiet efforts may have far greater effects on the quality of life in a community or throughout the society. Consequently, in the consciousness of the public – and of many police officials – crime prevention has always taken second place to criminal investigation (Fyfe, 1997).

Serious rethinking of the police role and the limits on police ability to prevent and detect crime, however, has led to many new realizations about crime prevention. The team policing experiments of the 1970's, along with the Los Angeles Police Department's basic car plan and the more recent adoption of community and problem-oriented policing models are attempts to move closer to Vollmer's notion of a police service that is at the vanguard of mobilizing communities to address the conditions that cause crime and that allow it to go unpunished (Fyfe, 1997).

Criminal justice practitioners and academics agree that the prevention of crimes is more cost effective than a reactive approach to criminal behavior. Jeffrey (1977) argued that a crime prevention program needs to have the following characteristics:

- 1) It should be established before the crime is committed and not after.
- 2) It should aim at the direct controls over behavior and not the indirect controls.
- 3) It should focus on the environment where crimes may be committed and on the interactions made by the organism with its environment instead of focusing on the

individual offender.

4) It should be an interdisciplinary approach involving all the disciplines which deal with human behavior.

5) It should cost less and be more effective than the punishment given to offenders (del Carmen, 1997).

Criminologists continue to focus on the individual offender and the characteristics which surround him/her while ignoring the physical environment where most crimes are committed. In addition, sociology has influenced criminologists in emphasizing the social environment rather than its physical aspects. This has occurred despite the fact that according to Clarke (1992), the British Home Office, which is accredited for having promoted the initial interest in crime prevention, was strongly influenced by studies on inmates as they interacted with their environment. This abandonment of the physical environment can be traced to the early writings of ecologists. Despite this lack of attention on the physical environment, criminological studies on various zones of the city of Chicago gave rise to an interest in the study of the physical relationship of the environment and crime. This allowed for an increase of interest on a crime prevention approach that emphasized the design of the environment to take precedence over the physical traits of the offender (del Carmen, 1997).

### **Target Hardening**

Target hardening involves a variety of techniques and strategies designed to reduce the vulnerability of potential targets of crime, whether they be things, places, or

people. This approach aims at denying access to a crime target through the use of artificial barrier techniques. According to del Carmen (1997), these can be in the form of locks, gates, fences, and other tools that impede accessibility. The prevention efforts of fire departments have long been supported by elaborate building codes that prescribe in great detail the steps that builders and building operators must take to avoid fires and the victimizations that might otherwise be associated with them. For generations, however, developers have put up shopping malls and gallerias, hotels, motels, apartment complexes, bus terminals, indoor parking lots, and even roadways with nary a thought nor a restriction related to crime prevention (Fyfe, 1997).

This has changed. In recent years, many jurisdictions have come to see that there is such a thing as criminogenic architecture that, always by oversight, makes it easy for offenders to complete and escape from their crimes. In some cases, some of the crime risks related to engineering and architecture are unavoidable. For instance, New York City's labyrinthine subway system has no doubt fostered crime by making it possible for offenders to run down into crowded subway stations and quickly disappear in any of several directions (Fyfe, 1997). In other cases, experience has taught that some types of architecture produce crime that can be reduced by alternative, albeit more expensive, designs. The high-rise public housing projects built in so many U.S. Cities a few decades ago may have made efficient use of small parcels of land. In many cases, unfortunately, they also provided the anonymity, impersonality, and escape routes that made them centers of much crime and violence (see, e.g., Newman, 1972). Smaller, low-rise developments preserve a sense of community, are easier to police, and enjoy far lower

crime rates (Fyfe, 1997). The modern concepts of Crime Prevention through Environmental Design have been instinctively practiced for thousands of years. In the next section, the discussion traces the protection of person and property from victimization.

### **History of the Concept**

As civilization broadened, victimization from wild animals became less common. But because of marauding tribes and highwaymen, protection was not only more necessary, but also more difficult. A primary means of protection then, as now, was a physical barrier or facility. Many early peoples took advantage of natural barriers for protection. Some built houses on stilts or legs accessible only by boat; others lived in caves or on cliffs accessible only by ladder. Some were protected by moats filled with water and occasionally wild animals, accessible only by draw bridges. High walls and other physical barriers protected cities, as well as castles (Institute for CJ Studies, 2000).

This is but a small portion of the efforts to protect one against unwanted intruders. Although much progress has been made in building his contemporary environment, man had no reference to tradition, simply because the need seemed so totally new and unlike any experience of the past (Newman 1972). In an effort to provide adequate and available housing for an expanding population and to develop industrial, commercial, and retail sites which address the needs of a growing society, man built “. . . more without really asking what. (Thus) it (became) clear that (man has) built without much thought and without much concern and now (he is) stuck with the results” (Newman 1972). Moreover, the ever-increasing crime rates caused, in part, by cities and structures, stand

witness to man's increasing vulnerability to victimization (Institute for CJ Studies, 2000).

The criminal justice system, which has also made significant advances, seems to suffer the same fate when faced with the challenges of the 20<sup>th</sup> century. That is, although several schools of criminology developed, and varying approaches to keeping the crime rate within manageable ranges have been attempted, the system has fallen short of its goal to counter increased criminal activity. Moreover, there are not many alternative or innovative responses to the crime problem (Institute for CJ Studies, 2000).

The criminal justice system, as it operates in 2005, has not created alternative responses to the crime problem and it has no effective solution (Jeffrey, 1972). There are two alternatives for those who have been convicted: 1) deterrence and punishment and/or 2) treatment and rehabilitation of individuals via therapy, job training, and re-education programs. Neither approach has worked according to Jeffrey. If the present system is not workable, then the logic of the situation calls for an alternative model (Jeffrey, 1972).

The belief that intelligent physical planning decisions have an effect on crime and other anti-social behavior in a community is offered as an alternative. In early England, trees and shrubs were removed from roadsides to allow the passing traveler more warning when attacked by highwaymen. In short, while the concept of urban planning and crime prevention is not new, it has not, until recently, played an important role in this country's criminal justice system (Institute for CJ Studies, 2000).

Crime prevention has never been considered as an integral part of urban planning.

We have finally gotten around to considering education, transportation, recreation, pollution, and shipping as variables with which any city planner must cope, but security of person and property is not yet an item taken into consideration when we design and build cities (Jeffrey, 1970).

### **What is Crime Prevention through Environmental Design (CPTED)?**

Crime Prevention through Environmental Design (CPTED) is aimed at identifying conditions of the physical and social environment that provides opportunities for or precipitates criminal acts . . . and the alteration of those conditions so that no crimes occur. Since it is aimed at preventing occurrences of criminality, CPTED is conceptually distinct and significantly different from the reactive (and largely failing) strategies employed by the police, courts, and correctional facilities in the American criminal justice system (Robinson, 1996).

In addition, CPTED focuses on reducing opportunities for crime, primarily in public environments. It does not focus on family violence in work places or schools. The fabric and design of public spaces can deter criminal activities. Offenders who feel they are likely to be noticed are much less likely to commit crimes in public spaces. From the potential victim's viewpoint, perception of safety can be enhanced through good planning and design of public spaces (Glen, 2002).

For example, the layout and design of urban areas can either discourage or encourage feelings of safety for users. Discouraging designs include poor lighting, recessed doorways on the street or dark, narrow alleyways. Encouraging designs include

well-lit footpaths, and bus/train stops, buildings with an open street front and parks that are observable from surrounding streets and houses (Glen, 2002).

A number of variations and refinements of the basic CPTED concept have been offered. Generally, CPTED focuses on the settings in which crimes occur and on techniques for reducing vulnerability of the setting, because its central premise is that crime can be facilitated or inhibited by features of the physical environment. CPTED is the specific management, design, or manipulation of the immediate environment in which crimes occur in a systematic and permanent way (Robinson, 1996). While CPTED generally involves changing the environment to reduce the opportunity for crime, it is aimed at other outcomes including reducing fear of crime, increasing the aesthetic quality of an environment, and increasing the quality of life for law-abiding citizens, especially by reducing the propensity of the physical environment to support criminal behavior (Robinson, 1996).

The underlying logic of designing a specific external environment in order to prevent crime makes sense for several reasons. For example, crime prevention efforts aimed at people through methods such as ‘general deterrence’ and ‘special deterrence’ are less sure to work, for the placement of people in the physical environment is temporary owing to their mobile nature – i.e., they are not permanent fixtures of most environments for an extended period of time. Things such as buildings and other physical features of the environment are “relatively permanent.” As a result, CPTED can produce

effects on crime and perceptions of personal crime risks. Yet, the idea that CPTED only applies to the external physical environment is limited. To be more effective, CPTED should be applied both, to external and internal environments, or to the environments of the place and the offender, respectively (Robinson, 1996).

The term “environment” in standard CPTED definitions includes only the *external* environment of the place and not the *internal* environment of the offender. del Carmen (1977) recently proposed a re-definition of the term “environment” to include both the macro (external) and the micro (internal) levels of analysis. Jeffrey’s concept of CPTED already has evolved into a crime prevention approach that encompasses both the external environment of the place *and* the internal environment of the offender (Robinson, 1996).

Many critical thinkers are credited with the theoretical development of CPTED. In the next section, the author will discuss each of their contribution.

### **Theoretical Development of CPTED**

It is argued that CPTED has its origins with the critical thinking of researchers like Elizabeth Wood; Jane Jacob’s, The Death and Life of American Cities, 1961; Schlomo Angel, Discouraging Crime through City Planning, 1968; and Oscar Newman’s, Defensible Space, 1972. This was further developed by C. Ray Jeffrey, CPTED, 1977. It was a departure from the traditional “target hardening” approach, i.e. preventing break-ins by more locks on doors, bars on windows etc., to concentrating instead on human behavior and planning principles (Glen, 2002).



## **Elizabeth Wood**

According to Newman, "one of the prime advocates of the importance of physical design considerations in achieving social objectives was Elizabeth Wood." Wood's belief was that managers of residential areas could never do enough to stop the damaging actions of even a small group of hostile or indifferent tenants. While Wood worked for the Chicago Housing Authority, she strove to make surrounding residential environments of lower class citizens more rich and fulfilling. As she attempted to bring about design changes aimed at enhancing quality of life for residents and increasing the aesthetic qualities of the residential environment, she also developed a series of guidelines for improving security conditions of these environments (Paulsen & Robinson, 2004).

One of her design goals was to improve *visibility* of apartment units by residents; another was to create spaces where residents could gather, thereby increasing the potential for resident *surveillability*. Surveillability is understood in the literature to mean "the extent to which a residence is overseen and observable by neighbors or passersby." As discussed by Newman, (1972), "Miss Wood's concept of the social control of residential areas is predicated on the presence of and natural surveillance by residents. Areas that are out of view and unused are simply without control." As Jane Jacobs after her, Wood recognized that certain types of designs could translate into loss of opportunity for informal social control by residents. Newman wrote that "Elizabeth Wood was perhaps the foremost practitioner of social design in the field of housing." Yet, given the fact that Wood's ideas were never widely put into practice, the validity of

her ideas were never actually subjected to rigid empirical testing (Paulsen & Robinson, 2004).

### **Jane Jacobs**

Jacobs' work The Death and Life of Great American Cities (1961) began the search for how both physical and social urban factors affected people and their interactions. Her work was among the earliest discussions of urban decay and its relationship to crime. C. Ray Jeffery, who founded the term “crime prevention through environmental” design or CPTED, has often stated that it was Jane Jacobs who sparked the widespread interest in how environmental conditions could be related to crime prevention. According to Paulsen & Robinson, (2004), Jeffery reported that reading Jacobs’s work caused him to “think about writing a book on crime prevention,” which, of course, he later did. Jacobs hypothesized that urban residential crime could be prevented by reducing conditions of anonymity and isolation in those areas (Paulsen & Robinson, 2004).

Jacobs's work was "an indictment of post-war urban planning policies that gave precedence to the needs of the automobile at the expense of conditions fostering local community life.” Jacobs felt that cities were custom-made for crime: the way they were designed and built meant that citizens would not be able to build or maintain informal social control networks necessary for effective self-policing. It was Jacobs’s contention that crime flourished when people did not know and meaningfully interact with their neighbors, for they would thus be less likely to notice an outsider who may be a criminal

surveying the environment for potential targets or victims (Paulsen & Robinson, 2004).

Jacobs discussed the effects of street surveillance by neighbors, and claimed that high levels of natural surveillance created a safe environment. Jacobs stated that city streets often do not have the three primary qualities needed in order to make them safer: 1) a clear demarcation between public and private space; 2) diversity of street use; and 3) fairly constant sidewalk use, which translated into “eyes on the street” (Paulsen & Robinson, 2004). Residential streets which promote multiple land uses promote natural and informal surveillance by pedestrians, and therefore, potentially increase residents’ safety. To Jacobs, active streets served as a *deterrent* to crime. A deterrent is something that acts to create fear in a would-be offender so that he or she decides not to commit a criminal act (Paulsen & Robinson, 2004).

Jacobs’s ideas about how the physical environment is related to the risk for crime are related to social control theory. This is not surprising given another common sense understanding about crime: one of our best protections against crime is to live in a community where neighbors watch out for each other and stand ready to call the police or to intervene directly where they spot a malefactor (Paulsen & Robinson, 2004).

### **Schlomo Angel**

Schlomo Angel, in Discouraging Crime through City Planning, (1968), noted how citizens could take an active role in preventing crime, starting with a diagnosis of which environments afford the most opportunities for crime to occur. Angel thought that certain areas suffer from higher rates of crime than other areas because of the higher levels of

opportunity on which rational offenders could capitalize. Angel reasoned that offenders chose their specific targets through a decision-making process in which they weighed the effort and risk against potential payoffs. With more opportunity and a higher potential payoff, it was thought that at least one successful target offering little risk would be found (Paulsen & Robinson, 2004). Angel posited that deterrents to crime included high-intensity use of an area because this provides large numbers of effective witnesses and low intensity land use because this reduces the number of potential victims. In between high and low intensity use, in periods of moderate use, criminal opportunities were thought to abound because there were enough victims to choose from but there weren't enough witnesses to deter crime. Angel's ideas regarding changing the physical design of environments revolved around channeling pedestrian traffic and zoning businesses into areas where mass transit and parking facilities are near (Paulsen & Robinson, 2004).

### **Oscar Newman**

The concept of *defensible space* was introduced by Oscar Newman, in his book, Defensible Space: People and Design in the Violent City (Newman, 1972). This term is used to describe a residential environment designed in order to allow and even encourage residents themselves to supervise and be seen by outsiders as responsible for their neighborhoods (Mayhew 1981).

Newman's notion of environmental design is based on: “the development of coordinated design standards – for architecture, land use, street layout and street lighting – which improve security. Its goal is to create environments which reduce the

opportunities for crime while encouraging people to use public space in ways that contribute to their safety and enhance their sense of community” (LEAA Newsletter, 1974, 4, 3, pp.12-13). Newman’s notion of environmental design is more complex than simply redesigning space. It also includes redesigning residential environments so that residents use the areas and become willing to defend their territory (Paulsen & Robinson, 2004).

According to the National Crime Prevention Institute defensible space design changes strengthen two basic kinds of social behavior, *territoriality* and *natural surveillance*. The goal of the defensible space approach is "to release the latent sense of territoriality and community among inhabitants so as to allow these traits to be translated into inhabitants' assumption of responsibility for preserving a safe and well maintained living environment” (Newman, 1976, p. 4), and to increase the potential for residents to see and report likely offenders, thereby enabling residents to control the physical environments in which they reside. Newman's work was an attempt to reduce both crime and fear of crime in a specific type of environment (public housing), by means of reducing opportunity for crime and fostering positive social interaction among legitimate users (Paulsen & Robinson, 2004).

Areas low in defensible space (such as large cities) was thought to be more vulnerable to crime because in these areas feelings of ownership and community spirit were not generated by residents. In these areas, residents were thought to be less likely to be able to recognize outsiders as potential criminals. In smaller areas, the presence of defensible space was thought to increase the effectiveness of informal social control and

make crime less likely (Murray, 1994).

### **“Defensible Space” – Major Findings**

Newman’s research began in 1969 when the National Institute of Law Enforcement and Criminal Justice (NILECJ, now the National Institute of Justice) undertook a series of projects to appraise the relationship between the physical environment and risk for criminal victimization. A result of these efforts was Oscar Newman's book. Within two years of the original publication, demonstration projects were initiated and, within one more year, the Law Enforcement Assistance Administration (LEAA) funded a multi-million dollar project to study crime in a commercial strip, a residential area and a school. Eventually, public housing projects were designed based upon Newman's ideas. Newman's ideas may still be greatly influencing the design of public housing all over the world (Paulsen & Robinson, 2004).

According to Jeffery and Zahm (1993) under a grant from LEAA, the Westinghouse Electric Corporation designed a school crime prevention project in Broward County, Florida, a commercial crime prevention project in Portland, Oregon and a residential/mixed use crime prevention project in Hartford, Connecticut. These are among the most well-known defensible space efforts incorporating "physical, social, law enforcement, and management techniques to achieve its goal of reducing crime and the fear of crime” (National Crime Prevention Institute 1986, p.124). Crime prevention strategies aimed at these goals included *controlling access* (or reducing *accessibility*), increasing *surveillance*, *activity support*, and *reinforcement*, or in other words, *defensible space* and *target hardening*. Target hardening can be understood as any mechanism

aimed at making it more difficult for an offender to gain access to a target or crime victim (Robinson, 1998).

The Broward County school project "used Newman's concept of natural surveillance and an increased sense of responsibility on the part of students for crime prevention" (Jeffrey, 1990, p. 413). The Portland commercial area project made changes "in outdoor lighting, emergency phones, landscaping, special bus shelters, security surveys, neighborhood watch programs, traffic patterns and one way-streets, and the amount of cash carried or kept in stores." In Hartford, roads "were closed or narrowed, some streets were made one-way streets, community anti-crime groups were formed, and police-community relations were improved" (Paulsen & Robinson, 2004).

Throughout the 1970s, until 1979 when LEAA was eliminated, Newman's book of crime prevention guidelines for public housing continued to be well-received and projects based on it continued to be funded by governmental entities (LEAA Newsletter, 1976, 6, 2, p. 8). For example, one of the defensible space designs Newman created was applied at two new housing developments – one in Indianapolis and another in Newark – with funding of more than \$100,000 from NILECJ and \$50,000 from the Department of Housing and Urban Development (HUD). This strategy was aimed at assigning different types of residents to the kinds of buildings they would best be able to control, subdividing buildings and corridors to promote a feeling of ownership by residents and increasing surveillability through design (Paulsen & Robinson, 2004).

Other defensible space projects included the South Loop New Town Security Project, a residential development of mixed-income populations in Chicago (Jeffrey &

Zahm, 1993, p. 333) that "employed a broader orientation of Newman's philosophies developed by Richard Gardiner" under the concept of environmental security. Other programs spurred on by Newman included the Kansas City Lighting study, the Washington, D.C. burglary study conducted by Scarr, and the Boston residential crime study conducted by Reppetto. Newman's defensible space approach was actually first tested at two public housing projects in New York City – Clason Point and Markham Gardens. The design changes at these areas established play areas, improved the appearance of the projects and also included installing better lighting, introducing fencing to divide areas into semi-private spaces and erecting barriers to channel pedestrian traffic (Murray, 1994, p. 352).

According to the National Crime Prevention Institute, the first model developed by NILECJ which was aimed at modifying architectural design for entire neighborhoods was the Residential Neighborhood Crime Control project in Hartford, Connecticut. Under an Institute grant of almost \$500,000, the Hartford Institute of Criminal and Social Justice developed and implemented a defensible space project in two Hartford neighborhoods, one a highly transient, apartment-dominated area and the other a family area containing mostly row houses – Asylum Hill and Clay Hill-Sand, respectively. In this project, streets were closed or narrowed in order to change traffic patterns, community groups were established or strengthened to increase a sense of "community" and police-community relations were strengthened. Such changes to streets can be illustrated using crime mapping software, and the effects of street closures and narrowing can be determined on crime rate trends. Evidence of studies suggests that each of these



projects had minimal impacts on actual occurrences of street crime (Paulsen & Robinson, 2004).

### **Crime Prevention through Environmental Design**

*Crime prevention through environmental design* (CPTED) is aimed at “identifying conditions of the physical and social environment that provide opportunities for or precipitate criminal acts . . . and the alteration of those conditions so that no crimes occur . . .” (Brantingham & Faust, 1976, pp. 289, 290, 292). Since it is aimed at preventing occurrences of criminality, CPTED is conceptually distinct and significantly different from the reactive (and largely failing) strategies employed by police, courts, and correctional facilities in the American criminal justice system (Robinson, 2002).

The notion of CPTED came to the forefront of criminological thought with Jeffery's Crime Prevention through Environmental Design (1971), a work written simultaneously and therefore without influence from Oscar Newman's Defensible Space (1972). According to the National Crime Prevention Institute, Jeffery's book encouraged crime prevention strategies aimed at changes to the physical environment and increased citizen involvement and proactive policing. Jeffery contended that the way to prevent crime is to design the “total environment” in order to reduce opportunities for crime. The total environment includes the internal environment of the offender (Paulsen & Robinson, 2004).

Jeffery's work was based on the precepts of experimental psychology represented in modern learning theory (Jeffrey & Zahm, 1993, p. 329). His CPTED concept arose

out of his experiences with a rehabilitative project in Washington, D.C. that attempted to control the school environment of juveniles in the area. Rooted deeply in the psychological learning theory of B.F. Skinner, Jeffery's CPTED approach emphasized the role of the physical environment in the development of pleasurable and painful experiences for the offender that would have the capacity to alter behavioral outcomes. His original CPTED model was a stimulus-response (S-R) model positing that the organism learned from punishments and reinforcements in the environment. Jeffery "emphasized material rewards . . . and the use of the physical environment to control behavior" (Jeffrey & Zahm, 1993, p. 330). The major idea here was that by removing the reinforcements for crime, it would not occur. Jeffery's 1971 book was an early argument for crime prevention which rejected the more popular crime control goals of revenge, just deserts, or retribution and deterrence, as well as punitive crime control strategies employed by the criminal justice system. Jeffery's book was much more of an academic exercise rebelling against the current state of criminal justice practice than was Newman's practical guide to crime prevention (Paulsen & Robinson, 2004).

Because Jeffery's (1971) approach was largely founded on Skinner's behavioral learning theory, it is not surprising that no attention was paid to the individual organism (in this case, the offender). Skinner was known for his criticisms of earlier "introspective" or "mentalistic" theories of behavior that are not empirically testable, not falsifiable and involve the logical error of circular reasoning. A theory is *testable* if it can be measured in the real world in order to see if it is supported or not. All theories are *falsifiable*, meaning if they are wrong, they can be proven wrong. Finally, *circular*

*reasoning* occurs when a scholar labels a behavior (e.g., criminal behavior) and then uses that label to explain the same behavior. An example would be labeling a violent, repetitive criminal a psychopath because he has committed multiple violent crimes and then using the condition of psychopathy to explain the person's violent crimes (Robinson, 2004).

In order to make his theories testable, falsifiable, and to avoid circular reasoning, Skinner ignored the physical organism completely. He reasoned that there was no way to know what was going on in the organism's brain or mind; Skinner was thus content with merely observing and describing what he saw, rather than resorting to conjecture about what he could not see in the organism's brain or mind (Paulsen & Robinson, 2004).

Jeffery's original work did not take into account either the mind or the brain of the organism. In the 1971 edition of his book, "Jeffrey mentioned the biological basis of behavior and the role of the brain in behavior, but then dropped the concept from further discussion" (Jeffrey & Zahm, 1993, p. 330). Consequently, his first statement of the CPTED model in 1971 contained the flaw of the "empty organism." That is, the logical implication of Jeffery's original CPTED model was that the environment directly affected the behavior of the organism, without first entering the organism either physically or mentally. Jeffery originally proposed that environmental conditions affected behavior in a one-way relationship without first affecting the offender (Paulsen & Robinson, 2004).

Jeffery's second edition of Crime Prevention through Environmental Design (1977) involved a complete revision of the underlying theoretical approach for CPTED. While his 1971 edition was very limited in terms of its inclusion of material related to

biology or the physical organism, the 1977 edition "included statements about human genetics and brain functioning from modern biology and psychobiology" (Jeffery & Zahm, 1993, p. 330). His empty organism approach was replaced by a new model commonly referred to as the "integrated systems model" of human behavior (e.g., see Jeffery 1990). This model utilizes systems logic rather than sequential logic. It denies or at least questions the logic of time-ordered causal reasoning, and instead posits continuous interactive effects of organisms and environments which have reciprocal influences on one another, among all levels of analysis, from cell to society (including genetics, the brain, the individual, the group, the community, organizations, society, and so forth) (Paulsen & Robinson, 2004).

According to Fishbein, Jeffery was the first scholar in the field of criminology to fill the empty organism with knowledge he had learned from studying biology. Jeffery was preparing to develop a CPTED model aimed at modifying both the external environment and the internal environment of the offender (Paulsen & Robinson, 2004).

Jeffery's 1977 work was based on a biological rather than a social ecology model, meaning that Jeffery's model of human behavior contained both a concrete physical environment *and* a concrete physical organism. This CPTED model does not focus on abstract sociological concepts such as *social disorganization* and *social learning* that tend to minimize the concrete physical environment in favor of the abstract social environment (Jeffery & Zahm, 1993, pp. 326-329). Jeffery's shift from a stimulus-response to an integrated systems approach was motivated by research into the role of the brain in human learning conducted by researchers outside the field of criminology in the

early 1970s. Jeffery's CPTED model evolved into a general crime prevention model. Thus, his later model includes both the external environment of the place *and* the internal environment of the offender (Paulsen & Robinson, 2004).

This CPTED model was much more fully developed in Jeffery's Criminology: An Interdisciplinary Approach (1990). The basic assumption of the CPTED approach of Jeffery, as it stood in the 1990 book, and as it stands today, is that: “the response [i.e., behavioral adaptation] of the individual organism to the physical environment is a product of the brain; the brain in turn is a product of genetics and the environment. The environment never influences behavior directly, but *only through the brain*. Any model of crime prevention must include *both* the brain and the physical environment” (Jeffrey & Zahm, 1993, p. 330; also see Jeffrey, 1996, p. 4).

There are then two critical elements to CPTED in the Jeffery model: 1) the place where the crime occurs; and 2) the person who commits the crime. According to Jeffery's CPTED model, we can successfully prevent crime by altering the organism and/or the external environment (1990, p. 418). Because the approach contained in Jeffery's CPTED model is today based on many academic fields, a focus on only external environmental crime prevention is inadequate as it ignores another entire dimension of CPTED – the internal environment (Paulsen & Robinson, 2004).

## **Three Ds of CPTED**

While using “Crime Prevention through Environmental Design.” [On-line]. Available: <http://www.stpete.org/police/cpted.htm> as a guide, any given space may be evaluated by asking the following types of questions:

### Designation:

What is the designated purpose of this space?

For what purpose was it originally intended?

How well does the space support its current use or its intended use?

Is there conflict?

### Definition:

How is space defined?

Is it clear who owns it?

Where are its borders?

Are there social or cultural definitions that affect how space is used?

Are the legal or administrative rules clearly set out and reinforced in policy?

Are there signs?

Is there conflict or confusion between purpose and definition?

### Design:

How well does the physical design support the intended function?

How well does the physical design support the desired or accepted behaviors?

Does the physical design conflict with or impede the productive use of the space or the proper functioning of the intended human activity?

Is there confusion or conflict in the manner in which physical design is intended to control behavior?

Source: "Crime Prevention through Environmental Design." [On-line]. Available: <http://www.stpete.org/police/cpted.htm>

These are the approaches promoted by organizations such as the International CPTED Association, International Security Management & Crime Prevention Institute, and international conferences on CPTED (Paulsen & Robinson, 2004).

The CPTED concept is the "specific management, design, or manipulation of the immediate environment in which crimes occur in a systematic and permanent way" (Bennett & Wright, 1984). CPTED is aimed at other outcomes, including reducing fear of crime, increasing the aesthetic quality of an environment, and increasing the quality of life for law-abiding citizens, especially by reducing the propensity of the physical environment to support criminal behavior (Clarke, 1995a, p. 8; Crowe, 1991, 1, pp. 28-29, 40).

The designing of a specific external environment makes sense. Crime prevention efforts aimed at people through methods such as "general deterrence" and "special deterrence" are less sure to work, for the placement of people in the physical environment is temporary owing to their mobile nature – i.e., they are not permanent fixtures of most environments for an extended period of time. Things such as buildings and other physical features of the environment are "relatively permanent" (Nasar & Fisher, 1992, p. 48-9). As a result, CPTED can produce effects on crime and perceptions of personal crime risks.

Yet, the idea that CPTED only applies to the external physical environment is limited. To be more effective, CPTED should be applied both to external *and* internal environments, or to the environments of the place and the offender, respectively (Paulsen & Robinson, 2004).

### **CPTED – Major Implications**

Widespread CPTED projects began in the 1970s when the National Institute of Law Enforcement and Criminal Justice (NILECJ), the research and development arm of the Law Enforcement Assistance Administration (LEAA), sponsored and conducted research on crime prevention. Their basic program would include target hardening measures – "such things as security locks, street lighting, residential security systems, and housing design" (LEAA Newsletter, 1971, 1, 6, p. 7). Almost immediately thereafter, issues of the LEAA Newsletter, a document distributed by NILECJ, contained detailed reports of crime prevention programs being implemented across the U.S., including one in Washington, D.C. which included only the installation of high-intensity street lighting (Paulsen & Robinson, 2004). According to Murray, (1994, p. 353), forty-one recorded street-lighting projects were undertaken up to 1977, with results showing that "occasional short-term improvements were ephemeral." Results of street lighting projects in Baltimore, Milwaukee, Tucson, Denver and Minneapolis found that they did reduce perceptions of safety among residents (Murray, 1994, p. 353), a stated goal of CPTED researchers. Although some of these street light projects preceded Jeffery's original work, his 1971 book would announce that this type of strategy clearly would not be



sufficient for crime prevention (Paulsen & Robinson, 2004).

Nevertheless, when NILECJ allocated the majority of its \$31-million budget for Fiscal 1973 on large-scale research projects aimed at goals such as reducing opportunities for crime, the main thrust of their efforts was on target hardening approaches such as increased building security, burglar alarms, and more street lighting and architectural design changes. Other LEAA Newsletters were devoted to grants awarded for target hardening approaches, including one in Tyler, Texas which focused on "making burglary harder" (LEAA Newsletter, 1973, 3, 3, p.6).

Later editions of the LEAA Newsletter (1973 3, 3, p.12) noted that LEAA earmarked \$2 million for a defensible space project and would invite other federal agencies (Department of Housing and Urban Development, National Science Foundation, Education and Welfare, and the Department of Transportation) to participate in founding a "Program for Crime Prevention through Environmental Design" that would eventually initiate studies to be conducted by the Westinghouse Electric Corporation of Baltimore, Maryland. This program would focus on residential, school and commercial environments. Although obviously borrowing Jeffery's title, it was based on Newman's ideas of defensible space rather than Jeffery's CPTED model (Paulsen & Robinson, 2004).

In the most heralded crime prevention study ever done, John Eck (1997) summarized the findings related to crime and place and makes this same conclusion. For example, he asked this perplexing question: "How much can we conclude about specific types of intervention, at specific places, against specific crimes? The answer is we

usually cannot be confident about what works where.” The reason this is so is because most evaluative studies of the effects of place-specific prevention efforts are conducted at only one site, many of the studies investigate the effects of not one but numerous interventions that were put into place at the same time, and the studies were not rigorous enough to allow for firm conclusions (Paulsen & Robinson, 2004).

The study summarized findings from research in the following areas:

- 1) Residential places;
- 2) Money spending places (retail stores, banks and money handling businesses, and bars and drinking establishments);
- 3) Transportation places (e.g., public transportation facilities, parking lots, and airports);
- 4) Other public places (e.g., open urban spaces and public coin machines).

The study found that, “as of yet, there are no place-focused crime prevention programs proved to be ineffective. However, relative to other areas of crime prevention, few place-focused crime prevention methods have been studied by criminologists in the United States” (Sherman et al., 1998, p. 9).

### **CPTED – Problems and Criticisms**

Not once during the entire 1970s did C. Ray Jeffery’s name appear in any edition of the LEAA Newsletter when CPTED was discussed. As noted by Murray (1994, p. 583), Jeffery (1971) antedated Newman and "originated the acronym CPTED . . . which has remained a common label in the technical literature but (for obvious reasons) never

grabbed the public imagination in the way that 'defensible space' did." Murray did not explain what those "obvious reasons" were, but Jeffery stated that he re-read his 1971 edition of Crime Prevention through Environmental Design and he reasoned that it was because of his call for more research and the foundation of a crime-related research institute at a time when people were looking for practical applications for preventing crime. Jeffery's original work in 1971 contained no detailed recipes for crime prevention at a time when government leaders were looking for them and giving wide publicity to those they found (Jeffrey & Zahm, 1993, p. 330).

By contrast, other works related to CPTED, such as Newman's book in 1972, included specific suggestions for how to reduce crime – at least in public housing facilities – through such techniques as lowering building height, lowering the number of apartments sharing a common hallway, increasing lobby visibility, and altering entrance design and site layout to enhance surveillability. Such suggestions were promulgated by widely recognized publishing firms and in government documents. As a result, Jeffery has said that he could "only scream and holler for funding" while all the money went to defensible space research, to projects like those discussed above. Since Newman argued that physical environments could be designed in order to "encourage residents to assume the behavior necessary for deterring crime" (Wallis, 1980, p. 2), his work fit with a popular sentiment about people helping themselves. As noted by Newman (1973, p. 1), "the physical mechanisms we have isolated as contributing to the creation of defensible space have the purpose of *enabling inhabitants* to themselves assume primary authority for insuring safe, well maintained residential areas" (emphasis). Ideas related to crime

prevention are more likely to be well received when they include or revolve around provisions that allow citizens to play a meaningful role. This may be the same reason that community-oriented policing is so widely practiced in law enforcement today: it focuses on developing a partnership between the police and the community, where citizens take an active role in problem solving (Fleissner & Heinzlmann, 1996).

As CPTED now exists in government, architecture, academia, and corporate business, little if any consideration is given to the internal, physical environment of the offender. Rather, attention is given only to the external physical environment of the place. In academia particularly, CPTED has been developed only with regard to the external environment, which usually is not even treated as physical, but instead as some set of abstract social factors. Most criminologists study only the offender; place-oriented or environmental criminologists tend to study only the place of crime (Paulsen & Robinson, 2004).

When the internal environment of the offender or victim is taken into account, it is typically treated as non-physical or "mental." This is a serious limitation of the current body of CPTED literature. Rather than arguing for a primary crime prevention model aimed at identifying conditions both in the external environment of the place *and* in the internal environment of the offender, CPTED research based on rational choice, opportunity, routine activity theory, or crime pattern theory leads to crime prevention projects aimed at reducing *opportunities* for *rational* offenders through increasing surveillance, deterrence, target hardening and removal, access control and so forth. Instead of leading to complete CPTED projects, they have led to projects related to

CPTED which assume a rational offender who seeks to maximize utility, benefit or pleasure and to minimize cost or loss of pain (Paulsen & Robinson, 2004).

According to Clarke (1995a, p. 3), interest in CPTED research did decline in the 1980s because *Newman's* ideas had been dismissed as "environmental determinism" and many thought he oversimplified the problem of crime by neglecting important social causes (e.g., poverty, unemployment and racism). Moreover, CPTED studies were not proving to be very effective, and some scholars at the time began to question whether the causes of crime were beyond the control of CPTED (Clarke, 1995a, p. 4). Thus, relative to other crime prevention measures, such as *situational crime prevention*, CPTED support by governmental agencies declined.

"In Britain as well as in some other European countries, situational prevention has become an integral part of government policy. In the United States, comparatively less success has been enjoyed by CPTED because of the failure of some ambitious projects funded by the federal government and also . . . because CPTED, unlike situational prevention, has generally been confined to projects involving buildings and facilities" (Clarke, 1992, p. 6).

Examples of the failed CPTED projects discussed by Clarke include the Westinghouse projects discussed above, aimed at reducing crime in other types of physical environments. These were troublesome to implement and proved meager in terms of crime prevention (Murray, 1994, p. 354) because they attempted to extend the defensible space concept to inappropriate areas such as school and commercial sites where "territorial' behavior is much less natural than in the residential context." (Clarke,

1995b, p. 97). According to Murray (1994, p. 354): "In retrospect, it seems to have been a mistake to apply defensible space and territorial concepts in environments where a broader conception of CPTED would have been more appropriate." It seems very ironic now that it was Jeffery who has been arguing all along for a conception of CPTED that is *broader* than Newman's notion of defensible space. Changes to the external environment should be only a part of a larger crime control package in order to be effective (Murray, 1994, p. 354).

Therefore, it is apparent from the Literature Review that CPTED focuses on reducing opportunities for crime, primarily in public environments. It does not focus on family violence in work places or schools. The fabric and design of public spaces can deter criminal activities. Offenders who feel they are likely to be noticed are much less likely to commit crimes in public spaces. From the potential victim's viewpoint, perception of safety can be enhanced through good planning and design of public spaces (Glen, 2002).

The purpose of this study is to measure and compare the calls for service at apartment communities participating in CPTED's Crime Free Multi-Housing Program in the belief that a reduction in calls for service should translate to a reduction in crime.

## CHAPTER 3

### METHODOLOGY

In order to develop an efficient and effective indicator for evaluating the Crime Free Multi-Housing Program (CFMH) in Arlington, a cross-sectional, pre/post study of secondary data was conducted using calls for service obtained from the Arlington Police Department. The program was developed by Timothy L. Zehring, Mesa, Arizona Police Department Crime Free Programs Supervisor, and implemented by the Arlington Police Department in September, 2000,

#### **City of Arlington, Texas**

The City of Arlington is centrally located midway between East and West Coasts 15 miles west of Dallas and 15 miles east of Fort Worth. It is the third largest city in North Texas and 7<sup>th</sup> largest in Texas. Arlington is one of the nation's fastest growing cities, more than doubling in population between 1980 and 2000.

As of the 2000 U. S. Census, the city had a total population of 332,969, and a more recent population estimate by the city is approximately 359,467. There are 130,628 housing units in Arlington and the racial makeup of the city is 67.69% White, 13.73% African American, 0.55% Native American, 6.01% Asian, 0.14% Pacific Islander, 8.94% from other racers, and 2.94% from two or more races. 18.27% of the populations are Hispanic or Latino of any race (U. S. Census Bureau, n.d.).

In addition, Arlington is home to one of the General Motors assembly plants, employing 3,000, producing automobiles and parts. Arlington is best known for its recreational and sports attractions. In 1961, the Six Flags Over Texas amusement park opened its doors. In 1972, the Washington Senators baseball team moved to their new home at Turnpike Stadium (now Ameritrust Field), becoming the Texas Rangers. A new \$650 million football stadium for the Dallas Cowboys was approved by the Arlington voters in 2004 and is slated for completion in 2009.

### **Rental Communities**

The 650 plus apartment communities in Arlington present a unique challenge for law enforcement. The typical Crime Watch approach to residents in single family homes is not easily adapted to rental communities. According to the Arlington Police Department, in single family homes, owners generally have a large cash investment in the purchase of their home. This motivates owners to a greater concern about crime in their neighborhoods. With rising crime rates come lowering property values (Arlington Police Department, January 2001).

According to the Arlington Police Department, an owner of a single family home might also be looking at a long term of residency. Typically, homeowners have a thirty-year mortgage for their property. Home is where they come each day and perhaps, to raise a family. There tends to be a lot of pride and ownership of their property. When crime problems begin to appear, owners are very likely to organize Crime Watch activities to protect the long-term investments of their families (Arlington Police Department, January 2001).



In rental properties, the communities tend to be much more transient. Most often, residents sign a six-month, nine-month, or a twelve-month lease for a rental property. In many cases, owners don't even require leases, and residency is based on a month-to-month agreement. This allows for an occupant to move very easily if they feel crime has reached a level they will not tolerate. It is easier to move away from crime than to confront it. The police have historically fought a losing battle with Block Watch in multi-family rental properties (Arlington Police Department, January 2001). In September of 2000, the Arlington Police Department made a decision to introduce a new concept for crime prevention in the rental communities.

### **Crime Free Multi-Housing**

The result was the Crime Free Multi-Housing Program (CFMH), a unique, three-phase certification program (Phase One: Training; Phase Two: C.P.T.E.D. Inspection; and Phase Three: Safety Social), for rental properties of all sizes, including single family rental homes. The program's concept was to implement a multi-faceted approach to crime prevention. According to the Arlington Police Department, using a unique coalition of police, property managers and residents of rental properties, the program was to be an on-going program to address all of the opportunities of crime in rental property.

The program was designed to include a certification process, never before offered by a police department. The incentives of police issued signs, certificates, and advertising privileges provided immediate interest in the program (Arlington Police Department, January 2001).

The development of the Crime Free Lease Addendum proved to be the backbone

of the Crime Free Multi-Housing Program. This addendum to the lease agreement lists specific criminal acts that, if committed anywhere, will result in the immediate termination of the resident's lease (Arlington Police Department, January 2001).

The Crime Free Multi-Housing Program in Mesa, Arizona is considered by the proponents of this program to be successful. In Mesa rental properties with the highest crime rates, the immediate results showed up to a 90% deduction in police calls for service. Even in the best properties reductions of 15% to 20% were not uncommon (Arlington Police Department, January 2001).

According to the Arlington Police Department, CFMH began to spread nationally after the first year, and internationally after the second year, and has been a success all across the United States and Canada.

The Crime Free Multi-Housing Program approaches crime on several fronts: 1.) Surveillance, the ability to look into and out of an area; 2.) Access Control, criminals look for an easy escape, limiting access into and out of an area to deter criminal activity; 3.) Territoriality, the psychological impression that people get when they look at a property; and 4.) Activity Support, appropriate use of recreational facilities and common areas. The police cannot solve crime problems alone. Neither can the management or residents of rental properties. But by working together, the end has been the most successful approach to crimes in rental communities (Arlington Police Department, January 2001).

According to the Arlington Police Department, there are three (3) ways criminal activity comes into a rental community. The criminal lives there, they visit friends there,

or they come into the property to commit crimes. CFMH addresses all three of these possibilities. By not renting to people with criminal intent, they not only reduce the likelihood of crime in the community, they also reduce the number of visitors who come to the property with criminal intent, i.e., to purchase drugs (Arlington Police Department, January 2001).

Implementation of C.P.T.E.D. (Crime Prevention through Environmental Design) principles has been used to combat crimes that might occur in the parking lots or common areas. This includes assaults, robberies, drive-by shootings, and auto-thefts (Arlington Police Department, January 2001). According to the Arlington Police Department, if the police, property managers and residents make a dedicated effort to crime prevention and the Crime Free Multi-Housing Program, the outlook for success is extremely high.

The Crime Free Multi-Housing Program began at the Arlington East Police Service Center in September, 2000. In June, 2001, the program expanded city wide. CFMH is a tailor made program assisting communities with improving their standard of living by eliminating the criminal element out of the community. The anticipated benefits for the Arlington program are reduced police calls for service, a more stable resident base, and reduced exposure to civil liability (Arlington Police Department, June, 2003).

### **Data Collection**

Data available for comparison began September, 1999. Calls were classified by calls for service entries and a count of calls for service was conducted for each complex. A call for service indicates a call to the Arlington Police Department by the management

or residents of the surveyed communities for help or assistance. The period of time for review is unique to each community and is based on the certification data. Equal time periods are reviewed pre and post certification date.

Being granted an exempt status by the IRB, a written request was sent to Roy Haskins, Supervisor of the Crime Analysis Unit, Arlington Police Department. He was asked to provide calls for service data for apartment communities certified by the Arlington Police Department's Crime Free Multi-Housing Program, and discussed in a 2003 Crime Analysis Report, dated June 19, 2003.

Haskin's return included aggregate data representing the years 2000 through and including 2004, which listed the apartment name and address, complaint date, call type, and disposition. The data is limited in nature but will be useful in determining the effect of CPTED in the community. Communities included in the data and their certification dates are included:

**Table 1 - Crime Free Multi-Housing Certified Communities**

<b><u>Apartment</u></b>	<b><u>Address</u></b>	<b><u>Date certified</u></b>
<b>Arlington Park I</b>	3121 East Park Row, 76010	Nov. 2001
<b>Arlington Park II</b>	3121 East Park Row, 76010	Nov. 2001
<b>Autumnwood Apartments</b>	2409 East Mayfield Road, 76014	June 2002
<b>Carriage House Apartments</b>	1500 East Lamar Blvd., 76011	Oct. 2001
<b>Cimarron Crossing Apartments</b>	2014 Remington Dr., 76010	Nov. 2001
<b>Collins Creek Apartments</b>	930 Peach Street, 76011	May 2002
<b>Forest Oaks Apartments</b>	2408 Forest Oak Lane, 76006	May 2002

**Table 1 - continued**

<b>Jefferson on the Cliffs Apartments</b>	1635 Jefferson Cliffs Way, 76006	May 2002
<b>Latrium on the Creek</b>	1676 Carter Drive, 76010	Dec. 2001
<b>Norwood Village Apartments</b>	507 Sandpiper Drive, 76013	June 2001
<b>Park Row East Town Homes</b>	3201 East Park Row, 76010	Nov. 2001
<b>Oxford Apartments</b>	604 Causley Ave.76010	May 2001
<b>Shadow Brook Apartments</b>	2020 South Cooper Street, 76013	Dec. 2001
<b>Sterling Crest Apartments</b>	7001 Silber Road, 76017	Feb. 2002
<b>Tealwood Apartments</b>	6406 Tealcove Drive, 76017	June 2002
<b>Pointe of North Arlington</b>	505 East Lamar Blvd., 76011	May 2002
<b>Waterdance Apartments</b>	400 East Pioneer Parkway, 76010	Nov. 2001

According to Paulsen and Robinson, CPTED is the "specific management, design, or manipulation of the immediate environment in which crimes occur in a systematic and permanent way." While CPTED generally involves changing the environment to reduce the opportunity for crime, it is aimed at other outcomes, including reducing fear of crime, increasing the aesthetic quality of an environment, and increasing the quality of life for law-abiding citizens, especially by reducing the propensity of the physical environment to support criminal behavior.

The review of the existing data gathered from the Arlington Police Department is a cross-sectional, pre/post study of secondary data using calls for service. This method is preferred as it will represent the actual number of calls handled at each surveyed apartment community. Therefore, the conclusions provided with this data are not based

on a complex statistical manipulation rather it provides a snap shot and serves as an early indicator to the body of knowledge of Crime Prevention through Environmental Design so that others may follow and continue the research.

## CHAPTER 4

### FINDINGS

In this chapter, the author's discussion will include the findings of the analysis of the pre/post study, calls for service aggregate data, provided by the Crime Analysis Unit of the Arlington Police Department, utilizing the seventeen apartment communities certified by APD's Crime Free Multi-Housing Program. A call for service indicates a call for help or assistance to the Arlington Police Department by the management or residents of the surveyed communities. The study data were secondary data in the form of frequencies with each complex equally reviewed based on pre/post certification dates representing the years 2000 through 2004, and including the apartment name/address, complaint date, call type and disposition.

This method is preferred as it represents the actual number of calls reported and handled by the police department at each surveyed apartment community pre- and post-CPTED, as opposed to using UCR data which basically is comprised of crimes known to, and recorded by, local police departments. In an ideal setting, the data format would have been different. Therefore, the conclusions provided by this data are not based on a complex statistical manipulation rather it provides a snap shot and serves as an early indicator to the body of knowledge of Crime Prevention through Environmental Design so that others may follow and continue the research.

It is clear after reviewing the data (Table 1), the ten apartment communities certified in 2001, showed an overall decline in calls for service. Seven of the communities show a decrease in calls for service; two reports an increase in calls for service and one has an increase the first year post-certification and then reflects a decrease in calls for service thereafter.

The data relevant to Carriage House reflects an increase of calls for service reporting 174 calls pre-certification and 186 post-certification in 2002, 180 in 2003, and 222 in 2004. The data also reflects an increase in calls for service at Cimarron Crossing with 224 calls for service pre-certification and 267 post-certification in 2002, 233 in 2003, and 268 in 2004.

The Arlington Park I data demonstrates pre-certification calls for service at 299. There was an increase of calls for service to 336 in 2002, and then a marked decrease in calls to 237 in 2003, and 263 in 2004. Although, the increase is lower than the pre-certification numbers.

As can be observed in the data, Arlington Park II has 180 pre-certification calls for service, and reports post-certification, 156 calls for service in 2002, 150 in 2003, and an increase in 2004 to 185. Latrium on the Creek shows 643 calls for service pre-certification; 525 in 2002; 531 in 2003; and 674 in 2004. The data demonstrates that Norwood Village has 106 calls for service in 2001, pre-certification, and 78 post-certification in 2002 and 86 in 2003 with an increase to 147 calls for service in 2004. A review of the data indicates 10 calls for service at Oxford Crossing, pre-certification, with 3 in 2002, post-certification, 4 in 2003, and 11 in 2004. The data reports that Park Row



East Town Homes had 204 pre-certification calls for service in 2001, with 166 post-certification in 2002, 151 in 2003; and 133 in 2004. The Shadow Brook data reflects 399 calls for service pre-certification with post-certification calls at 362 in 2002, 261 in 2003, and 296 in 2004. Finally, the data reports that Waterdance recorded 350 pre-certification calls for service in 2001, and 258 post-certification calls for service in 2002, 246 in 2003; and 188 in 2004.

**Table 2 – Calls for Service**

<u>Apartment</u>	<u>Pre-CPTED</u>		<u>Post-CPTED</u>		
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
Arlington Park I	225	299	336	237	263
Arlington Park II	211	180	156	150	185
Carriage House	144	174	186	180	222
Cimarron Crossing	233	224	267	233	268
Latrium on the Creek	566	643	525	531	674
Norwood Village	155	106	78	86	147
Oxford Crossing	10	10	3	4	11
Park Row East	67	204	166	151	133
Shadow Brook	590	399	362	261	296
Waterdance	301	350	258	246	188

All seven of the apartment communities, certified in 2002, show a yearly decline in calls for service (see Table 2). As demonstrated in the data, Autumn Wood had 256 calls for service pre-certification, with 218 post-certification in 2003, and 249 in 2004. The data reports that Collin Creek had 272 calls for service, pre-certification, with 138 in 2003 post-certification, and 189 in 2004. Forest Oaks reports 150 calls for service pre-

certification and the data show that post-certification there were 130 calls for service in 2003, with 139 reported in 2004. Jefferson on the Cliffs reports 157 calls for service in 2002, and 128 post-certification in 2003, and 113 in 2004. The data reflects that Pointe of North Arlington reports 145 calls for service in 2002, 113 in 2003, and 100 in 2004. Sterling Crest indicates 157 calls pre-certification, and 116 post-certification. Finally, Tealwood reports 117 calls in 2002 and 101 in 2003, post-certification.

**Table 3 - Calls for Service**

<b><u>Apartment</u></b>	<b><u>Pre-CPTED</u></b>			<b><u>Post-CPTED</u></b>	
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
Autumn Wood	266	265	256	218	249
Collins Creek	183	291	272	138	189
Forest Oaks	89	131	150	130	139
Jefferson on the Cliffs	134	177	157	128	113
Pointe of North Arlington	203	130	145	113	100
Sterling Crest			125	116	
Tealwood			117	101	

In comparing the data, there is an overall decline in calls for service. However, in 2004, five (5) of the communities reflect an increase of calls for service above that of pre-certification in 2001. Table 2 continues to report a decline in calls for service. The terrorist attacks in New York (9/11), and changes in management of each community pre and post certification, are two variations beyond the control of the researcher and the participants in the program that affect the calls for service numbers reported.

In Chapter 5, the author will explain the meaning of the data as it relates to CPTED principles.

## CHAPTER 5

### CONCLUSIONS

Crime Prevention through Environmental Design (CPTED) is aimed at identifying conditions of the physical and social environment that provides opportunities for or precipitates criminal acts . . . and the alteration of those conditions so that no crimes occur. Since it is aimed at preventing occurrences of criminality, CPTED is conceptually distinct and significantly different from the reactive (and largely failing) strategies employed by the police, courts, and correctional facilities in the American criminal justice system (Robinson, 1996).

CPTED focuses on reducing opportunities for crime, primarily in public environments. It does not focus on family violence in work places or schools. The fabric and design of public spaces can deter criminal activities. Offenders who feel they are likely to be noticed are much less likely to commit crimes in public spaces. From the potential victim's viewpoint, perception of safety can be enhanced through good planning and design of public spaces (Glen, 2002). For example, the layout and design of urban areas can either discourage or encourage feelings of safety for users. Discouraging designs include poor lighting, recessed doorways on the street or dark, narrow alleyways. Encouraging designs include well-lit footpaths, and bus/train stops, buildings with an open street front and parks that are observable from surrounding streets and houses (Glen,

2002).

Therefore, it is apparent that given the review of literature, research is lagging in the contribution to the body of knowledge of apartment communities. This study is different because it assists apartment communities with improving the standard of living by eliminating the criminal element out of the community. By not renting to people with criminal intent, the apartment communities not only reduce the likelihood of crime in the community, they also reduce the number of visitors who come to the property with criminal intent, i.e., to purchase drugs (Arlington Police Department, January 2001).

The Crime Free Multi-Housing Program in Mesa, Arizona is considered by the proponents of this program to be successful. In rental properties with the highest crime rates, the immediate results showed up to a 90% reduction in police calls for service. Even in the best properties reductions of 15% to 20% were not uncommon (Arlington Police Department, January 2001).

It is evident from the data that the implementation of the Crime Prevention through Environmental Design (CPTED) principles and the apartment community participation in the Crime Free Multi-Housing Program in Arlington, Texas seems to be correlated with the decline in calls for service, and the findings made in this study agree with the trend in the literature.

### **Calls for Service vs. UCR**

The study data was classified by the daily calls for service recorded by the Arlington Police Department. A call for service indicates a call to the Arlington Police Department by the management or residents of the surveyed communities for help or

assistance. Until recently, criminology and criminal justice in the United States have heavily relied on the Uniform Crime Reports (UCR) for research purposes. Most popular presentations on crime rates in the United States are usually taken from the UCR without a full appreciation of the limitations of these data. The UCR is published annually by the FBI and represents not crimes committed, but crimes reported to, and recorded by, the police. The FBI indicates that it cannot vouch for the validity of data received from individual police agencies, and recorded statistics represent only a portion of the true crime rate of a community (Hagan 2003).

The calls for service data are more accurate than UCR data because the former uses the frequency and percentage relevant to the calls for service. Therefore, the conclusions provided using this data are not based on a complex statistical manipulation rather it provides a snap shot of the actual number of calls handled by the Arlington Police Department at each surveyed apartment community.

### **Crime Free Multi-Housing**

The Arlington Crime Free Multi-Housing Program creates a multi-faceted approach to crime prevention employing a unique coalition of police, property managers and residents of rental properties which follows Jeffrey's (1977) crime prevention characteristics. The on-going program addresses all of the opportunities of crime in rental properties and by design, includes a certification process. The development of the Crime Free Lease Addendum is the backbone of the Crime Free Multi-Housing Program. This addendum to the lease agreement lists specific criminal acts that, if committed anywhere, will result in the immediate termination of the resident's lease (Arlington Police

Department, January 2001). The data indicates that there is a strategic benefit to the community, police department, and the private sector all working together to reduce crime.

### **Recommendations**

Petty crime leads to larger crime, and by using the Crime Free Multi-Housing Program, petty crime will be solved and therefore larger crime doesn't have a chance to move in. Economically low end apartment communities are a large concern of city officials because of the large number of calls for service and the existing criminal activity. Apartment communities are a great cross-section - economically, racially, and each citizen deserves to be as safe as any other and receive the greatest amount of protection and public safety that a city can afford to provide. If there are several apartment communities that require more attention, more police presence, cities need to be shifting their attention, resources, and finances to those areas.

By tracking calls for service to measure the reduction of crime in apartment communities, there is a correlation to saving money, and it reduces the need for police presence, in terms of a savings of opportunity cost – every time a police officer has to go on a call at one of the city apartment communities, it takes up a segment of the officer's day. With a reduction in calls for service at apartment communities, the officer can devote more time to communication and contact with the residents and is able to be more proactive as opposed to always being in a reactive mode.

It is in the community best interest, not just from a governmental or police standpoint, but also from tourism and economic development, to make sure that the

public safety of the community is the best it can be and there are a number of ways to achieve this: Traditional policing functions of just patrolling and being out there is not enough, there must be contact and communication with citizens so that they know who the police officers are and feel comfortable to contact them if they are victimized. Citizens must be educated, crossing all language barriers, to provide an environment where they feel safe and people are looking out for one another and by social contract, apartment community residents agree that they are going to be good citizens.

By forming a partnership with the apartment communities, the police department should strive to improve personal safety for residents, landlords, and managers of rental communities by educating them on crime prevention techniques and at the same time, encouraging them to take ownership of their property. The Crime Free Multi-Housing Program facilitates communications by encouraging a team approach to problem solving involving property management, residents, the police, other city agencies like the Fire Department, City Code Compliance, Animal Control, and private agencies.

The immediate goal of the Crime Free Multi-Housing Program in Arlington is the reduction of calls for service which ultimately means a reduction in crime. The author recognizes that the effect of the program doesn't stop there. The survey data seems to indicate that the reduction in calls for service in the seventeen certified communities may suggest the CPTED techniques have been effective. It is necessary to point out that the events in New York on 9/11 may have affected the crime data being studied but there is no way of telling whether or not the data was mostly affected by 9/11 or CPTED strategies.

The Crime Free Multi-Housing survey results suggest several other points: The survey numbers will help coordinate patrol activity. Calls for service can affect how manpower is assigned. It will also save duplication of efforts by assigning officers to a permanent district where they get to know the business people and residents. Officers can take ownership of their district and get to care about what's going on there. In many cases there is a constant flow of officers being dispatched to apartment communities. A community out reach center, located in one of the apartment complexes, for example, in an area of minority concentration, and staffed daily by officers of the crime prevention division, will over time have a long term effect on calls for service in that area. An out reach center could provide a twenty-four (24) hour visual location and stopping point for officers to go to the restroom, get drinks, write reports, provide a place to meet complainants so they don't have to leave the neighborhood, to conduct interviews or talk with residents, and to be visible to all the area residents. There will always be activity and police presence which will, in itself, eliminate some of the unwanted people. An out reach center would also be a coordination point for a bike patrol. An officer could park his car at the out reach center and ride a bike through the adjoining communities. As officers spend time at the out reach center, they will build relationships, and they will get to know people. And then police will begin to get information as to criminal activity in the area. Ultimately, the police will gain the trust of the apartment community residents and in return they will get needed intelligence to solve crimes.

Crime displacement is a threat that apartment management and the police must take into account. When offenders are expelled from one apartment community,



apartment management and police must make an effort to track these individuals to ensure that they do not create another problem somewhere else in the city. The police would benefit from a better understanding and tracking of displacement which should reduce the criminal element from the city's apartment communities and improve personal safety for residents. To avoid the spreading effect of crime displacement, the police department must continue to recruit other apartment communities to join and be certified in the Crime Free Multi-Housing Program. At the same time, certified apartment communities should be visited on a regular basis to maintain personal contact with the apartment management staff. Property owners, managers, leasing staff, maintenance personnel and any other new employees in the management team should be invited to attend and be certified in Crime Free Multi-Housing. Also, a representative of the police department should regularly inspect the apartment community to ensure that they are maintaining a routine property inspection procedure including: building maintenance, stairs/balconies, courtyards, common areas, parking lots, perimeter fencing and litter control. Residents should be educated and reminded to recognize and report illegal activity as they are the eyes and ears of the community. Finally, it is also recommended that police officers attend the training to better understand the civil nature of rental communities, and to establish a rapport with apartment community managers.

Further research can focus on several questions raised as a result of this study: Where do city officials and law enforcement need to focus their attention? Are there any other issues and problems? What can be done to further reach out to these apartment communities? What is the effect of an outreach center and bike patrol concept in

apartment communities?

This study has attempted to provide a snap shot of Crime Free Multi Housing and serves as an early indicator to the body of knowledge of Crime Prevention through Environmental Design so that others may follow and continue the research.

## BIBLIOGRAPHY

- Angel, S. (1968a). *Criminological theory: introduction and evaluation*. Los Angeles: Roxbury.
- Angel, S. (1968b). *Discouraging crime through city planning*. Berkeley: University of California.
- Ashton, C. & Mirakian, J. (2001). Crime prevention through environmental design: the Linda Vista Continuing Education Center. *Campus Law Enforcement*, vol. 31, no. 4, 19.
- Atlas, R. & Young, S. A. (2002). Planting and shaping security success. *Security Management*, vol. 46, no. 8, 71 – 75.
- Atlas, R. (2003). How are criminals using CPTED? *Security Management*, vol. 47, no. 5, 148 -149.
- Aultman, M. G., Lee, N. J., & Wright, K. N. (1982). The fairness paradigm: an evaluation of change in juvenile justice. *Canadian Journal of Criminology*, vol. 24, 13 -25.
- Bennett, T., & R. Wright (1984). *Burglars on Burglary: Prevention and the Offender*. Brookfield, VT: Gower Publishing.
- Bing, R.L. & del Carmen, A. (2000). *Race and Crime*. Edited by R.L. Bing & A. del Carmen. Bellevue, N.Y: Coursewise Pub.

- Blakely, E. J. & Snyder, M. G. (1999). *Fortress America: gated communities in the United States*. Brookings Institution.
- Brantingham, P.J. & Faust, F.L. (1976). A conceptual model of crime prevention. *Crime and Delinquency*, 2, no. 10, 284-96.
- Brantingham, P. L. & P. J. (1984). *Patterns in crime*. New York: MacMillan.
- Brantingham, P. L. & P.J. (1990). Situational crime prevention in practice. *Canadian Journal of Criminology*, vol. 32, 17 – 41.
- Casteel, C. & Peek-Asa, C. (2000). Effective design (CPTED) in reducing robberies. *American Journal of Predictive Medicine* 18, no. 4, 99.
- Cisneros, H.G. (1995). *Defensible space: deterring crime and building community*. Washington, D.C: Department of Housing and Urban Development.
- City of Mesa, Arizona. (2004). *Crime prevention through environmental design (CPTED)*. (Brochure). Mesa, AZ: Author.
- Clarke, R. V. (1980). *Situational crime prevention: theory and practice*. Albany, N.Y: Harrow and Heston.
- Clarke, R. V. (1983). *Situational crime prevention: theory and practice*. Albany, N.Y: Harrow and Heston.
- Clarke, R.V. (1992). *Situational crime prevention: successful case studies*. Albany, NY: Harrow and Heston.
- Clarke, R. V. & Harris, P. M. (1992). Auto theft and its prevention. *Crime and Justice*, vol. 16, 1 – 54.

- Clarke, R. V. (1995). Situational crime prevention: building a safer society: strategic approaches to crime prevention. *Crime and Justice, 19*, 91 -150.
- “Crime prevention through environmental design.” Retrieved from:  
<http://www.stpete.org/police/cpted.htm>
- Clear, T. R. & Karp, D. R. *The community justice ideal” preventing crime and achieving justice*. Westview Press.
- (2000). *Crime prevention through environmental design*. Texas: Institute for Criminal Justice Studies.
- Crime Prevention Through Environmental Design Committee. (2000). *Crime prevention through environmental design: general guidelines for designing safer communities* (Brochure). Virginia Beach, VA: Author.
- Crowe, T. D. (1991). Designing safer schools. *School Safety, 1990 (Fall)*, 9 – 13.
- Crowe, T. D. (1991). *Crime prevention through environmental design: applications of architectural design and space management concepts*. Boston: Butterworth.
- Crowe, T. D. (2000). *Crime prevention through environmental design*. Elsevier.
- Cromwell, P. F. (1991). *Breaking and entering: an ethnographic analysis of burglary*. Newbury Park, C.A: Sage.
- del Carmen, A. (1997). An analysis of the theoretical, empirical, and policy development of crime prevention through environmental design in the United States during the nineteenth and twentieth centuries employing the conceptual orientation of interactive systems. Ph.D. Dissertation. Florida State University: School of Criminology and Criminal Justice.

- del Carmen, A. (1997). Campus crime: an environmental assessment. *Journal of Security Administration*.
- del Carmen, A. (1999). A quantitative analysis of citizens' confidence in the police and the fear of crime. *The Journal of Community Policing 1, no. 2*.
- del Carmen, A. & Robinson, M. B. (2000). Crime prevention through environmental design and consumption control in the United States. *The Howard Journal, 39, no.3, 267*.
- del Carmen, A. & Polk, E. (2001). Faculty employment in criminology and criminal justice: trends and patterns. *Journal of Criminal Justice Education 12, no. 1, 1 – 17*.
- Department of Community Development Services. (2004). *Crime prevention through environmental design (CPTED) checklist instructions* (Bulletin #021). City of Federal Way, WA: Author.
- Eck, J. (1997). Preventing crime at places. In crime prevention: What works, what doesn't, what's promising. [www.ncjrs.org/works/](http://www.ncjrs.org/works/)
- Edelman, S, & Rowe, W. Crime prevention from the justice system: a conceptual and planning model. *Canadian Journal of Criminology, vol. 25, 391 – 399*.
- Faust, F. L. (1973). Delinquency labeling: its consequences and implications. *Crime and Delinquency 19, no.1, 41 – 48*.
- Faust, F. L. (1974). A perspective on the dilemma of free will and determinism in juvenile justice. *Juvenile Justice 25, no. 1, 54 – 60*.

- Faust, F. L. (1975). A conceptual framework for criminal justice planning. *Criminology* 13, no. 2, 271 – 296.
- Felson, M. (1987). Routine activities and crime prevention in the developing metropolis. *Criminology* 25, no. 4, 911 -931.
- Files, L. B. (1999). Crime fighting by design. *Police*, vol.23, no. 10, 52 – 55.
- Fleissner, D., & Heinzelmann, F. (1996 August). Crime prevention through environmental design and community policing. *National Institute of Justice Research in Action*.
- Fort Wayne Division of Community and Economic Development. (2000). *Crime prevention through environmental design: your guide to creating a safe community* (Brochure). Fort Wayne, IN: Author.
- Fowler, E. P. (1987). Street management and city design. *Social Forces*, vol. 66, 365 – 390.
- Fyfe, J. J., Greene J.R., McLaren, R.C., Walsh W.F., & Wilson O.W. (1997). *Police Administration, Fifth Edition*. New York: McGraw-Hill.
- Gardner, R. A. (1995). Crime prevention through environmental design. *Security Management*.
- Geason, S. & Wilson, P. R. (1989). *Designing out crime: crime prevention through environmental design*. Canberra, Australia: Australian Institute of Criminology.
- Gieryn, T. F. (2000). A space for place in sociology. *Annual Review of Sociology*, 463 – 497.

- Gips, M. A. (2003). CPTED still the exception. *Security Management*, vol. 47, no. 10, 12.
- Glen, Sarah. (2002). *Safety audit – whangarei inner city*. New Zealand: Safer Whangarei Community Council.
- Hagan, F.E. (2003). *Research methods in Criminal Justice and Criminology*, sixth edition. Boston: Allyn & Bacon.
- Hope, T. (1995). Community crime prevention: building a safer society: strategic approaches to crime prevention. *Crime and Justice*, vol. 19, 21 – 89.
- Jacobs, Jane. (1961). *The death and life of great American cities*. New York: Vintage.
- Jeffrey, C.R. (1971). *Crime prevention through environmental design*. Beverly Hills, CA: Sage.
- Jeffrey, C.R. (1977). *Crime prevention through environmental design*. Beverly Hills, CA: Sage.
- Jeffrey, C. R. (1990). *Criminology: an interdisciplinary approach*. Englewood Cliffs, NJ: Prentice-Hall.
- Jeffrey, C. R. & Zahm, D. L. (1993). Crime prevention through environmental design, opportunity theory, and rational choice models. In Routine Activity and Rational choice. *Advances in Criminological Theory*, vol. 5, Edited by R. V. Clarke and M. Felson. New Brunswick, N.J.: Transaction Publishers.
- Kelleher, M. D. (1996). *New arenas for violence: homicide in the American workplace*. Praeger.



- Kushmak, J. (1981). *A re-evaluation of crime prevention through environmental design in Portland, Oregon: executive summary*. Washington D.C.: Office of Justice Planning and Evaluation.
- Lanier, M. M. & Henry, S. *Essential criminology*. Westview Press.
- Lusher, J. G. (1999). Crime prevention through environmental design (CPTED). *Corporate Security, vol. 25, no. 24, 5*.
- Mandelbilt, B. D. (2001). New approach to crime prevention. *Security, vol. 38, no.4, 57 – 59*.
- Martin, J. A., & Pentel, P. R. What the neighbors want: the neighborhood revitalization program's first decade. *Journal of American Planning, Vol. 68, 435 – 451*.
- Mather, A. T. (2002). Designing trouble away. *Security Management, Vol. 46, no 9, 90 – 95*.
- Mayhew, P. (1981), Crime in public view: Surveillance and crime prevention. In P. Brantingham and P. Brantingham (Eds.), *Environmental Criminology*. Beverly Hills, CA: Sage.
- Macdonald, K. & Kitteringham, G. A case of rogue gatherings (and other CPTED tales). *Security Management, vol. 48, no. 6, 129 – 131*.
- McKay, T. (1996). The right design for reducing crime. *Security Management*.
- McKay, T. (1998). CPTED tunnel vision. *Peel Regional Police*.
- McKay, T. (2000). Is CPTED misunderstood? *Security Management, vol. 44, no. 10, 128 – 130*.
- McKay, T. (2004). How are behavior, crime, and design related? *Security Management, vol. 48, no. 5, 146 – 148*.

- Melvin, T. & Starnes, B. (1993). Crime prevention through environmental design: the Tallahassee model. *The Police Chief XL, no. 10*, 130.
- Moffatt, R. E. (1983). Crime prevention through environmental design. *Canadian Journal of Criminology, vol. 25*, 19 – 32.
- Moody, T. (1977). *Crime prevention through environmental design*. Rockville, MD: Nation's States.
- Murphy, P. M. (2000). Loss prevention: grounds for protection. *Security Management 44, no. 10*, 7 – 91.
- Murray, C. (1994). The physical environment. In J. Wilson and J. Petersilia (Eds.), *Crime*, San Francisco, CA: Institute for Contemporary Studies.
- National Crime Prevention Institute (1986). *Understanding Crime Prevention*. Louisville, KY: National Crime Prevention Institute.
- National Institute of Justice. (1996). Crime prevention through environmental design and community policing (NCJ 157308). Washington, D.C: U.S. Government Printing Office.
- Newman, O. (1972). *Defensible space: people and design in the violent city*. New York: MacMillan.
- Newman, O. (1973). *A Design Guide for Improving Residential Security*. Washington, DC: Macmillan.
- Newman, O. (1976). *Design Guidelines for Creating Defensible Space*. Washington, D.C: National Institute of Law Enforcement and Criminal Justice.

- Niagara Regional Police Service. (2001). *Crime prevention through environmental design* (Brochure). Niagara Falls, N.Y.: Author.
- Nigro, L. G. & Waugh, Jr., W. L. (1996). Violence in the American workplace: challenges to the public employer. *Public Administration Review*, vol. 56, no. 4, 326 – 333.
- O’Shea, T. C. (2000). The efficacy of home security measures. *American Journal of Criminal Justice*, vol. 24, no. 2, 155 - 167.
- Parnaby, P. (2003). Disaster through dirty windshields law, order and Toronto’s squeegee kids. *Canadian Journal of Criminology*, vol. 28, 281 -309.
- Paulsen, D.J., Robinson, M.B. (2004). *Spatial aspects of crime: theory and practice*. Boston, MA: Allyn & Bacon.
- Pearce, E. (1977). *The CPTED concept*. Nation’s Cities: National League of Cities.
- Phillips, E. (1996). *Crime prevention through environmental design in the Bancroft neighborhood*. (Document: NPCR 1034). Minneapolis, MN: Author.
- Richardson, J. W. (2004). CPTED, the next step in community policing. *Crime and Justice International*, vol. 20, no. 83, 27.
- Rickett, C. M. (2001). Rethinking CPTED: through medical anthropology in the twenty-first century. Master’s thesis. University of Texas at Arlington: School of Criminology and Criminal Justice.
- Robinson, M. (1996). *The theoretical development of CPTED: 25 years of responses to C. Ray Jeffrey*. In *Advances in Criminological Theories*, Vol. 8. W. Laufer, F.Adler (eds.)

- Robinson, M. (1997). Lifestyles, routine activities, and residential burglary victimization. Ph.D. Dissertation. Florida State University: School of Criminology and Criminal Justice.
- Robinson, M. (1998). Accessible targets, but not advisable ones: The role of “accessibility” in student apartment burglary. *Journal of Security Administration* 21 (1): 29-43.
- Robinson, M. (2000). Using active learning in criminal justice: twenty-five examples. *Journal of Criminal Justice Education*, 11, 65 -78.
- Robinson, M. (2002). *Justice Blind? Ideals and Realities of American Criminal Justice*. Upper Saddle River, NJ: Prentice-Hall.
- Robinson, M. (2004). *Why Crime? An Integrated Systems Theory of Antisocial Behavior*. Upper Saddle River, NJ: Prentice-Hall.
- Robinson, M. B. & del Carmen, A. (1998). The theoretical development of ‘CPTED’: 25 years of responses to C. Ray Jeffrey. *Advances in Criminological Theory*, 8.
- Rouse, V. W. & Rudenstein, H. (1978). *American Institutes for Research. Crime in public housing: a review of major issues and selected reduction strategies*. Washington, D.C: Department of Housing and Public Development.
- Sharp, Art. (2001). CPTED: cleaning up the complexes. *Law and Order*, vol. 49, no. 10, 117 – 121.
- Sherman, L., Gottfredson, D., MacKenzie, D., Eck, J., Reuter, P., & S. Bushway (1998 July). Preventing crime: What works, what doesn’t, what’s promising. *NIJ Research in Brief*. [On-line]. Available: [www.ncj.org/pdffiles/171676.pdf](http://www.ncj.org/pdffiles/171676.pdf)

- Skogan, W. G. (1981). Assessing the behavioral context of victimization. *Journal of Criminal Law and Criminology*, vol. 72, no. 2, 727 -742.
- Smith, M. S. (1996). *Crime prevention through environmental design in parking facilities*. Alexandria, VA: National Association of Convenience Stores.
- Swope, R. E. (2001). Criminal theory on the street: analyzing why offenses take place. *Law & Order*, vol. 49, no. 6, 121 – 128.
- Thomas, J. L. (1998). Can CPTED tunnel vision be cured? In *CPTED: A Response to Occupational Violent Crime*, 37, no. 6, 27 – 31, 42.
- Tonry, M. (2000). *The handbook of crime and punishment*. Oxford University Press.
- Tucker, M. L. (1993, Oct). Crime prevention through environmental design: the Tallahassee model. *The Police Chief*, LX, no. 10, 130.
- U. S. Census Bureau. (n.d.). *2000 census population by race and Hispanic origin for City of Arlington, Texas*. Retrieved October 19, 2005, from <http://census.dfwinfo.com/sflracehisp.asp?Geo=City&Area=0175>
- Van Buer, M. G., Venta, E. R., Hurter, A. P., & Lurigio, A. (1996). The effect of vehicular flow patterns on crime and emergency services: the location of cul-de-sacs and one-way streets. *Journal of the Operational Research Society*, vol. 47, no. 9, 1110 – 1119.
- Wallis, A. (1998). *Crime Prevention Through Environmental Design: An Operational Handbook*. Washington, DC: U.S. Department of Justice.

- Wallis, F. & Ford, D. (1999). *Crime prevention through environmental design; the school demonstration in Broward County, Florida*. Westinghouse Electric Corporation: National Institute of Justice.
- Wilson, J. Q. & Kelling, G. L. (1989, Feb.). Making neighborhoods safe. *The Atlantic Monthly, Feb.*, 46 – 52.
- Zweir, G. & Vaughan, G. M. (1984). Three ideological orientations in school vandalism research. *Review of Educational Research, vol. 54, no. 2*, 263 – 292.

## BIOGRAPHICAL INFORMATION

David Joseph Jusiewicz graduated *Cum Laude* from the University of North Texas in 2002, receiving a Bachelor of Science degree in Criminology and Criminal Justice. He has owned and operated a delicatessen in Grapevine, Texas, since July, 1999, and was a substitute teacher for the Mansfield Independent School District.

Upon completion of his Masters in Arts degree in Criminology and Criminal Justice, he plans to utilize his experience teaching. He also plans to build upon the knowledge and experience gained by completing this study on Crime Prevention through Environmental Design by becoming involved in consulting for Texas cities and police departments.