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To the Graduate Council:

I am submitting herewith a dissertation written by John W. Barbrey entitled "An Analysis of Crime Control Policies in Knoxville's Public Housing." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Political Science.

John M. Scheb, Major Professor

We have read this dissertation and recommend its acceptance:

William Lyons, David Folz, Anthony Nownes, Bruce A. Ralston

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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and recommend its acceptance:

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Bruce A. Ralston

Acceptance for the Council:

Anne Mayhew

Vice Provost and Dean of
Graduate Studies

(Original signatures are on file with official student records.)

An Analysis of Crime Control Policies in
Knoxville's Public Housing

A Dissertation
Presented for the
Doctor of Philosophy Degree
The University of Tennessee, Knoxville

John W. Barbrey
May 2003

DEDICATION

This dissertation is dedicated to my wife, Alicia Bodnovich Barbrey,
and the rest of my family
for their love, patience, and encouragement
that inspired me to persevere to reach my goals.

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I wish to thank all those who helped me in completing the Doctorate of Philosophy in Political Science. I thank Dr. John M. Scheb, II for his constant guidance in conducting research and his continuing efforts to nurture my academic interests. I want to especially thank Lieutenant Robert Hubbs and John Venn of the Knoxville Police Department who provided the crime data used in the dissertation. Lt. Hubbs spent many hours showing me how to manipulate the data, and for that I am eternally grateful. I am thankful for the assistance of Dr. Bruce Ralston in the Geography Department, who also was willing to provide hours of Arcview training. I wish to thank Dr. Terry Gilhula at the Knoxville-Knox County Metropolitan Planning Commission who provided the census data used in the dissertation.

I thank Dr. Keith Clement, Brian Russell, and Dr. Anthony Nownes for their insights and advice throughout my four years at the University of Tennessee.

ABSTRACT

Between the late 1980s and 2001, the Knoxville Community Development Corporation and the Knoxville Police Department implemented policies intended to reduce crime in Knoxville's public housing. Beginning with pilot programs in two housing sites in 1989, a cooperative relationship between KCDC and KPD emerged that evolved into the KCDC Security Patrol in 1990.

By using Arcview software, I was able to separate the yearly violent crime incidents for 1992-2001 that occurred in two separate geographical regions: 1) the area represented by the KCDC housing sites where the policies were implemented, and 2) the remainder of the City of Knoxville.

The descriptive statistics indicate that none of the six policies evaluated in this study have an effect upon total crime *and* an effect upon the occurrence level of aggravated assaults in the KCDC sites. However, the 1999 team-based approach to policing and the new applicant screening process of 2000 seem to somewhat reduce crimes of opportunity and/or property crimes (i.e., burglary, larceny, auto theft, and robbery). A 1996 One-Strike eviction policy has the same effect, but separating it from confounding events is not possible. The demolition of College Homes in 1998 has a marginal effect upon aggravated assaults.

Because I could not conduct a survey of Knoxville's public housing residents, regression analyses in a cross-sectional design are used to gain further insight into other possible variables effecting Knoxville's crime rate. An individual census tract is the unit of analysis. Socio-economic and demographic indicators of crime are used, as well as a policy dummy variable and a variable representing the degree of public housing within each tract. A methodological problem during data collection within KPD prevents the use of data prior to 1996. The regressions reveal that crime in Knoxville (1996-2001) is consistently associated with the proportion of males, and the proportion of those who are over the age of 25 who do not possess a high school education.

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CHAPTER I INTRODUCTION

Purpose of this Study

Crime in Knoxville's public housing is an ongoing problem for the Knoxville Police Department (KPD) and the Knoxville Community Development Corporation (KCDC). Between 1986 and 1993, the KPD sought to disrupt several gangs that were transporting cocaine and crack to Knoxville's housing projects from Florida. One particular gang was linked to dozens of drive-by shootings and 12 murders. Despite the arrests of the leaders of the larger gangs by the late 1990s, smaller gangs, drug dealers, and prostitutes continued to operate in and around Knoxville's public housing (KCDC 2001). Although public housing accounts for 1.5% of Knoxville's total households, 15% of the total aggravated assaults and 4.4% of the total violent crimes occurred in KCDC developments in 1997. When one compares the 1997 percentage of violent crimes per number of households in KCDC developments to the percentage of crimes per households citywide, public housing had a higher ratio in five of seven violent crime categories (including aggravated assault, auto theft, burglary, robbery, and rape).

The physical nature of the sites and the types of residents who live there may be the direct causes of the crime problem. The sites are typically 1-2 story brick structures, with a high population density. The 2000 KCDC tenant characteristic report to HUD for all KCDC residents paints an interesting picture.¹ Of the residents, 65% have extremely low incomes, or below 30% of median. More than half (59%) of the residents have incomes between \$5001 and \$10,000. Over 90% receive some form of income assistance (including TANF, Social Security, or a pension). There are plenty of easy crime targets in KCDC, as 51% of the residents are over age 62 or are disabled. Although the KCDC population is racially diverse (48% Black and 52% White), 43% of household members are under the age of 18 (KCDC 2000b).

The purpose of this study is to determine whether public policies/programs that attempted to reduce crime in Knoxville's public housing developments were effective. The evolution of the policies and programs include:

- 1) Physical safety improvements made to individual housing projects during the 1980s based on the theories of Crime Prevention Through Environmental Design (CPTED)
- 2) The privatization of Knoxville streets in October 1992 (which allowed KCDC to issue "No Trespass" notices)
- 3) The assignment of one Security Patrol officer to each KCDC study site in February 1993
- 4) A "One Strike" eviction policy added to KCDC leases in September 1996

¹ including the KCDC residents who do not live in the study sites

- 5) The demolition of the College Homes housing project in December 1998 with funding from HUD's HOPE VI grant program
- 6) A March 1999 team-based approach to policing that included several new policies
- 7) A new residency applicant screening process in September 2000

The histories of all the above policies will be described. Crime data for the City of Knoxville were available for the years 1992-2001, which permits the use of descriptive statistics to evaluate possible effects of the last six policies. Due to data restrictions, multivariate regression analysis is only possible for the last four policies/programs.

The Need for Additional Research

There is no single set of statistics that measures crime in individual or aggregate housing projects nationwide. As a result, scholars tend to study individual housing projects or all the projects within a single PHA. Despite this lack of comprehensive data, policymakers and law enforcement officials agree that crime is at its highest levels in public housing communities (Hellegers 1999). Holzman (1996) is of the opinion that very few researchers have empirically examined crime in public housing. Although some have made note of the fact that crime is prevalent around/in public housing, they have ignored the unique nature of public housing as an institution, and are unaware of its physical nature and administrative processes. Government builds it, owns it, pays for its operations, and provides economic assistance that serves as the bulk of its residents' incomes. Unfortunately, criminal justice research is dampened because many police executives believe that PHAs belong to the federal government, and many PHAs do not cooperate with police. For Holzman (1996), crime in public housing should be studied due to public housing's history, its unique population, and the problems it creates for local law enforcement agencies.

Public housing in the United States originated from the 1937 United States Housing Act, which was intended to assist state and local governments in the creation of housing for low-income families. The federal government does not operate the organizations that are commonly referred to as public housing authorities (PHAs). They are generally either service agencies operating within state, regional, county, and city governments, or they are independent corporations with limited ties to local government. PHAs develop organizationally in response to local needs, resulting in PHAs with different sizes and administrative arrangements. The United States currently has over 3200 PHAs, encompassing 1.3 million housing units and 3.3 million residents (Holzman 1996). According to Casey (1996), the median age of PHA renters in 1991 was 55 years, and 44% of PHA households included children. Goering et al. (1994) found that 54% of public housing residents were African Americans and 13% were Hispanic, with an average household income was \$7400.

KCDC and Study Sites

KCDC is the independent corporation that manages Knoxville's public housing, oversees admissions and occupancy, provides maintenance for the facilities, and seeks federal grants to fund facility upkeep, educational/training programs, and security personnel. At the top of its organizational chart is a Board of Commissioners, to which the Executive Management must ultimately answer. KCDC is divided into four departments, each having several divisions:

- 1) Finance & Administration (Personnel, Accounting, Procurement, Management Information Systems)
- 2) Social Services (Elderly/Disabled Services, Family Services, Self-Sufficiency Programs)
- 3) Redevelopment (Section 8 Acquisitions/New Construction and Rehabilitation)
- 4) Housing Management (Housing Management, Grants management, Admissions & Occupancy, Maintenance) (KCDC 1998a)

There are seven family-oriented KCDC sites that are the focus of this research, which fall under the supervision of the Housing Management Department. They are: Western Heights, Montgomery Village, Austin Homes, Walter P. Taylor Homes, Christenberry Heights, Lonsdale Homes, and College Homes (KCDC 1998b). See Figure 1 below for their relative locations.



Figure 1. KCDC Study Sites

The Game Plan

This research proceeded in three stages. The first stage was the collection of background factual information about the changes in the public policies/programs that have occurred in Knoxville since the late 1980s to control crime in the Knoxville's public housing. This information consisted of written grant applications, budget summaries, internal agency policies and procedures, and crime reports from KCDC and KPD. Information was also collected through informal meetings lasting 1-2 hours with key KPD and KCDC policy makers. The initial information gathering stage of the research allowed specific policy changes to be identified that could be evaluated for effectiveness.

The second stage in this research was the compilation of descriptive statistics based on crime incident data from 1992-2001 for the City of Knoxville. The raw database was corrected and filtered using Arcview 3.2 mapping software and Geographic Information System (GIS) map data provided by KPD. The KPD crime database averages approximately 11,700 crime incidents per year when the errors are removed ($N = 116,795$).

The third stage of this research was a multivariate regression analysis of demographic and socio-economic census variables at the tract level, which included representative policy variables. A cross-sectional design was used for each year between 1996-2001.

The Chapters

The bulk of this introductory chapter will examine the historical events that occurred in Knoxville regarding the implementation of seven policies and programs intended to reduce crime in the seven KCDC housing projects. Chapter Two is a literature review. The actions of KCDC and KPD reflect federal housing policy (i.e. HOPE VI, applicant screening, use of a "one-strike" eviction policy), trends in policing (i.e. order maintenance and aggressive enforcement), and the theories of CPTED.

Chapter Three will describe the data and methods to be utilized. The crime data supplied by KPD and the methods used to analyze it statistically will be described, as well as any procedures used to remove errors that prevented mapping analysis. The uses of the Arcview software as applied to the data will be detailed in layman's terms. By combining the KPD's crime data and maps of Knoxville with Arcview mapping software, it is possible to visually (by creating maps which indicate where crimes have occurred) and statistically demonstrate how incidences of certain crimes have changed inside the housing projects and in the remainder of Knoxville before and after the implementation of public policies. Census tract-level data will be used to determine whether the implemented public policies or other variables affected the crime rates for the census areas containing the targeted housing projects and tracts not containing public housing. Census data for individual tracts is crucial for this analysis, because citywide census data will not allow a valid evaluation of policies that effect targeted public housing.

Chapter Four will contain analyses of descriptive statistics and regression findings. Chapter Five will consist of “lessons learned” and suggestions for future policy and research.

Anticipated Findings

The privatization of streets in 1992 and the corresponding use of “No Trespass” notices should result in a decrease in crime. This would be due to the removal of non-residents who travel to the affected projects in search of drugs, prostitutes, or opportunities to commit other crimes.

The assignment of officers to each KCDC site in 1993 and the team-based approach of 1999 should reduce crime in all of the KPD-patrolled projects for two reasons. First, officers and residents would become more familiar with each other, thereby allowing officers to identify those who are not residents. Second, the officers should develop a sense of ownership for their assigned project, and the residents might be more willing to cooperate with officers they regularly meet.

The “one-strike” eviction policy of 1996 and the applicant screening policy of 2000 should result in reduced crime, because they would allow the detection and removal of problem tenants. The demolition of College Homes in 1998 should intuitively result in a dramatic decrease in crime in the geographic area occupied by the housing project itself. However, I suspect that crime was only displaced to the surrounding neighborhoods, and was not eliminated. Although there might be a brief period of crime reduction, I anticipate that I will find a quick return of crime to the area surrounding the demolition site.

CPTED and The Beginning of the KCDC/KPD Relationship

During the late 1980s, Crime Prevention Through Environmental Design (CPTED) was the dominant paradigm in law enforcement in Knoxville’s public housing projects. KCDC had been the recipient of multiple grants from the U.S. Department of Housing and Urban Development (HUD) to pay for its CPTED measures, in addition to providing funding for various social programs. Although the names of these grants sometimes changed from one fiscal year to the next, these grants were all used by KCDC to supplement its operating budget. Until the late 1980s, most of this external funding was spent on major building renovations, building maintenance, or physical security measures. These grants included the Comprehensive Improvement Assistance Program (CIAP), the Comprehensive Grant Program, and the current Capital Fund Program (CFP) (White 2002).

Drug activity in KCDC developments reached noticeable levels in 1987, with open drug sales from sidewalks. By the summer of 1988, buildings slated for modernization by KCDC were repeatedly burglarized and vandalized. Rumors began to

spread that a “Florida gang” was operating within the projects, and gang members let it be known that they did not want “their” buildings to be modernized. Initially, KCDC drew on the experiences of other housing authorities and the advice and assistance from the KPD to stop the drug dealers (KCDC 1989).

Participation in professional organizations and personal contacts suggested to KCDC management that several preparatory actions should be taken to ameliorate any crime developments in Knoxville’s public housing. Staff members provided in-service training for KPD and Knox County Sheriff’s Department officers, and assisted KPD in encouraging residents to participate in Neighborhood Watch Programs. KCDC’s Director of Housing served on KPD’s inter-agency Crime Assessment and Prevention Program. Both the Director of Housing and the Executive Director received training in CPTED at the National Crime Prevention Institute at the University of Louisville. All of the KCDC management and maintenance staff received training in crime awareness and prevention. Internal KCDC procedures were reviewed, including the Admission Standards and lease enforcement. There was a renewed focus upon drug prevention through educational and social programs that provided an alternative to the drug culture (e.g., the Knoxville’s Recreation Department programs, Just Say No Clubs) (KCDC 1989).

KCDC also pursued several strategies external to its organization during the late 1980s to identify crime problems. Each of the housing developments already had a Community Resident Organization. KCDC created a Resident Council that held monthly meetings. The Resident Council consisted of two members from each resident organization, the KCDC Executive Director, the Director of Housing, the individual development Housing Managers, and the KCDC Maintenance Administrator. KCDC reviewed its developments for proper street address and housing unit numbering with the KPD, Knoxville Fire Department, the local 911 System, the Knoxville-Knox County Metropolitan Planning Commission, and the Postal Service. It was hoped that better location identifiers would reduce confusion for emergency service provision and would foster better data collection (KCDC 1989).

KCDC continued to follow CPTED strategies by working cooperatively with external agencies. In 1987 (KCDC 1998d), the Mayor’s office, City Codes Enforcement, and other Knoxville City departments identified overgrown locations on KCDC property, as well as adjacent public and private property. Private property owners were required to clear underbrush or pay the city to do the work. City and KCDC staff cleared public property adjacent to the KCDC developments (KCDC 1989).

In 1988 (KCDC 1998d), the City’s Traffic Engineering Department, after consultation with KPD and the Knoxville Fire Department, allowed the placement of barricades to either close streets or make them one-way, thereby preventing drug buyer traffic from flowing through the housing developments. Dead ends or cul-de-sacs were created with the use of concrete curb stops, dumpsters, concrete traffic dividers, or landscaping (KCDC 1989).

KCDC started to add security lighting at multiple sites using a combination of CIAP, CGP, and KCDC operating funds in 1988 (KCDC 1998d). KCDC staff inspected the lights weekly for outages, and the Knoxville Utilities Board agreed to make repairs in a timely fashion (KCDC 1989).

Resident employees cleaned the common areas of KCDC developments, and dumpsters were emptied daily. Residents could send applications to the Knoxville Nursery and Horticulture Department for the planting and maintenance of a tree in front of their housing unit, as part of the City's Adopt-A-Tree Program in 1989 (KCDC 1989).

Building on Oscar Newman's (1972) concept of "defensible space," KCDC wanted to separate the housing developments' common areas and streets from the residents' private space in 1989 using CIAP and operating funds (KCDC 1998d). Instead of using chain link fencing that created a prison appearance and which was comparatively easy to damage, KCDC decided to install wrought iron fencing. Although more expensive, wrought iron fencing is easy to maintain and harder to damage, because it is installed in prefabricated sections that are welded together, and the posts are secured with concrete. Not only did this fencing prove impossible for the drug dealers to remove, but it was also more pleasing in appearance, primarily because this form of fencing is typically seen in middle and upper class neighborhoods (KCDC 1989).

By Fall of 1989, the buildings were ultimately modernized and reoccupied, and directed patrols and enforcement efforts by the KPD were successful at forcing some of the street dealers to relocate. KCDC then tried to take the initiative in reducing drugs in public housing by implementing a comprehensive pilot program in Walter P. Taylor Homes. The effort was initially funded by the existing KCDC operating budget. The Chairman of KCDC, William Baxter, held a press conference on September 25, 1989 to describe the program, titled: "A Comprehensive Drug Prevention and Enforcement Program for Walter P. Taylor Homes and (the adjoining) Dr. Lee Williams Senior Citizen Complex" (KCDC 1989).

The program included the use of KPD officers to patrol the development 24 hours a day, in two-man walking patrols from 4:00 p.m. to 12:00 midnight, 12:00 midnight to 8:00 a.m., and 8:00 a.m. 4:00 p.m.. KCDC provided a housing unit in the middle of a drug-selling area to KPD for an office, and provided a rent-free unit to a KPD officer. The officers used cellular phones in addition to their police radios and used a KPD cruiser. KPD used No Trespass letters to place non-residents on notice not to return (which will require more explanation later). The Walter P. Taylor gymnasium became the site of a new Boys/Girls Club, which provided counseling and training opportunities for parents and teens. Privacy fencing was installed to separate the elderly section of Taylor Homes from the family section. Benches where drug dealers congregated were removed, overgrown landscaping was cut down, and lighting was added. A Neighborhood Watch was established and KCDC created a GED and Self-Sufficiency Resident Training Program. The program plans specifically stated that the final phase of

the program would be the expansion of its components to other developments and the securing of additional external funding (KCDC 1989).

Also during 1989, KCDC received CIAP funding for major building renovations in Austin Homes. By November 1989, vandalism of the improvements and thefts of the building materials forced Bill Crown, Director of Housing for KCDC, to contact KPD Captain Paul Fish for assistance. Fish was in charge of KPD's Crime Prevention Unit, and Crown knew Fish from their participation in KPD's Crime Assessment and Prevention Program. Initially, KPD provided off-duty officers to secure Austin Homes when the construction crew was not on the premises, from Friday afternoon until Monday morning. By the end of the second weekend, two thieves had been arrested (Green 2001).

Given the success in Austin Homes and the pilot program in Taylor Homes, KCDC began using its operating funds budget and modernization monies at the end of 1989 to pay for the deployment of off-duty KPD officers in six KCDC developments. Initially, six officers were divided into three, two-man shifts, patrolling 24 hours per day for two months. Officers photographed and videotaped vandalism and narcotics sales (Green 2001). In 1990, the patrols officially became known as the KCDC Security Patrol. At first, KPD provided the use of its vehicles and equipment as an in-kind contribution (KCDC 1998b).

During the fall of 1989, HUD offered a new grant called the Public Housing Drug Elimination Program (PHDEP), which was intended to improve the quality of life of residents and to reduce drug activities in public housing. Specifically, PHDEP offered grants to PHAs to develop tenant anti-crime controls, community drug prevention and treatment programs, tenant job training, additional law enforcement, enhanced security measures, and physical safety improvements (Hellegers 1999). Despite some success in reducing drug activities in specific locations, KCDC and KPD believed that drug dealing and violent crime were still rampant in Knoxville's public housing. KCDC applied for the new grant by detailing the KPD/KCDC cooperative efforts between 1988-1989 and by utilizing a problem assessment that contained anecdotal and statistical information (KCDC 1989). KCDC was compiling the PHDEP grant application at the same time the Taylor Homes pilot program was implemented.

Despite all the previous crime control efforts, vehicles not clearly marked as belonging to KCDC or KPD were still approached by multiple street drug dealers during the fall of 1989. Dealers even approached the Knoxville Police Chief, who drove an unmarked car. Residents notified KCDC staff that female residents were being offered cash to allow dealers to use their apartments. Dealers offered cash, tennis shoes, pizza and other inducements to resident youths to assist in drug deals and to serve as lookouts. Concrete street barricades and dumpsters were vandalized or moved, and dealers forced out of one development would later appear in another. After the pilot program began in Taylor Homes, KPD received phone threats that an officer would be shot in retaliation for forcing the dealers to relocate (KCDC 1989).

KPD tracked calls for police service in 1989 on the streets within and surrounding the KCDC developments. Based on the KPD analysis, the general population of Knoxville had 341 calls per 1000 persons, as compared to 478 for the housing developments. Traffic counts conducted by the City of Knoxville found that between 1600 to 1800 cars, an unusually high level, were driving down a street adjacent to Taylor Homes on a daily basis. Over 1300 cars drove through one street daily in Austin Homes. The high traffic counts and calls for service left little doubt for KCDC that it still had crime problems (KCDC 1989).

KCDC received its first PHDEP grant monies in 1990 (for fiscal year 1989), with \$89,000 allocated to CPTED strategies (primarily fencing) and \$161,000 for law enforcement (KCDC 2001). KCDC already had support from KPD, so KCDC simply used the new PHDEP monies to pay for the use of KPD officers and equipment. Captain Fish was assigned to coordinate the off-duty KPD officers who would work in the six sites. At the outset of the KPD/KCDC arrangement, the KPD off-duty officers were paid as KCDC employees (Green 2001).

The first KCDC/KPD contract was dated October 25, 1990. KCDC considered other options to using KPD staff to patrol its facilities. It could have contracted with a local security firm, formed its own security staff, or used a tenant patrol. The 1989 PHDEP grant application summarized their reasoning:

We believe the problem required individuals well trained in law enforcement techniques; knowledgeable in applicable laws; armed but experienced in the when, where, and how of the use of arms, and especially experience in restraint of their use; "street-wise" about the problem that existed; and capable of making on-the-spot arrests. Only KPD officers met this description. (KCDC 1989)

No Trespass List and Street Privatization

Captain Fish met with a municipal court judge in 1989 to discuss methods of reducing crime related to the ongoing construction in Austin Homes. KCDC's No Trespass List policy evolved from these meetings. First, the judge agreed to escalate the penalties for repeat trespassers in the construction area (Green 2002). Second, signs were posted around Austin Homes, warning people not to trespass. Beginning in 1991, No Trespass signs were installed in all of KCDC's family developments. Those ignoring the signs were initially given oral warnings, and non-residents were given written notices. KPD and KCDC agreed in 1991 that anyone arrested for narcotics offenses or repeat order maintenance crimes (i.e. public drunkenness, vandalism, prostitution, etc.) would be evicted by KCDC and would receive a written notice by mail not to return. Those who received the notices were placed on a No Trespass List (Green 2001).

Individuals on the list had some type of history that included drugs or other crimes that might affect the safety of KCDC residents. To be placed on the list, an individual must first cause a disturbance or commit a crime on KCDC property. A

Security Patrol officer or other KCDC staff member must then complete a “No Trespass Request” form and send it to the KCDC Coordinator’s office. The KCDC Coordinator was the full-time KPD supervisor of the Security Patrol. The KCDC Coordinator’s full-time assistant would first conduct a background check on the individual, then review any supporting documentation or evidence, and finally would make a written recommendation to KCDC as to whether the individual should be placed on the list. The Property Administrator at KCDC made the final decision to accept or deny the recommendation. If put on the list, the Property Administrator would notify the person by registered mail, and the KCDC Coordinator’s office would add the person to the crime databases maintained by KPD (Hazelwood 1999a).

If the Security Patrol found an individual on the list on KCDC property, the person would be served with a verbal trespass notice by the Security Patrol and be escorted off the property, if the individual had not yet been served in writing. If the individual had been previously served, the officers would enforce the Knoxville’s criminal trespass statute by either arresting the person, giving the person a misdemeanor citation, or giving them a citation to municipal court. Anyone wanting to be removed from the list had to appeal in writing to the main KCDC office. Appeals were forwarded to the KCDC Coordinator’s assistant who would again conduct a background investigation. Factors such as other crimes (or lack thereof) committed after being placed on the list, as well as the location, severity, and type of crime would be evaluated. The KCDC Coordinator would make a recommendation to KCDC based on the investigation. The KCDC Vice President of Public Housing would make the final decision whether to approve the applicant’s removal request (Hazelwood 1999a).

Since 1991, KCDC used PHDEP funding to give photo identification cards to all of its residents. KPD used walking and bicycle patrols, as well as I.D. checkpoints at entrances, to identify anyone on the property (KCDC 1997a). Much of what KPD officers do within the KCDC developments would not be legally possible unless the streets within the sites were private property or if KPD officers were not acting as private agents of KCDC. Specifically, KPD officers would not have sufficient probable cause to stop a citizen and demand to see identification on a public street, nor would they be able to charge an otherwise law-abiding citizen with trespassing or approach an individual with a drug detection dog.

College Homes was the first site that KCDC sought to make private property by leasing the streets within the housing development. The Knoxville City Council approved the closing of the streets, sidewalks, and other areas in College Homes in July 1990, and formally leased the closed areas to KCDC on August 8, 1990. The City Council then closed streets and sidewalks in Western Heights, Montgomery Village, Walter P. Taylor Homes, Christenberry Heights, Lonsdale Homes, and Austin Homes in September 1992, and formally leased them to KCDC on October 14, 1992 (Defendant’s Memorandum, *Thompson v. Ashe* 1997).

Court Challenges

The ability of the Security Patrol to search individuals trespassing on KCDC property and the legality of the No Trespass List were challenged in court. The first case was *United States v. Lumari Harshaw*, argued in the U.S. District Court for the Eastern District of Tennessee at Knoxville during May 1995. On October 13, 1994, two Security Patrol officers were conducting an ID checkpoint in Austin Homes on Hanson Avenue. Harshaw parked his car in a space just before reaching the checkpoint. When he did not offer proper ID, the officers discovered through NCIC that he had a suspended drivers license. As one officer wrote a citation for the offense, she allowed Harshaw to exit the vehicle. The officer observed that Harshaw put one hand in his pocket while he talked to two relatives at the rear of the car. Seeing a bulge in his pocket and thinking he had a gun or drugs, the officer grabbed his hand. At that point, Harshaw threw something over an embankment and ran. Harshaw resisted arrest until backup officers arrived to help handcuff him. When arrested, he was in still in possession of 17.7 grams of crack cocaine and 9.7 grams of marijuana, and the packet he threw contained 37.8 grams of powdered cocaine (Memorandum Opinion, *U.S. v. Lumari Harshaw* 1995).

Harshaw was indicted by a federal grand jury on one count of possession with intent to distribute cocaine, and one count of possession with intent to distribute cocaine base. The defendant moved to suppress all the evidence gained as a result of the search of his person on Fourth Amendment grounds. The District Court denied Harshaw's motion, concluding that the roadblock-type ID checkpoint and subsequent search of the defendant were acceptable for multiple reasons. First, the officers were not using unrestrained discretion, because they were inspecting every vehicle in a systematic manner, and had the right to investigate evidence of other crimes. Second, once the officer discovered that Harshaw did not have a driver's license, the officer had probable cause to arrest the defendant and to conduct a limited pat-down for the officer's safety. Third, the officers were on the premises due to KCDC's legitimate concern about unauthorized individuals having access to the property. Fourth, the officer had reasonable grounds to stop the defendant initially because he seemed to be trying to avoid the checkpoint, in addition to the suspicion created by the defendant's attempt to flee (Memorandum Opinion, *U.S. v. Lumari Harshaw* 1995).

The No Trespass List was challenged directly by Albert Thompson, a non-resident of KCDC, when he filed a class action suit in 1997 in the U.S. District Court for the Eastern District of Tennessee at Knoxville. The District Court dismissed his suit, so Thompson appealed to the U.S. Court of Appeals for the Sixth Circuit. Thompson was suing KCDC; the KCDC Executive Director, Fred DeBruhl; the City of Knoxville; the Knoxville Mayor, Victor Ashe; and Phil Keith, the Chief of KPD (*U.S. v. Thompson*, 16 Fed. Appx. (6th Cir. Tenn. 2001)).

Thompson had been arrested 23 times on KCDC property, and had been on the No Trespass List for several years. Even during the court proceedings, Thompson was arrested again on KCDC property for possession of cocaine with the intent to distribute.

At the time of the arrest for criminal trespass that prompted his suit, Thompson was in the apartment of a KCDC tenant. The tenant, an acquaintance of Thompson, gave him permission to enter so he could use the telephone to find his brother. The police discovered Thompson on the premises when they arrived at the apartment looking for another man (*U.S. v. Thompson*, 16 Fed. Appx. 340 (6th Cir. Tenn. 2001)).

Thompson claimed the defendants' use of the No Trespass policy had

“violated the plaintiff’s rights to privacy and freedom of association protected by the First and Fourteenth Amendments; violated the plaintiff’s rights to be free from unreasonable searches and seizures protected by the Fourth Amendment; and violated the plaintiff’s rights to equal protection and due process of law under the Fourteenth Amendment. The complaint further claimed that these actions...violated the Tennessee Constitution, and that the defendants had maliciously harassed the plaintiffs in violation of Tennessee law.” (*U.S. v. Thompson*, 16 Fed. Appx. 340 (6th Cir. Tenn. 2001))

The District Court granted the defendants' motion for summary judgment. The Court found that Thompson's arrest for criminal trespass was a result of probable cause, did not violate Tennessee's Criminal Trespass statute, and did not violate the Fourth Amendment. The Court also found that Thompson's right to visit other individuals on KCDC property was not fundamental, because KCDC had a "legitimate government interest" in protecting its residents. The No Trespass policy did not discriminate against any specific group of individuals; therefore, it did not violate the equal protection clause of the Fourteenth Amendment. In addition, as Thompson had no protected right to visit family or friends on KCDC property, he did not have to be granted procedural due process (*U.S. v. Thompson*, 16 Fed. Appx. 340 (6th Cir. Tenn. 2001)).

The Beginning of the Current Contract – One Officer Per Site

In 1992, an officer was injured in a traffic accident while working for KCDC (Green 2002). Due to concerns from its insurance carrier, KCDC was forced to contract with KPD for the provision of officers and to cover them under the Knoxville's liability insurance. Since KPD officers were working over 40 hours per week, the new contract would pay them at time and a half. The City of Knoxville would also be paid an additional 10% to cover administrative, vehicle, and worker's compensation costs. The 1992 contract included the above changes and marked the beginning of the current KPD/KCDC contractual relationship.

Lt. Ken Bowman was the KCDC Coordinator from 1993–1996. In February 1993, in response to drug activities that were occurring at all times of the day, KCDC used PHDEP funds to deploy one Security Patrol officer for the first time in each of the seven family developments during KCDC business hours. Captain Don Green (then a Sergeant) was the Coordinator from 1996-1999 (KCDC 1998b). Both Bowman and Green were involved in enforcement efforts by external law enforcement agencies that targeted organized out-of-state gangs during the mid-1990s (Green 2002). The impact of these enforcement efforts will be addressed further in Chapter 3.

One-Strike Eviction Policy

KCDC leases, like other residential lease agreements, contain expectations for resident and guest behavior. Residents can be evicted for any behavior that threatens the life, health, safety, property, or peaceful enjoyment of the property of the other residents. However, KCDC lease agreements have several additional penalties. Not only can residents be penalized or evicted for crimes they commit, but also for crimes committed by their guests. Based on the “One-Strike” public housing eviction policy advocated by the Clinton Administration in 1996, and due in part to the purpose of the PHDEP grant, residents can be evicted for any drug related offense, or involvement in drug activity of any kind, *inside or outside* KCDC property. The One-Strike policy was officially incorporated into KCDC’s lease agreements on September 1, 1996 (KCDC 1998b). A resident does not have to be convicted of a drug related crime; he/she only has to be charged with one. Any criminal activity by a resident or a guest is documented with a security report and is forwarded to the relevant KCDC development manager, who makes the eviction decisions (Hazelwood 1999b).

College Homes and HOPE VI

KCDC applied to the U.S. Department of Housing and Urban Development’s HOPE VI grant program in 1997 with the goal of demolishing College Homes and building mixed-income housing in the historic Mechanicsville area. Mechanicsville was established in 1870 to the west of Knoxville’s downtown, and is one of the city’s oldest neighborhoods. One revitalization plan stated the following goals for the revitalization project: 1) eliminate slum conditions, 2) redesign poorly planned and outmoded physical patterns, 3) free choice land for new development, 4) eliminate blight conditions, 5) upgrade the surrounding neighborhood, 6) offer economic development and commercial opportunities, and 7) produce a sustainable residential neighborhood (KCDC 1997b, p. B-14).

Built during the Roosevelt era, College Homes occupied 15 acres of Mechanicsville. With 24.6 units per acre, in a square, two-story, brick, “bunker style” design, College Homes was becoming extremely expensive to maintain and manage by the late 1990s. Property management received 50 percent more work orders than any other KCDC site. The baseboard heating system was expensive to maintain, and College Homes had the highest utility costs of all KCDC’s family developments. It would take all of KCDC’s capital improvement grant funding for five years to modernize College Homes, at an estimated cost of \$24.2 million (KCDC 1998c).

When originally constructed, anyone capable of purchasing a car would have too much income to qualify for residency. Consequently, the development had few parking spaces and the Knoxville Fire Department could not gain access to most of the buildings via the narrow access alleys. The design of the development and the topography prevented the widening of the adjacent streets and the adaptation of sidewalks and entrances to meet Americans with Disabilities Act standards. The style of windows

prohibited air circulation, yet the buildings also lacked insulation. Despite weatherization in the mid-1980s, the interior walls often sweated and the original terra cotta tile roofs leaked during bad weather, causing mold to form on interior walls and ceilings. To prevent crime, concrete barricades and wrought iron fencing were installed, yet the site's design prevented the creation of "defensible space" and the installation of surveillance cameras. The barriers only served to isolate the development from the surrounding neighborhood. Several of the buildings did not receive more than three hours of sunlight per day (KCDC 1998c).

Not surprisingly, the development was an easy target for predatory criminals, and KCDC found it impossible to get families to live in College Homes. According to one KCDC analysis, College Homes residents were eight times more likely to be assaulted than residents elsewhere in the city, and the development had 20 times as many drive-by shootings than the Knoxville average (KCDC 1997b).

The total cost of the development project was \$42.8 million. The sources included \$22.1 coming from HOPE VI, \$8.2 million from home buyers, \$4.7 million in equity from low income housing tax credits; \$750,000 from private foundations; \$3 million from the CGP; \$1.2 million from CDBG and utility board funds; \$820,000 from KCDC; and \$2 million from other local public funding (KCDC 1998c, p. 32). In order to separate the HOPE VI project from the rest of its activities, to separate the project from the stigma of "public housing," and to make it easier to receive charitable contributions for the project, KCDC created a separate 501(C)(1) not-for-profit corporation called Passport Development Corporation (PDC). PDC would operate as a subsidiary of KCDC, using KCDC's expertise and resources, yet existing as a separate corporation. KCDC used Cornerstone Knoxville LLC as the Master Developer for the College Homes/Mechanicsville Revitalization Program.

After environmental review, the demolition application for the existing buildings was approved on July 1, 1998. Demolition began in December 1998, and was completed before the end of winter. Once the buildings were demolished on the College Homes site, they would be replaced with two-family rental duplexes and mixed-income single-family homes. The replacement dwellings would be in the form of individual, residential houses, in several different architectural styles to mimic a traditional neighborhood. The homes would have washer/dryer connections, abundant closet space, and first floor bathrooms. All the homes would have front porches, windows, and residential style doors that faced the streets, thereby permitting the residents to keep watch over the community (KCDC 1998c).

Before the buildings could be demolished, KCDC had to develop a strategy for relocating the residents. The residents were typically very poor, with 31 percent of the households having zero income in 1997. The average annual household income was \$2220. Residents would be given a choice of relocating to another KCDC development or a Section 8 property that accepted Certificates/Vouchers to offset any increase in rent. KCDC provided lists of available properties to the current residents, and even transported

them to prospective Section 8 properties. Part of the HOPE VI grant funding would be spent on self-sufficiency case managers and job placement specialists in a new KCDC program called Passport Housing. The program was intended to “promote income diversity by requiring all adult family members to be employed or in job training and fulfilling a contract with specific goals and time lines to become self-sufficient” (KCDC 1998c, p. 18).

KCDC acquired several tracts of land outside the area occupied by College Homes. In addition to 150 vacant lots, three churches and four small businesses were acquired and relocated in order to change street patterns into traditional grid blocks that included green space, sidewalks, and pedestrian street lighting. As a governmental agency, KCDC could use eminent domain to obtain property for redevelopment. Unlike most states where the condemning authority must go to trial to obtain title to the property, Tennessee law allowed KCDC to file a “Declaration of Taking,” in effect giving KCDC title to the property on the day the property was condemned, regardless of any other claims on the title. In conjunction with HOPE VI funding, private foundation funding was used to cover most of the costs associated with moving the church. Public funds were used only when it could be justified in terms of economic development or self-sufficiency. The design team was led by Urban Design Associates, which hosted several public meetings during April-May 1997 where the concerns of College Homes and Mechanicsville residents, community leaders, KCDC management, local agencies, and local government leaders were addressed (KCDC 1998c).

When the four-year project is completed, the College Homes property will be combined with the other adjacent property to accommodate 132 new houses, with an additional 123 houses to be built in the surrounding Mechanicsville neighborhood. Of the new homes, there will be 138 houses for sale and 117 rental units. Half of the rental units will be designated for Passport Housing; the other half will be Standard Affordable Housing for households earning 30% to 50% of the median income. The for-sale homes would be priced at “Market” and “Below-Market” prices, ranging from \$55,000 to \$85,000 depending on the type of house. Most of the new homes would be reserved for buyers earning up to 115% of median income; half would go to those earning less than 60% of median (the buyers would be eligible for special financing); 10 percent would be sold without income restrictions. First priority for the rental units would be given to former College Homes residents (KCDC 1998c).

The Team-Based Approach

In March 1999, Sergeant Jeff Hazelwood became the KCDC Coordinator.² Hazelwood implemented a team-based approach, permanently assigning one KPD sergeant (or other supervisory rank) as Security Patrol supervisor for each of the six KCDC housing developments.³ The supervisor for each site was allowed to select and

² Hazelwood left KPD in 2002 to manage the security force in Chattanooga’s public housing.

³ College Homes was demolished prior to Hazelwood’s appointment.

train the other officers who would be permanently assigned to their development. Hazelwood said the selected team members were typically “go-getters and outgoing officers” who worked in patrol beats around the KCDC sites, and who were thereby familiar with the surrounding neighborhoods. Security Patrol site supervisors earned extra overtime pay for their administrative duties. The result was a team of officers at each KCDC site who worked well together, and who always worked at the same location. Hazelwood believed that this new arrangement would permit Security Patrol officers and KCDC residents to become familiar with each other (Hazelwood 2002).

Security Patrol officers work during their off-duty hours, from 6 p.m. – 11 p.m. during the week and Sunday, and from 6 p.m. – midnight on Fridays and Saturdays. PHDEP grants received by KCDC from HUD are used to fund the entire salaries and personnel benefits for the KCDC Coordinator and his assistant, in addition to funding the overtime pay for the other Security Patrol officers and the use of KPD equipment. Two more KPD officers were funded by PHDEP to patrol the six KCDC sites by day (one officer for three sites) (Hazelwood 2002).

While working in the KCDC sites, KPD staff serve as agents of KCDC in a security role. They are not supposed to respond to calls for police service outside of the developments, nor are they supposed to provide police services within the sites, i.e. making arrests (Hazelwood 2002). Calls for police services within KCDC developments are to be handled by regular KPD patrol officers, unless none is available or an immediate response is necessary (e.g., a patrol officer calls for assistance) (Hazelwood 1999b).

Based on his previous military training, Hazelwood wanted to create standard operating procedures to formalize the new team-based approach. He had three primary goals: 1) the identification and removal of non-residents, 2) documentation of crimes involving residents or their guests, and 3) order maintenance (Hazelwood 1999b). Within his written SOPs and during our interview, he clearly stated: “public housing does not mean open to the public” (Hazelwood 1999b; Hazelwood 2002). According to Hazelwood (2002), the primary task of the KPD is to get criminals out of the KCDC properties.

The notion of order maintenance was included in Hazelwood’s SOPs to address physical property conditions and public order crimes that create an overall environment conducive to drug related and serious crimes. Officers are supposed to notify KCDC management of litter, broken windows and doors, abandoned vehicles, graffiti, etc. Of particular concern are visible street crimes, such as public drunkenness, vandalism, prostitution, and even loitering (Hazelwood 1999b).

Security Patrol officers are encouraged to make regular “contacts” within the KCDC developments, and this serves as the basis for their performance evaluations. A contact is defined as an arrest, citation, or security report. Site supervisors are responsible for submitting monthly reports showing the total numbers of contacts for

their site. When a potential problem resident is identified, injured or off-duty KPD investigators watch the resident for illegal activities or conduct a “knock and talk.” A knock and talk is exactly what it sounds like—knock on the person’s door and ask them questions, or ask them for permission to search the premises, based on a resident complaint or observed suspicious behavior. Officers are not concerned with gathering evidence so individuals can be convicted of a crime per se. Rather, officers only want to find enough evidence of a crime that would allow problem residents to be evicted under the One-Strike policy or that would permit individuals to be placed on the No Trespass List. Consequently, many of the individuals appearing on the No Trespass list and those who are evicted are caught with some small form of drug paraphernalia (Hazelwood 2002).

Nevertheless, officers are discouraged from using citations for “nit-picky” offenses (e.g. a broken car taillight) when residents are involved, particularly if the minor offense is unrelated to public housing crime. In Hazelwood’s opinion, without officer discretion for the enforcement of minor offenses, it would be impossible to foster good resident-KPD relations (Hazelwood 2002).

Hazelwood created the S.P.I.E. form (Screening, Prevention, Interdiction, and Enforcement – see Appendix A.) to be used by the officers at each development to form quarterly and monthly tactical plans to deal with specific crime problems as they arise. The simple form is a method of gaining input from the KPD/KCDC officers, and it documents concerns raised by residents at the monthly meetings of the Resident Councils (Hazelwood 2002).

New Applicant Screening

All applicants for KCDC housing must complete several authorizations for the release of information. One is form HUD-9886, which allows HUD and KCDC to confirm applicant incomes. Next is a KCDC form asking identification questions (e.g., name, social security number, birth date) about all household members and for any information regarding past residency in a KCDC development. The most important form for background checks is a blanket form titled “Authorization To Release Records and Information.” This last form states that KCDC employees and agents of KCDC may review records pertaining to the following:

- employment and unemployment histories
- Social Security Administration
- Department of Human Services
- Utility companies
- Police and Sheriff’s Department databases
- Veteran’s Administration
- Juvenile and Circuit Court
- Homeless shelters

- Parole officers
- Drug treatment centers
- Records from any landlord
- Any other records regarding the applicant or any minor child under the applicant's care that would permit KCDC to determine whether the person is eligible for benefits or can be denied benefits

All of the forms are included in Appendix A.

Until 2000, KCDC had an internal policy that required a background check through NCIC only for new residency applicants if the applicant had not lived in Knoxville for three years. This was a simple “yes/no” screening process that did not include a check for local crimes. After several months of persuasion by KPD, KCDC relinquished the task of screening applicants to KPD in September 2000. All KCDC applicants are now subjected to a detailed criminal record check within 48 hours of submitting an application. Several criminal databases are now reviewed, including NCIC, a sex offender registry, the Knox County computer database of records and reports (primarily for juvenile offenders), a check for local offenses in Knoxville and Knox County, and a comparison to the KCDC NoTrespass list. All public housing residents over the age of 16 are screened, but only those over the age of eighteen are screened through the sex offender registry. Once applicants are screened through the databases, the KCDC Coordinator his assistant would make a recommendation to KCDC to deny or admit the applicant. KCDC makes the final acceptance/denial decision (Hazelwood 2002).

Hazelwood developed a list of denial criteria, based primarily on President Clinton's 1996 One-Strike policy. Membership on the No Trespass List, as well as criminal records containing sex offenses, murder, and attempted homicide result in an automatic denial recommendation. Any drug possession or paraphernalia charge, aggravated assault, or two or more simple assaults within three years of the application date; or charges for the manufacture, sale or delivery of controlled substances within ten years are also grounds for denial. Other violent felonies and multiple public order crimes (e.g. disorderly conduct or prostitution) committed within three years of the application date are reviewed on a case-by-case basis (Hazelwood 2000).

When making denial recommendations, Hazelwood and his assistant were not swayed by the fact that an applicant may not have been convicted of a particular crime, typically choosing to err on the side of caution. For example, an applicant might simply appear in a police report on the local database for misdemeanor drug possession, but the criminal case could in fact have been dismissed later. When in doubt about an applicant, Hazelwood used a simple rule of thumb that he asked me to quote: “Is this the type of person I want to live next to my grandmother?” (Hazelwood 2002).

CHAPTER II BIBLIOGRAPHIC REVIEW

A Brief History of U.S. Public Housing

The Depression-era Wagner-Steagall Act of 1937 provided loans to local and state governments for the construction of safe, decent public housing for low-income families. The federal government did not own the new local public housing authorities (PHAs). The PHAs were supposed to exist with varying degrees of independence under the supervision of state, county, regional, or city governments. An executive director, who reports to a board of directors, manages a typical PHA. A mayor or county administrator usually appoints the board. Some PHAs are a branch of a government entity, while others exist as independent corporations. Because PHAs tend to have some degree of independence, there are a wide range of PHA administrative arrangements nationwide. During the 1930s and 1940s, public housing was seen as an inexpensive, acceptable place to live, particularly for veterans returning from World War II who wanted to start new families (Holzman 1996).

Originally, rent payments were supposed to cover PHA operation costs, but federal subsidies were required to make the rent affordable. Instead of funding the housing authorities yearly by grant appropriations, the proponents of public housing persuaded the federal government to lock itself into long-term agreements in the form of contracts with PHAs. The federal government was typically committed to give PHAs funding for 60 years, or the same period of amortization as federal loans (Von Hoffman 1998).

Interest groups supporting the housing industry wanted public housing units to be cheap structures that would not compete with homes produced by private companies. Conservatives in Congress wanted to limit construction costs and the income eligibility levels of tenants. Proponents of public housing wanted sturdier structures that would not deteriorate into slums, and which would last for the amortization period. These contradictory preferences resulted in public housing that was built from cheap, durable materials, such as reinforced concrete and cinder block, with very few comforts. The early U.S. Housing Authority created guidelines determining the minimum space required for plumbing and furniture space, which local authorities adopted (Von Hoffman 1998).

Early projects, as in Boston, were 3-story apartments, but during the 1950s and 1960s large cities like Chicago and Philadelphia built high-rise versions in inner cities. The inner city locations were selected to defray complaints about integrating white neighborhoods and allowed local officials to claim credit for clearing slums. These locations were expensive, which forced the Truman and Eisenhower administrations to impose new cost ceilings. This made it harder to produce quality housing, which forced builders to cut corners. Room sizes dropped, population density levels were raised,

amenities such as landscaping were eliminated, and steam pipes were not insulated (Von Hoffman 1998).

Housing policies of the 1950s forced local administrators to rent to people dislocated by highway construction and urban renewal, which were usually unstable families. Crime in public housing began to grow, and public housing earned a reputation as the last resort for the poor. Since the 1970s, inner cities emptied as more affluent people moved to the suburbs, taking job opportunities with them. The project buildings were so big and sturdy, that they are now expensive to remove (Von Hoffman 1998).

The Nature of Public Housing Research

During the Reagan administration, research and data collection about public housing by the federal government was sharply curtailed, forcing researchers to rely on studies and data created before 1981. Research findings for the late 1970s and early 1980s were therefore confined to the larger PHAs in large central cities, because these PHAs contained sufficient sample sizes for independent quantitative research. Studies of crime policies in an individual PHA or single large housing project in a single city remain very common in the literature, due to the nonexistence of a national database of crime in public housing (Popkin et al. 1995). Several examples are:

- Elliot (1996)North Little Rock, Arkansas
- Dilworth (1997)..... Baltimore
- July (1998).....Milwaukee
- Popkin et al. (1999).....Chicago
- McNulty et al. (2000).....Atlanta
- Varady and Carrozza (2000).....Cincinnati

The 1990s saw conflicting finding about crime levels and the presence of public housing. Some concluded that PHAs were to blame, while others could not separate the influence of PHAs on the crime rate from the influence of surrounding neighborhoods or other factors (Holzman 1996). In an effort to create a methodology for the study of crime in public housing, HUD adapted the Bureau of Justice Statistic's National Crime Victimization Survey in 1995. The new survey was supposed to be used by individual PHAs to assess crime prevention programs. Residents in targeted developments were to be surveyed by telephone in a pretest-posttest manner. However, many PHA residents did not have telephones, so HUD was forced to search for other methods for PHAs to administer the surveys cheaply (Holzman 1996). The primary problem for any researcher remains the lack of data specific to public housing projects.

Situational Crime Prevention

Multiple strategies for crime reduction in public housing appear in the literature. One method is the use of "situational crime prevention," or the elimination of environmental conditions that make it easier to commit crime in particular circumstances.

These measures include restrictions upon entry/exit, resident IDs, surveillance, and rule setting (Popkin et al. 1995).

Jane Jacobs' classic work, *The Death and Life of Great American Cities* (1961), argues that any property devoted to a single land use will be deserted for long periods of the day, due to scheduling of use. By creating multifunctional areas that receive continuous use, she believes informal surveillance will occur, thereby reducing criminal activities. She assumes that individuals using the multifunctional areas will intercede during a crime. Certain neighborhood designs, such as streets with wide sidewalks, are preferable because they encourage children to play under the watchful eyes of their parents (Jacobs 1961).

Building upon the work of Jacobs (1961) and theoretical literature regarding the concept of territoriality, Oscar Newman (1972) created a concept called "defensible space" to address what he saw as the breakdown of social mechanisms. Newman looked at the conditions in large public housing projects in New York City and concludes that residents should be encouraged to monitor the public areas (or small yards or entryways) shared by the residents. Residents who are unable to protect themselves in this manner will have no motivation to keep these areas free of crime, because they cannot develop a sense of community or responsibility "for ensuring a safe, productive, and well-maintained living space" (Newman 1972, p. 3).

An entire literature devoted to Crime Prevention Through Environmental Design (CPTED) arose in the early 1970s and continues to influence housing and policing policy today (e.g., Jeffery 1971; Merry 1981; Taylor and Harrell 1996; Crowe 2000). Most of the early CPTED studies from the 1970s and 1980s built upon Newman's (1972) concept of defensible space by applying it to residential neighborhood design and commercial property protection. The first demonstration projects occurred in Hartford, Connecticut; Portland, Oregon; a school in Broward County, Florida; and smaller sites sponsored by the Westinghouse National Issues Center. The researchers conducting these projects typically recommended changes to the physical environment (i.e., changing street designs and traffic flow), the creation of community organizations, and better community-police relations (Greenberg and Rohe 1984).

The CPTED literature does not produce clear recommendations for public housing. Skogan and Annan (1994) find that the design of most high-rise apartments lack lobbies or entryways that prevent strangers from entering. Taylor and Harrell (1996) write that it is unclear whether redesigning development layouts and controlling physical decay are effective in reducing crime. Holzman, Kudrick, and Voytek (1996) find that the *size* of the development is related to crime more than the *style* of development. Merry (1981) argues that design alone cannot overcome residents' sense of anonymity, distrust, and fear. Keyes (1992) believes that CPTED focuses on prevention of crimes committed by intruders, but the residents commit most of the crimes in public housing.

Newman (1972) argues that high-rise apartments have higher crime rates than low-rise structures, even when controlling for demographic characteristics. Waller and Okihiro's (1978) study of private apartments counters Newman's work, finding that a majority of burglary victims live on the bottom floors of low-rise buildings, which suggests the significance of ease of access. Mawby (1977) writes that the number of offenders in a building is a greater influence upon the crime rate than the building height. According to Wilson (1980), vandalism is related to the number of children in the building, and is not correlated to building size or defensible space measures.

In 1999, Popkin et al. conducted a multi-year study of resident satisfaction, victimization, and housing authority policies in the Chicago Housing Authority (CHA). They discovered that many of the security measures did nothing to prevent gang/drug activities by the residents themselves. The police could not eliminate the gangs for several reasons. First, the buildings were large, which provided many places for the well-organized gangs to operate. Second, the gangs were well funded by drug sales, while the CHA needed more public funds to merely maintain the buildings. Third, the gangs had many willing recruits. The researchers ultimately conclude that demolition of the developments may be the only solution for CHA, but this will cause more problems in the short run as gang territories are displaced, and as residents must find other housing (Popkin et al. 1999).

Popkin et al. (1999) identify some alternate explanations of crime and disorder in public housing:

- 1) Public housing is physically and socially isolated from other neighborhoods. Constructed with bad designs on "superblocks", it is separated from surrounding neighborhoods by roads or railways in areas that ensure few employment opportunities, because the areas have little commercial or industrial development
- 2) Policies ensure racial segregation, and the artificial nature of the communities guarantee few social norms, which are ultimately provided by gangs.
- 3) Federal housing was originally intended as temporary housing for the working poor, but federal policies such as income ceilings and preferences for the very poor pushed out working families.
- 4) Inadequate funds for maintenance and poor management lead to accelerated building neglect.

Regardless of the criticisms and alternate theories of crime, the proponents of CPTED are consistent in making a linkage between crime and the high-rise architectural style; consequently, large public housing structures are consistently (and arguably correctly) portrayed as densely populated, crime-infested environments. After three decades of CPTED studies, large public housing developments nationwide are presently being replaced by smaller, suburban developments, or large buildings are being refurbished (Holzman 1996).

Aggressive Law Enforcement and Community Policing

Aggressive law enforcement appears as a second crime control method in the literature. During the 1980s, politicians, the media, and the general public characterized drugs as a threat to the underpinnings of U.S. society. Consequently, all levels of

government increased their efforts to control both illegal drug buyers and sellers. In 1986, Congress created the Anti-drug Abuse Act to foster enforcement programs, put more officers in the field, and to create mandatory sentences for traffickers. President Bush created the Office of National Drug Control Policy in 1989, which emphasized the use of harsher sentences and included billions of new enforcement dollars. Crime control tactics in the 1980s featured direct police actions such as surveillance of dealer locations, undercover operations, intensifying police patrols, use of anonymous tip hotlines as grounds for “reasonable suspicion,” aggressive seizures of property (under the 1984 Comprehensive Forfeiture Act), and the use of arrests for minor non-drug offenses (e.g. misdemeanor disorderly conduct, loitering, and traffic enforcement). Tactics in public housing included all of the above measures plus the screening of potential public housing residents. Street barricades and guard checkpoints on public streets were used to check vehicles and occupants for suspicious activities, first in Miami neighborhoods in 1988 and then in Los Angeles in 1990 (Grinc 1998).

Throughout the 1980s, residents of high-rise public housing in large U.S. cities expressed fears of gang violence and drug activities. In response, HUD changed its policy that required pre-eviction hearings in order to make it easier to evict suspected dealers. PHAs responded with aggressive crime sweeps, such as Operation Clean Sweep in the Chicago Housing Authority in 1988. The Chicago sweep included the sealing of a building for up to forty-eight hours, door-to-door inspections, requiring occupants to produce proof of residency, and the eviction of anyone in possession of illegal drugs (Grinc 1998).

The use of non-drug offenses was intended to reduce illegal drug activities by making it difficult for individuals to buy or sell drugs in a particular area, thereby “hassling” the street-level drug trade out of business. Police actions tended to result in lawsuits when individual departments increased arrests for non-drug offenses and the crackdowns were perceived as harassment of innocent citizens (Grinc 1998).

Researchers interested in aggressive law enforcement found that three strategies did not reduce serious crime: 1) more enforcement geared toward the drug *supply*, 2) enforcement targeting crime in general without trying to reduce crime risk factors, and 3) enforcement targeting drug *demand* (Sherman et al. 1997). Much of the research from the 1990s focused on drug enforcement, but studies of large-scale federal drug crackdowns, crop eradications, and interdictions produced mixed results about effectiveness. It is still unknown whether directed enforcement efforts in large cities simply displaced drug markets to other locations, or if drug crime reductions were sustainable for longer than a few months. Nevertheless, communities continued to pressure local agencies for crackdowns on local drug markets and violent street gangs (Grinc 1998). Some city-specific studies demonstrated that focusing police efforts against signs of physical disorder such as graffiti, litter, and broken windows could yield positive results (Skogan and Hartnett 1997). Directed patrols, proactive arrest, and problem solving in specific locations could also be effective (Sherman et al. 1997).

Jurison and Williams (1997) recommend the following improvements for housing authorities plagued by crime and physical decay:

- 1) PHA administrators must reestablish control over the types of tenants they admit. This can include a set of “house rules” within the lease, requiring residents to carry photo ID or sign in guests, or creating a “no trespass list” for prior trouble makers. A properly trained security force is key, which understands the rules, knows who belongs and who does not, and which frequently communicates with management.
- 2) Management must deal with bad residents, either by citing infractions or by using evictions. Some locations use a “three-strikes” escalating system of warnings, meetings with management, and finally eviction for those who repeatedly break rules. Security and maintenance personnel should be used to identify and track infractions.
- 3) Management must retain good residents. They must have a detailed plan that implements all of the above concurrently. They should also have an aggressive resident involvement program, such as the creation of a resident council. Managers must be held responsible for their areas of responsibility, whether it is security, maintenance, or top management. Agencies should have a strong vision, a pro-active focus, and an evaluation process that appraises staff based on established performance criteria.

Criminology scholars in recent decades have been observing a shift from a crime control/professional model of policing to an emphasis on order maintenance, service provision, or other functions. The values attached to each function determine the goals set by police organizations. For example, a crime control model of policing values preventive crime control and criminal investigation (Zhao and Thurman 1997). In addition to enforcement techniques, the crime control model could also include changing criminal laws or sentencing policy. Mass media campaigns have been used to persuade criminals that offenses will be costly or to convince citizens to take personal crime prevention measures (Tonry and Farrington 1995).

Many academics and police administrators argue that community policing represents a fundamental shift in the underlying philosophies of policing, from the crime control model to one of problem solving and officer and community empowerment (Zhao and Thurman 1997). Officers are encouraged not only to deal with the immediate problem (i.e. a call for service), but also are encouraged to find a long term solution so the problem does not reoccur. When police act cooperatively with citizens to solve community problems, they reinforce the informal control mechanisms of the community upon itself. This results in the reduction of citizen fear, increased police visibility, crime reduction and deterrence, and more accessibility to the public by the police (Grinc 1998; Kane 2000).

Community policing means different things to different police agencies. Options can include foot and bike patrols; order maintenance, or cleaning up neighborhoods and revitalizing areas; or using “canned” neighborhood crime prevention programs such as DARE or Neighborhood Watch (Maguire et al. 1997; Zhao and Thurman 1997).

It is clear that examples of both the crime control model and the order maintenance model exist in the policies of the KCDC Security Patrol. The KPD has a nationally recognized community policing program and community policing jargon is

incorporated into all KPD policies. Knoxville may be unusual when compared to other cities because of the principle/agent relationship between the city police department and the public housing authority (KCDC). However, the policies and practices of the KCDC Security Patrol are common in community policing programs in other large cities around the country. For example, the Housing Authority of North Little Rock (Arkansas) and the North Little Rock Police Dept. wanted to establish police substations in the developments due to drug activities. A PHDEP grant provided 2/3 of the necessary funds, while the city provided the other third in 1992 to establish the substations. After one year, the program had expanded to 3 substations with a total of six police officers (Elliot 1996).

Chicago is another example. The Chicago Police Department's community policing program has six components: 1) an orientation toward the needs of specific neighborhoods; 2) the assignment of officers to particular areas of geographic responsibility; 3) emergency calls are handled by designated response units, while non-emergency calls are handled by regular beat officers; 4) a focus on the long term prevention of causes of neighborhood crime, such as prostitution and loitering youths; 5) beat officers solve problems by linking residents to services from other agencies; and 6) an emphasis on data collection for the identification of crime patterns and target areas (Lurigio and Skogan 1994).

Measuring Police Effectiveness

According to Kingsley Game (1979), "Evaluation of police policy presupposes the availability of several types of information. Information is required on (1) the cost or price of the "product"; (2) measuring the effectiveness of the product, by some discernible criterion or criteria; (3) changes in effectiveness ascribable to policy change; and (4) last but far from least, realistic contextual knowledge of the policy environment, including bureaucratic knowledge of accepted methods and formats" (p. 7).

Kessler and Duncan (1996) argue that traditional measures of police effectiveness (i.e., the number of calls answered, response times, and number of arrests) are often supplemented by measures of the number of incidents created by specific problems, the seriousness of incidents caused by the problem, and the number of referrals to other agencies to solve the problem. Crime statistics about the locations, types, and frequencies of crimes are typically collected. Reductions in the number of calls for service (or reported crime) are seen as indicators of a solved problem (Kessler and Duncan 1996).

Quality of service from the police and police/PHA management relations receive little scholarly attention. Criminal justice research is hampered because many police executives believe that PHAs belong to the federal government, and they perceive that PHAs do not cooperate with police. HUD and police interest groups have found it necessary to sponsor meetings to discuss methods for agency cooperation (Holzman 1996).

The Courts

As Knoxville discovered, crime control policies in PHAs can be controversial and some have found their way into the courts. In two cases, the ACLU sued on behalf of Chicago Housing Authority (CHA) residents due to warrantless searches conducted in 1989 (*Summeries v. Chicago Housing Authority*) and 1993 (*Pratt et al. v. Chicago Housing Authority*) by the Chicago police. A judge issued an injunction against the warrantless searches and refused to lift it, despite 300 shooting incidents over 5 days during a gang war in 1994. In response, President Clinton ordered the creation of a new search policy for all federally supported public housing in 1994, which allowed searches under emergency conditions and for maintenance inspections when given permission. The ACLU argued that most residents disliked the sweeps, while the CHA argued the opposite (Popkin et al. 1995).

A comparative study of two housing projects in Chicago shows that residents saw PHDEP services and the sweeps in a positive light in 1995. Although there is variation between the two housing developments studied, residents in both locations said they perceived a reduction in crime, and in one development residents reported a significant increase in the level of safety. A majority felt that a “resweep” or additional sweeps were necessary to some degree. Residents of both projects felt drug dealing outside had not been reduced; however, both felt shootings and fighting inside and outside buildings and squatting in vacant apartments had been significantly reduced (Popkin et al. 1995).

PHAs use various procedures for evictions as a crime control measure based upon national policy. During the 1996 State of the Union address, President Clinton announced a “one strike and you’re out” policy for public housing residents who committed crimes or sold drugs. HUD subsequently created a “one-strike” regulation, C.F.R. sec 966.4 (authorized by section 1437d(1) (5) of the Cranston-Gonzalez National Affordable Housing Act of 1990). The new regulation gives PHAs the power to evict any resident who commits criminal acts that threaten the health, safety, or quiet enjoyment of the PHA by other residents, or who commits any drug offense *near or on* PHA property. In addition, C.F.R. sec 966.4 allows evictions when the “tenant, any member of the household, a guest, or another person under the tenant’s control, engages in criminal activity” (Hellegers 1999, p. 1). Multiple lawsuits were filed as PHAs around the country began to evict individual tenants and entire households based on the actions of one family member or guest. Many of the suits evoke the administrative law provisions from *Chevron*. Evictions are also challenged based on the Double Jeopardy, Excessive Fines, and Substantive and Procedural Due Process clauses of the Constitution (Hellegers 1999).

For several years, courts allowed the evictions. One example is *Charlotte Housing Authority v. Patterson* (464 S.E.2d 68), in which the tenant, Jacqueline Rose, and her two daughters were evicted for the criminal activity of her son (Hellegers 1999). In *Silence v. O’Brien*, a lease clause was interpreted to allow a tenant to be evicted for immoral or illegal purposes, and if the tenant was aware of a guest’s illegal activities

(Hellegers 1999). A more strict provision than the *Silence* case originated from *Housing Authority of Decatur v. Brown*. The *Decatur* ruling said that a tenant must conduct himself and cause others on the premises to conduct themselves in a manner that does not affect neighbors or the safety and condition of the housing project (Hellegers 1999; Stasell 2001).

The case law regarding tenant evictions has seen a reversal of direction in recent years. The Court for the Eastern Division of Virginia “require[d] that lease terms be rationally related to a legitimate housing purpose” in *Richmond Tenants Organization v. Richmond Redevelopment and Housing Authority* (751 F. Supp. 1204 [E.D. Va. 1990]). As a result, a Richmond lease clause stating that a tenant could be evicted for off-premise misdemeanor convictions and on- or off-premise illegal drug or alcohol use or sale were not “reasonably related to a housing problem.” In 1998, Pearlie Rucker and three other tenants of the Oakland Housing Authority were evicted for drug activities committed by family members or guests outside their apartments. The legal standard from the ensuing case, *Rucker v. Davis*, allowed an innocent tenant to be evicted based on an individual court’s interpretation of whether the terms of the lease were “reasonable” (Hellegers 1999).

In January 2001, the 9th U.S. Circuit Court of Appeals, sitting en banc, reversed the earlier *Rucker* decision (*Rucker v. Davis*, 237 F.3d 1113). The Court found that despite the position taken by the federal government for several years, the 1990 Housing Act did not allow the eviction of tenants without some demonstration of individual culpability for the illegal actions of third parties. The Court went on to say that HUD’s interpretation of the statute did not follow congressional intent, because it would lead to inequitable results in numerous cases. Housing authorities would have to prove that a tenant knew or should have known of the illegal activity of a third party and did nothing to prevent it (Stasell 2001).

Comprehensive Crime Control

By the late 1980s, some researchers, PHA staff, and policy makers were advocating collaborative efforts between PHA staff, the police, and residents in a community-involvement approach based on social control. Unfortunately, the police tended to take a negative view of residents, the opposite was also true, and PHA managers were usually uncooperative (Popkin et al. 1995). According to Skogan and Annan (1994), community involvement that includes socially imposed norms, neighborhood boundaries and identities, and a strong sense of social interaction and community have been unsuccessful in public housing.

Studies of the public housing in New York, Boston, and San Francisco conclude that comprehensive, or combination approaches are the most effective in reducing crime in public housing (Popkin et al. 1999). These programs contain multiple elements, including more law enforcement, tenant participation, social services (particularly drug prevention and intervention services), security measures, tenant screening, and better

PHA management practices. Funding for the comprehensive Public Housing Drug Elimination Program (PHDEP) originated from the Anti-Drug Abuse Act of 1988, which authorized HUD to fund this type of program. PHDEP is a combination of all the above elements (Popkin et al. 1995). By simultaneously funding PHDEP and HOPE VI, HUD can ameliorate poor physical conditions while promoting social cohesion and self-sufficiency (Popkin et al. 1999).

Feins, Epstein, and Widom (1997) believe that social services, youth activities, and effective management are more important in reducing crime than CPTED strategies. This could be why evaluations of CPTED alone tend to yield moderate empirical results. Aaron Podolefsky (1983) shows that crime prevention programs focusing on law enforcement alone will fail in low-income minority populations. Podolefsky concludes that programs in high-rise developments must address the social problems linked to violence, including drug abuse, teen and youth employment, recreational opportunities, education programs, and infrastructure development.

Crime Mapping and Analysis

The use of maps to represent the locations of crime has existed for over 170 years. Large metropolitan police departments, such as New York's, originally used huge wall maps to collect data on different types of crimes with different colored pins. Although pins could demonstrate the locations of crime, it became increasingly difficult to track crime patterns over time as additional pins were added, thereby only proving useful for short periods of time (Harries 1999).

There have been three major schools of study in the use of maps for research about crime and delinquency. Beginning in France around 1830 and influencing England by the 1880s, the cartographic or geographic school studied whether social variables related to wealth or population density affected levels of crime. The typological school that followed was concerned with the relationship between crime and the mental and physical characteristics of criminals. The typological school dominated until the social ecology school gained prominence in the 1920s in the United States. The social ecologists studied geographic regions within cities that had similar social characteristics, in an attempt to find a relationship to crime (Harries 1999).

Computers were probably first used for crime mapping analysis in the mid-1960s in St. Louis, yet professional cartographers did not become interested until the 1970s. Early maps were produced with line printers, which limited the resolution and prevented the use of point data. As late as the 1980s, printers, computer memory and other hardware inadequacies, nonexistent software, and high prices prohibited the widespread use of GIS crime mapping by law enforcement agencies or researchers (Griffith 1990; Harries 1999). Today, high-quality color maps showing crime locations can be generated on a relatively inexpensive desktop computer. Huge crime databases containing multiple variables about particular crimes at any point in time can be combined with modern mapping software that can represent an unlimited amount of geographic features.

To date, the primary use of crime mapping by local law enforcement agencies has been the identification of crime trends, which allows agencies to better allocate resources during ongoing investigations or to direct preventative crime control measures. An anthology published by the Police Executive Research Forum in 1998 provides multiple examples. Martin, Barnes and Britt (1998) use GIS and crime data from Detroit to identify areas damaged during “Devil’s Night” in previous years to determine the best locations for additional police patrols and fire department personnel. Reno (1998) uses crime mapping to locate areas with the highest rates of residential burglary in Shreveport, LA. Reickenberg and Grube (1998) try to reduce traffic accidents in Illinois by analyzing a vehicle crash database maintained by the Illinois State Police. The crash database contains information regarding crash location, crash type (i.e., property damage, injury, fatality), and the conditions of the driver and the roadway. Santiago (1998) studies auto theft trends in Newark; Brown et al. (1998) identify burglary patterns in Aurora, Colorado; and Hubbs (1998) uses a sex offender database to identify repeat offenders living in proximity to a series of sexual assaults in Knoxville, Tennessee.

Although the primary use of GIS technology by local agencies has been related to enforcement practices, some researchers have used spatial analysis for policy recommendations. Harris et al. (1998) are concerned about the availability of social services for released offenders in Delaware. The problem is that many released inmates do not receive the assistance they need in the form of substance abuse treatment, mental health services, and employment training and placement. According to Harris et al. (1998), recidivism rates in certain Delaware counties indicate that social services might not be “optimally aligned” (p. 61). By using maps indicating the locations of released offenders and the sites of existing social service facilities, the Department of Corrections for Kent County was able to justify a new drug rehabilitation program (Harris et al. 1998).

The Linkage Between Crime and Area Characteristics

Multiple studies in the fields of Sociology, Urban Studies, Criminology, and Geography provide evidence of relationships between crime or victimization rates and the presence of urban areas characterized by physical decay, proximity to commercial areas, and containing overcrowded, disadvantaged residents (Pettitway 1982). As I researched the literature regarding crime and spatial analysis, there were ample examples of studies regarding neighborhood or community characteristics and crime, or the relationship between an offender’s residence and the location of the targets of criminal activities.

Nevertheless, there is very little literature regarding the spatial analysis of crime in public housing, and I could find no other study utilizing computerized mapping technology. To quote a recent HUD publication, “[T]o date, this particular application of GIS technology is exceedingly rare” (Hyatt and Holzman 1999, p. 3). Another problem I addressed was the necessity to exclude literature that was not concerned with the importance of geographic location, or I risked falling into the plethora of studies that

evaluate individual socio-economic or demographic characteristics and their relationships to crime.

Shaw and McKay's (1942) landmark study of juvenile delinquency is an example from the social ecology "Chicago" school. They mapped thousands of juvenile delinquency incidents, finding a link between delinquency and urban socioeconomic conditions, with declining crime rates in concentric zones away from high-crime rate areas. Shaw and McKay developed a theoretical explanation of varying crime rates across social areas, finding four structural characteristics of the community that increase crime by eroding community social organization: 1) low economic status, 2) ethnic heterogeneity, 3) high population density, and 4) residential mobility. According to Brantingham et al. (1976), "The core propositions of twentieth-century American criminology are drawn from (or represent reactions to) offender residence maps of Chicago and a number of other cities which were prepared by Shaw and McKay and their students and disciples from the late 1920s to the 1950s" (p. 261). A study by Sampson and Lauritsen (1994) reveals that the community level research since the mid 1970s generally supports Shaw and McKay's (1942) theoretical model.

Others scholars study the effects of area characteristics and race upon the level of crime. Comparisons based on race with regard to crime rates are overly simplistic without first understanding the community context. If the causes of black crime are not unique, then crime rates should vary in accordance with the same community conditions under which white crime rates vary. For example, the predictors of white robbery are the same as those for blacks. Yet multiple researchers have been unable to explain the greater effect of black family disruptions on black crime, when compared to the lesser effect of white family disruptions on white crime, even when controlling for region, population density, and age. The problem is that it is often impossible to claim that whites and blacks share the same environment. In 1980, 70 percent of all non-Hispanic whites did not live in poverty areas of the ten largest U.S. cities, while only 16 percent of blacks did not live in poverty in the same cities. The inescapable fact remains that a black resident of Harlem is less likely to live to the age of forty than a rural resident of Bangladesh (Sampson and Wilson 1998). According to Sampson (1987), "the worst urban contexts in which whites reside are considerably better than the average context of black communities" (p. 354).

Inner city residents are less able to find jobs, may have access to only poor-quality schools, are less likely to find marriage partners, and lack conventional role models. These social conditions have been worsened by the flight of middle-and upper-income blacks to the suburbs and deliberate policy decisions that have concentrated the poor and minorities in public housing. Community groups prevented the building of public housing in their neighborhoods, federal policy allowed the de facto segregation of blacks from urban housing markets, and local governments resisted the rehabilitation of their public housing units (Sampson and Wilson 1998). Lax enforcement of city building codes directly led to the deterioration of inner city neighborhoods in Chicago (Hirsch 1983).

Sampson and Wilson (1998) write, “The most important determinant of the relationship between race and crime is the differential distribution of blacks in communities characterized by (1) structural social disorganization and (2) cultural social isolation...” (p. 105). Social disorganization refers to a lack of social networks in a community, including acquaintances, kinship ties across generations, the level of anonymity, and organizational participation. Cultural social isolation refers to the existence of mutual distrust, institutional instability, poverty, heterogeneity, and other features of urban communities that prevent communication and the attainment of common values among diverse groups (Sampson and Wilson 1998).

Park and Burgess (1925) characterize urban ghettos as “natural areas” constrained by cultural and topographical barriers. Brantingham and Brantingham (1975) reveal that burglaries occurred at higher rates at the edges of these natural barriers than in the interior of the ghetto. In a 1982 study, Pettiway analyzed the movements of black and white offenders, from ghetto to nonghetto spaces in Milwaukee County, to determine whether race and residential segregation prevents offenders from looking for crime opportunities in urban areas outside where they live. Milwaukee has a single, large ghetto area with a fairly equal distribution of offenders and targets. Pettiway’s (1982) research shows that ghetto dwellers remain within the ghetto to commit most offenses, ghetto dwellers are more likely to commit crimes on the edges of the ghetto than nonghetto residents, nonghetto residents typically select crime locations in nonghetto areas, and black offenders tend to move outside the area in which they live more than whites.

In one of the few spatial analyses regarding crime in public housing, McNulty and Holloway (2000) hypothesize that the relation between race and crime will decrease in strength and magnitude as the distance from public housing projects increases. The characteristics of neighborhoods near public housing closely resembles public housing itself. Their primary hypothesis is: if public housing is a hub of crime, and has predominately minority residents, then the nearby neighborhoods will have crimes committed mostly by minorities at higher rates than other areas. Other studies show a relation between crime and minority neighborhoods, but they do not examine the presence of public housing, which might bias the magnitude of the relationship. McNulty and Holloway argue that public housing creates institutional, social, and spatial disadvantages for the residents living there. Their hypothesis holds for serious crimes such as murder, rape, assault, and public order crime, but not for robbery or property crime (McNulty and Holloway 2000).

Some authors demonstrate stable relationships between area characteristics and crime rates over time, such as Shannon’s (1984) research in the City of Racine, and Schuerman and Kobrin’s (1986) study of Los Angeles County. Others identify a linkage between city centers and crime. Fabrikant (1979) writes that the frequency of crime in cities is negatively related to the distance from the Central Business District.

Brantingham and Brantingham (1984) show that crime is concentrated in central cities, but declines toward the outer edges of the metropolitan area.

However, associations found in data regarding social areas might be invalid if they are applied to individuals, which Robinson (1950) calls the “ecological fallacy.” There is usually homogeneity within geographic areas and considerable heterogeneity between areas regarding resident characteristics that are related to criminal behavior. The researcher is more likely to find high correlations as the level of aggregation increases (Brantingham et al. 1976). Gottfredson et al. (1991) add that differences in crime rates for social areas could be a result of contextual and/or compositional mechanisms.

A contextual explanation involves the proposition that the social organization of an area influences the individuals who inhabit it, such as might occur if a community loses control over its inhabitants. A compositional explanation involves the proposition that the differences in crime rates in different areas are a result of the aggregate characteristics of the individuals who inhabit the areas such as might occur if a community recruits crime-prone people. In Wilson and Hernstein’s (1985) words, “A neighborhood may have more crime because conditions there cause it or because certain kinds of neighborhoods attract persons predisposed to criminality” (p. 291). (Gottfredson et al. 1991, p. 201)

One branch of the literature explores offenders’ decision-making processes regarding crime location. White (1932) finds that offenders who commit crimes against persons do so close to their places of residence, yet those wanting to commit property crimes do so in a dispersed pattern in order to remain anonymous. Others, such as Pope (1980), demonstrate that crime decreases with increasing distance from the offender’s home. For example, 52 percent of all burglaries occur within one mile of the burglar’s residence (Pope 1980). According to Repetto (1974), 90 percent of robberies occur within 1.5 miles of the offender’s residence, with a 0.6 mile mean distance traveled for robbery.

Some economics and criminology scholars see offenders as rational actors, seeking to minimize their costs (i.e., time, effort, transportation, the costs of learning about an unfamiliar target area, escape options, the risk of being identified in a cohesive community, and local police practices), while at the same time maximizing their opportunities (i.e. staying in areas with high population densities or more affluent areas) (Ehrlich 1973; Fabrikant 1979; Hakim 1980; Harries 1980; Deutsch et al. 1987). Authors such as Felson and Cohen (1980) and Cohen et al. (1981) believe additional societal factors should be considered that might increase an individual’s inclination to commit crime, such as:

- 1) the tools, skills, and weapons available to offenders
- 2) the level of guardianship of target property by people
- 3) the attractiveness of targeted people or property (i.e., wealth, race, physical condition, or age of a person; or the size, weight, or ease of illegal removal of property)
- 4) the distribution of offenders
- 5) the timing of offender activities as compared to the activities of potential targets and their guardians.

Waller and Okihiro (1978) find several similar variables that are important indicators of whether homes are burglarized, including: ease of access (i.e. low occupancy, or visual obstructions), proximity to public housing (with a possible concentration of potential offenders), and high- income levels (or having something of value that is worth stealing). Brantingham and Jeffery (1981) offer the “criminal event model” as an explanation of differences in neighborhood crime rates. The dense nature of urban areas offers criminals proximal crime opportunities that are an important independent variable. Youthful offenders in particular commit crimes close to home, because they have limited mobility and many targets exist for theft or social order crimes, such as vandalism (Brantingham and Jeffery 1981).

Press (1970) and Mehay (1977) argue that the dominant form of externalities created by new allocations of law enforcement personnel is the motivation of criminals to relocate their illegal activities to adjacent areas. More officers in an area likely reduces the number of criminals and the amount of criminal activity. As the differential in police force between the areas receiving more officers and the adjacent areas increases, the number of offenders “spilling over” into adjacent areas to commit crimes and the total number of offenders in the adjacent areas increase. Consequently, the allocation of police resources has two effects: crime reduction and crime displacement (Fabrikant 1979). According to Hakim (1980), one would expect more resources to be spent on policing as the level of crime increases, just as one would expect less to be spent as crime levels drop. However, his research indicates that wealthier communities attract more crimes, resulting in higher police expenditures. As a result, the deterrence efforts of small, rural departments are likely not to deter nonlocal offenders from being attracted to wealthy residents, their property, or commercial businesses (Hakim 1980).

Literature Summary

The policies intended to control crime in Knoxville’s public housing are representative of law enforcement trends in the literature. For example, the physical safety improvements made to the KCDC sites are based upon the theories of CPTED found in the literature of the 1960s, 1970s and early 1980s.

The 1980s was also characterized by aggressive law enforcement. President Bush created the Office of National Drug Control Policy in 1989, undercover and direct enforcement efforts were emphasized, and the 1980s saw the introduction of aggressive seizures of property under the 1984 Comprehensive Forfeiture Act (Grinc 1998). My own research demonstrates a trend of aggressive law enforcement in sentencing policy during the 1980s at the federal and state levels. Examples include policies such as Three-Strikes, Truth-in-Sentencing, and new Mandatory Minimums (Barbrey and Clement 2001). The privatization of Knoxville streets in October 1992 and the Security Patrol’s subsequent use of “No Trespass” notices, as well as the assignment of one Security Patrol officer to each study site in February 1993, all follow the aggressive law enforcement trend.

During the late 1980s, HUD changed its eviction policy that required pre-eviction hearings in order to make it easier to evict suspected drug dealers. The Chicago Housing Authority used this change as justification to conduct Operation Clean Sweep in 1988. CHA's enforcement actions resulted in lawsuits brought by the ACLU. A judge issued an injunction in 1994 to stop the warrantless searches of occupied apartments. President Clinton created a new search policy for all federally supported housing in 1994, allowing searches for emergencies or maintenance only. During the 1996 State of the Union, Clinton demonstrated a harsher stance, announcing a new "one strike and you're out" policy for public housing residents who commit crimes or sold drugs. Because of court challenges, an agency must now prove that a resident knew or should have known that a third party was engaging in illegal activities and did nothing to prevent them. KCDC's "One Strike" eviction policy that was added to KCDC leases in September 1996 reflects the federal policies and court cases.

Despite the shaky support for CPTED measures alone, researchers have succeeded in making an argument between large, densely populated public housing and crime. The current trend is to demolish the problematic public housing sites and to build single-family homes. That is exactly why College Homes was demolished at the end of 1998 with funding from HUD's HOPE IV grant program.

The March 1999 team-based approach to policing includes multiple components that represent the idea of Community Policing. Many of the tactics employed by the Security Patrol are similar to the Community Policing policies used by other cities, including Chicago.

The research from the 1990s focused on drug enforcement and found mixed results about the effectiveness of aggressive enforcement tactics. The city-specific studies said that directed efforts against social order crimes and crimes in specific locations could be somewhat effective. Others researchers in the late 1990s like Jurison and Williams (1997) said that housing projects should control who they admit as tenants, and they must get rid of problem tenants (via eviction through some system of infractions, or an escalating system of warnings). A new residency applicant screening process was implemented in the KCDC study sites in September 2000.

CHAPTER III DATA AND METHODS

Data and Study Site Selection

KPD has extensive crime data, including calls-for-service (from the 911 system), Part I serious crimes, and Part II Index non-serious crimes. I chose to use the Part I data for two reasons. First, Part I crimes are commonly used in the criminology literature. Serious felony crime is the basis of most federal law enforcement policy, and it is regularly reported by local law enforcement agencies to the FBI for its yearly Uniform Crime Reports. Second, KPD has a highly trained computer and GIS staff that regularly analyze the Part I data, which makes it readily available.

Ideally, the timeframe for this study should begin in 1987 when KCDC began exploring CPTED measures, or in 1989 when the KPD/KCDC contractual relationship began to evolve. I was originally forced into a 1992-2001 timeframe because KPD's data prior to 1992 exists in another computer operating system, and the earlier data requires extensive manipulation to make it useable. The Part II data were available, yet KPD seldom uses it for analysis, it would require considerable effort by KPD to retrieve the data from multiple databases, and I would have to conduct extensive data corrections. Calls for service are an indicator of crime problems, yet they may provide a distorted picture of the magnitude or type of problem. My future research (discussed in Chapter 5) will include a comparison of the Part I and 911 data, which KPD also gave me for the 1992-2001 timeframe.

KPD Lieutenant Robert Hubbs and John Venn, KPD's Crime Analysis Manager, provided the Part I and 911 crime data and the Knoxville and Knox County map themes necessary to use the Arcview software. Because it had been several years since I used Arcview, Hubbs spent many hours showing me how to manipulate the map themes, operate the query function, and correct the raw database. In return for the data and assistance from the KPD staff, I gave KPD copies of the new incident location map themes after I spent weeks removing incorrect address entries.

As already mentioned in Chapter I, there are seven family-oriented KCDC sites that are the focus of this research.⁴ Western Heights is the oldest and largest public housing development in Knoxville, opening in the 1940s and currently holding 688 units. The newest site is Montgomery Village, which opened in the 1970s with 452 units. The remaining sites are Austin Homes (329 units), Walter P. Taylor Homes (500 units),

⁴ These sites are not the only KCDC public housing properties in Knoxville, but they are the only sites where the Security Patrol operates. Consequently, the other KCDC sites were not subjected to the policies that are the focus of this study. Other KCDC public housing projects typically serve the elderly or handicapped, and do not have large crime problems (Hubbs 2002). The study sites accounted for 71% of the total KCDC housing units in 2000 (KCDC 1997b).

Table 1.
PHDEP Grant Funding of the Security Patrol

Year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Dollars	161000	291400	544729	466131	799000	788004	809570	943819	727654	804520	553865	651893	755020

Christenberry Heights (326 units), Lonsdale Homes (300 units) (KCDC 1998a), and College Homes (320 units) (KCDC 1998b.).⁵

Funds Spent

Game (1979) recommends that one must determine the cost, or price of a policy. The cost of the Security Patrol is summarized in Table 1 above, which traces the constant dollars allocated to cover the cost of the KPD/KCDC contract in KCDC’s yearly PHDEP grant applications. Wilma White at KCDC graciously provided the data for Table 1.

Using Arcview Software to Collect/Filter Crime Incident Data

For each incident of crime in the KPD database, there is an associated street address (including a number and street name), a description of the crime, time of day, day of week, month, KPD traffic zone where the incident occurred, and several other identifiers that I did not use.⁶ The Arcview software allows the user to place a “pin,” or dot, or other graphical character at the geographical location of any variable the software recognizes (e.g., a physical street address, or X,Y map coordinate). Because the KPD database only contains street addresses, KPD provided an Arcview compatible map layer, or “theme,” that contains a pin at the location of every street address in the City of Knoxville. Arcview matched the addresses in this theme to the addresses in the database to create pin maps showing the location of every crime in Knoxville for which it recognized an address.⁷ KPD also provided map themes showing Knoxville city streets,

⁵ College Homes was built between 1938-1940, and was demolished during the winter of 1998-'99 with HOPE VI grant funding from HUD. Demolition began in December 1998. The housing project will be replaced with two-family rental duplexes and mixed-income single-family homes (KCDC 1998b). I was initially concerned that the elimination of this site would affect the total number of crimes per year in the KCDC sites; however, the number of reported Part I incidents in College Homes averaged only 1.14 crimes per year.

⁶ My first manipulation of the database was to divide it into separate files representing each year. Arcview 3.2 functioned slowly when ten years of pins were placed on a single map. This also simplified the process of creating maps showing different types of crimes or other variables for a single year.

⁷ Because most of the errors in the database are due to misspellings or omissions (i.e., leaving the word “Pike” off an address on Middlebrook Pike; e.g. an entry reading “4005 Middlebrook”), approximately 25% of the raw database for each year has addresses with errors. Naturally, I wanted to be sure that Arcview placed pins in the correct locations. A complete description of the Arcview address match functions and my decision rules are included in Appendix B. Ultimately, I was able to drop the “No match” score from approximately 25% to 13% per year. No Match entries are those that the software could find an address “match score” less than 75 on a scale of 1-100. The default threshold for a “Partial Match” was < 75. Although a missing data level or error rate of 13% will seem high to most social scientists, a

building footprints, curb edges (for streets and parking lots), and bodies of water, which permits me to create detailed maps of Knoxville, showing both incidents of crime and surrounding geographical features. The building footprint theme is important to the regression analysis, which will be discussed later.

One map theme created by KPD shows the boundaries of the KPD traffic zones, which are used for personnel assignments and data collection purposes. This theme is vital to my analysis, because KPD created a separate traffic zone representing the perimeter of each KCDC housing site protected by the Security Patrol. Consequently, this map layer shows the physical boundaries of the policy implementations. By using the Arcview software to identify the separate incidents of crime that occurred within the KCDC study sites (as determined by the traffic zones), I can compare the level of crime in KCDC to the level of crime in the rest of the Knoxville to determine whether the policies were effective.

To demonstrate how this is done, Figure 2 below shows all the incidents of crime for 1997 in a portion of Knoxville that includes three public housing sites. Figure 3 is an



Figure 2. All Part I Crimes in Knoxville (1997)

database with this level of incorrect locations is common for GIS software users, particularly when street addresses are used to locate pins instead of specific X,Y map coordinates. The use of a global positioning system (GPS) at the data collection phase (e.g., the KPD could install GPS units in their cruisers or radios) would eliminate the high error rate; however, the KPD and most local police agencies at present cannot afford or justify the necessary hardware (Hubbs 2002).



Figure 3. Part I Crimes Intersecting Public Housing (shown in yellow)

example of using Arcview to show only those crimes that “intersect,” or fall within, the three shown public housing sites (appearing as yellow pins) where the new crime control policies were implemented.

After obtaining the total number of crimes per year in the City (KCDC included) and for KCDC separately, I subtracted the latter from the former to calculate the number of incidents occurring in the population of Knoxville outside public housing. Table 2 below illustrates the process.

Not only can I count the total incidents of crime by year, but I can also use the software to count the different types of Part I crime (aggravated assault, auto theft, burglary, larceny, murder, rape, or robbery) by using the query tool.⁸ In Figure 4, murders in a portion of Knoxville are indicated by green stars; all other crimes still appear in red.

⁸ The “query” function of the software allows the user to place pins for entries in a database that meet user-defined criteria. For example, if one wanted to see all the murders in Knoxville, one would type in the query box: ([crime] = “murder”). Arcview would then highlight only those pins in the theme where the “crime type” variable was a murder. Once highlighted, the separate pins can be saved as a new, separate theme with a different pin format.

Table 2.
Calculation of Total Part I Crimes by Year

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Totals
City	15232	13372	13257	13658	10750	11162	10162	9489	9459	10254	116795
KCDC	759	721	778	889	523	487	435	418	446	421	5877
City (KCDC exclusive)	14473	12651	12479	12769	10227	10675	9727	9071	9013	9833	110918

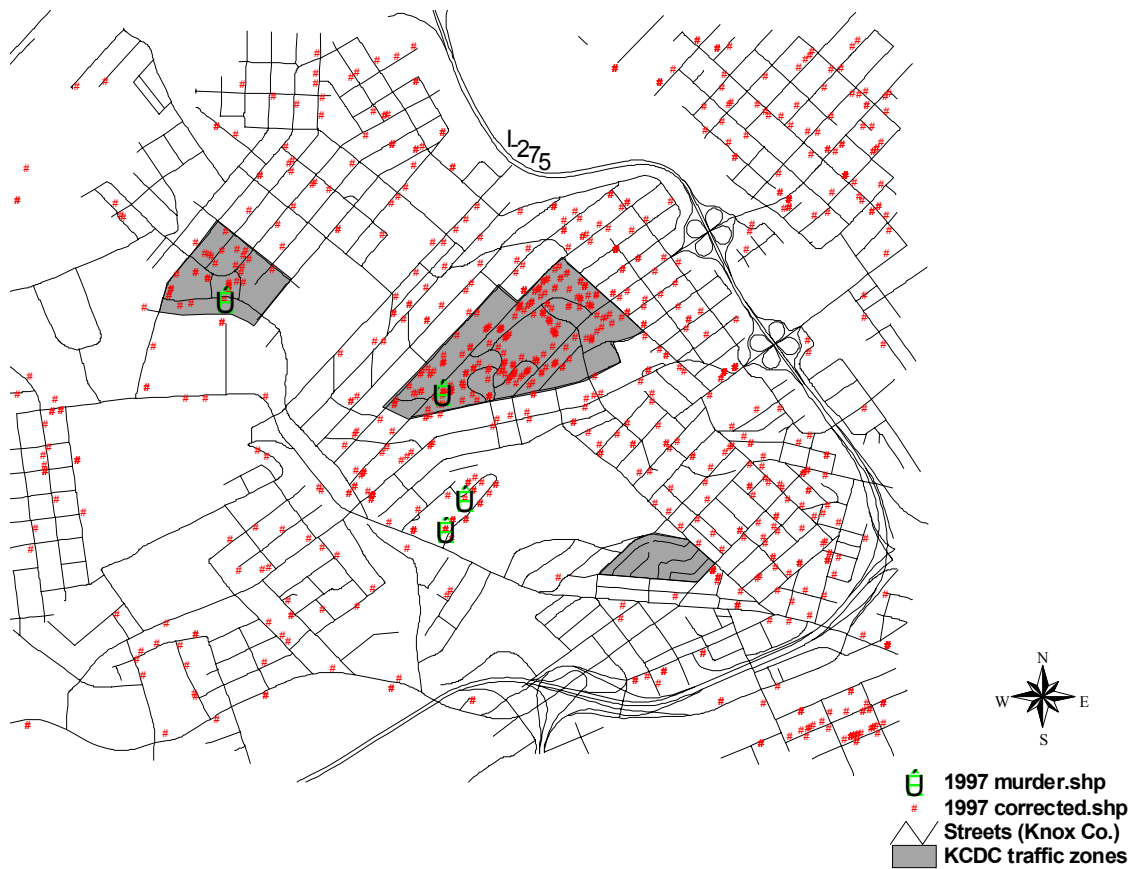


Figure 4. All Murders in Knoxville (1997)

Once I knew how many incidents of a particular crime type occurred citywide, I used the intersect function as in Figure 3 to determine which incidents occurred in the KCDC sites. Basic subtraction (as in Table 1) allows me to separate the incidents for the two populations. The results are in Table 3. Most of the PHDEP grant applications compiled by KCDC contain a table showing the percent change in crime from one year to the next. Using the data from Table 3, I calculated percent changes in Table 4 for the two separate populations.

Ideally, the next step should be to calculate crime rates for the two populations using the ratio of number of crimes to population. Population data for the entire City of Knoxville can be estimated from 1990 and 2000 census data. Unfortunately, population data for the KCDC study sites alone is only available for 1999 and 2000. KCDC uses an Internet site to report resident census-type information to HUD, and the same site also generates printed reports. At present, KCDC can only use the system to generate data for the two years (White 2002). I could estimate KCDC population using the available information; however, I would be unable to account for the population of College Homes prior to its demolition in 1998, which was not reported.

Several of the PHDEP grant application from KCDC included a calculation for a *rate of crime occurrence*, or the ratio of crimes to the number of households. Again, the number of households for the City of Knoxville was available from the 1990 and 2000 census.⁹ There is a 9.5% increase in the number of households between 1990 and 2000, or a .95% increase per year. Starting in 1990, I added .95% to the total number of households for each year between 1990 and 2000, and again for 2001.

Calculating the number of households for KCDC is more complicated, but is possible. KCDC reports for 1999 and 2000 contain the total number of units in each housing site and the total number of occupied units. I use an average number of occupied units to represent the number of KCDC households.¹⁰ To ensure that KCDC occupied units was roughly equivalent to the census data for households, I compared the average family size for Knoxville in 2000 (2.12) to the average family size in the KCDC sites (2.44) (KCDC 1999; KCDC 2000a; American FactFinder 2002). The rate of occurrence of crime is reported in Table 5, using my estimates for the number of households and the number of crimes from Table 4. Table 5 is translated into Figures 5 and 6 below.

⁹ <http://factfinder.census.gov/home>

¹⁰ By using the total number of units per site and the number of occupied units for 1999 and 2000, I calculated the average number of occupied units (1958 households) and an average occupancy rate (77%) for KCDC for the two years. College Homes consisted of 320 units; assuming 77% occupancy, it would contain 246 households prior to demolition. Given the average occupancy rate, using the total number of units to represent households was not appropriate. Consequently, I assumed 1958 households (remaining constant) for 1998-2001. Because College Homes was demolished in Dec. 1998 and some residents were relocated during 1997, I added the 246 households in College Homes to 1958 for each year between 1992 and 1997, equaling 2204 households per year.

Table 3.
 Calculation¹¹ of Total Part I Crimes by Type
 for the City (KCDC inclusive), KCDC Only, and City (KCDC *exclusive*)

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
City (including KCDC)										
Agg assault	2166	2202	2267	2335	836	844	825	738	719	1138
Auto theft	1878	1612	1610	1772	1599	1530	1276	1364	1448	1277
Burglary	3339	2819	2691	2810	2337	2040	1647	1389	1108	1701
Larceny	6905	6029	5925	5900	5299	6093	5762	5341	5631	5349
Murder	35	14	24	20	24	19	34	20	21	16
Rape	117	99	109	103	64	91	78	68	76	134
Robbery	792	597	631	718	591	545	540	569	456	639
Total=	15232	13372	13257	13658	10750	11162	10162	9489	9459	10254
KCDC Only										
Agg assault	325	328	352	378	128	132	111	125	89	115
Auto theft	52	56	56	94	63	58	58	58	69	44
Burglary	196	156	133	163	125	110	90	85	99	89
Larceny	134	141	177	185	146	151	130	116	136	120
Murder	9	2	5	4	3	2	3	1	4	2
Rape	11	12	10	7	7	5	8	5	9	12
Robbery	32	26	45	60	51	29	35	28	40	39
Total=	759	721	778	891	523	487	435	418	446	421
City minus KCDC = City (KCDC exclusive)										
Agg assault	1841	1874	1915	1957	708	712	714	613	630	1023
Auto theft	1826	1556	1554	1678	1536	1472	1218	1306	1379	1233
Burglary	3143	2663	2558	2647	2212	1930	1557	1304	1009	1612
Larceny	6771	5888	5748	5715	5153	5942	5632	5225	5495	5229
Murder	26	12	19	16	21	17	31	19	17	14
Rape	106	87	99	96	57	86	70	63	67	122
Robbery	760	571	586	658	540	516	505	541	416	600
Total=	14473	12651	12479	12767	10227	10675	9727	9071	9013	9833
KCDC Proportion of Total Crime [total KCDC (only)/total City (including KCDC)]										
	.0498	.0539	.0587	.0652	.0487	.0436	.0428	.0441	.0472	.0411

¹¹ The FBI changed the UCR system in June 2000 in an attempt to gain more accurate information about the crimes being reported. The new system resulted in new sub-categories of violent crimes. Because of the new categories, each crime incident may result in listings in multiple categories (e.g., a burglary could also be listed as vandalism depending on the circumstances). The KPD staff believed that the new system tends to elevate the number of reported total crimes. Beginning in 2000, a separate "theft" category appeared in the KPD database. I added these to the larceny category, as they were minor in nature, such as thefts from buildings or vehicles, and they were proportional to the pre-2000 larceny category.

Table 4.
 Percent Change in Crime Types by Year
 for KCDC and City (KCDC *exclusive*)

KCDC Only										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Agg assault	n/a	0.92%	7.3%	7.4%	-66.1%	3.1%	-15.9%	12.6%	-28.8%	29.2%
Auto theft	n/a	7.7%	0.0%	67.9%	-33.0%	-7.9%	0.0%	0.0%	19.0%	-36.2%
Burglary	n/a	-20.0%	-14.8%	22.6%	-23.3%	-12.0%	-18.2%	-5.6%	16.5%	-10.1%
Larceny	n/a	5.2%	25.5%	4.5%	-21.0%	3.4%	-13.9%	-10.8%	17.2%	-11.8%
Murder	n/a	-78.0%	250.0%	-20.0%	-25.0%	-33.3%	50.0%	-66.7%	400.0%	-50.0%
Rape	n/a	9.1%	-16.7%	-30.0%	0.0%	-28.6%	60.0%	-37.5%	80.0%	33.3%
Robbery	n/a	-18.7%	73.1%	33.3%	-15.0%	-43.1%	20.7%	-20.0%	42.9%	-2.5%
% change of total crime	n/a	-5%	7.90%	14.50%	-41.30%	-6.90%	-10.70%	-3.90%	6.70%	-5.60%
City (KCDC exclusive)										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Agg assault	n/a	1.8%	2.2%	2.2%	-63.8%	0.6%	0.3%	-14.1%	2.8%	62.4%
Auto theft	n/a	-14.8%	-0.1%	8.0%	-8.5%	-4.2%	-17.3%	7.2%	5.6%	-10.6%
Burglary	n/a	-15.3%	-3.9%	3.5%	-16.4%	-12.7%	-19.3%	-16.2%	-22.6%	59.8%
Larceny	n/a	-13.0%	-2.4%	-0.6%	-9.8%	15.3%	-5.2%	-7.2%	5.2%	-4.8%
Murder	n/a	-53.8%	58.3%	-15.8%	31.3%	-19.0%	82.4%	-38.7%	-10.5%	-17.6%
Rape	n/a	-17.9%	13.8%	-3.0%	-40.6%	50.9%	-18.6%	-10.0%	6.3%	82.1%
Robbery	n/a	-24.9%	2.6%	12.3%	-17.9%	-4.4%	-2.1%	7.1%	-23.1%	44.2%
% change of total crime	n/a	-12.6%	-1.40%	2.30%	-19.90%	4.40%	-8.90%	-6.70%	-0.60%	9.10%

Table 5.
Rate of Occurrence of Part I Crime by Type for KCDC and City (KCDC *exclusive*)

KCDC (#incidents / #households)										
Estimated Households	2204	2204	2204	2204	2204	2204	1958	1958	1958	1958
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Agg assault	0.1475	0.1488	0.1597	0.1715	0.0581	0.0599	0.0567	0.0638	0.0455	0.0587
Auto theft	0.0236	0.0254	0.0254	0.0426	0.0286	0.0263	0.0296	0.0296	0.0352	0.0225
Burglary	0.0889	0.0708	0.0603	0.0740	0.0567	0.0499	0.0460	0.0434	0.0506	0.0455
Larceny	0.0608	0.0640	0.0803	0.0839	0.0662	0.0685	0.0664	0.0592	0.0695	0.0613
Murder	0.0041	0.0009	0.0023	0.0018	0.0014	0.0009	0.0015	0.0005	0.0020	0.0010
Rape	0.0050	0.0054	0.0045	0.0032	0.0032	0.0023	0.0041	0.0026	0.0046	0.0061
Robbery	0.0145	0.0118	0.0204	0.0272	0.0231	0.0132	0.0179	0.0143	0.0204	0.0199
Total	0.3444	0.3271	0.3530	0.4043	0.2373	0.2210	0.2222	0.2135	0.2278	0.2150
City (KCDC exclusive) (#incidents / #households)										
Estimated Households	71309	71986	72670	73360	74057	74761	75471	76188	76650	77378
Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Agg assault	0.0258	0.0260	0.0264	0.0267	0.0096	0.0095	0.0095	0.0080	0.0082	0.0132
Auto theft	0.0256	0.0216	0.0214	0.0229	0.0207	0.0197	0.0161	0.0171	0.0180	0.0159
Burglary	0.0441	0.0370	0.0352	0.0361	0.0299	0.0258	0.0206	0.0171	0.0132	0.0208
Larceny	0.0950	0.0818	0.0791	0.0779	0.0696	0.0795	0.0746	0.0686	0.0717	0.0676
Murder	0.0004	0.0002	0.0003	0.0002	0.0003	0.0002	0.0004	0.0002	0.0002	0.0002
Rape	0.0015	0.0012	0.0014	0.0013	0.0008	0.0012	0.0009	0.0008	0.0009	0.0016
Robbery	0.0107	0.0079	0.0081	0.0090	0.0073	0.0069	0.0067	0.0071	0.0054	0.0078
Total	0.2030	0.1757	0.1717	0.1740	0.1381	0.1428	0.1289	0.1191	0.1176	0.1271

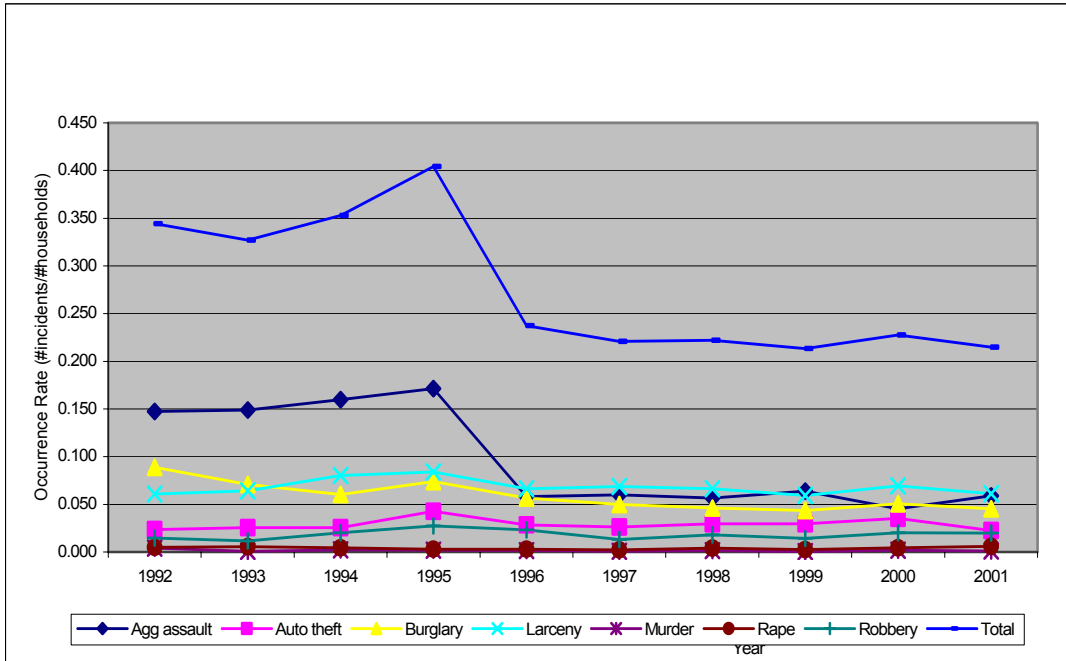


Figure 5. Occurrence Rates of Part I Crimes in KCDC Study Sites

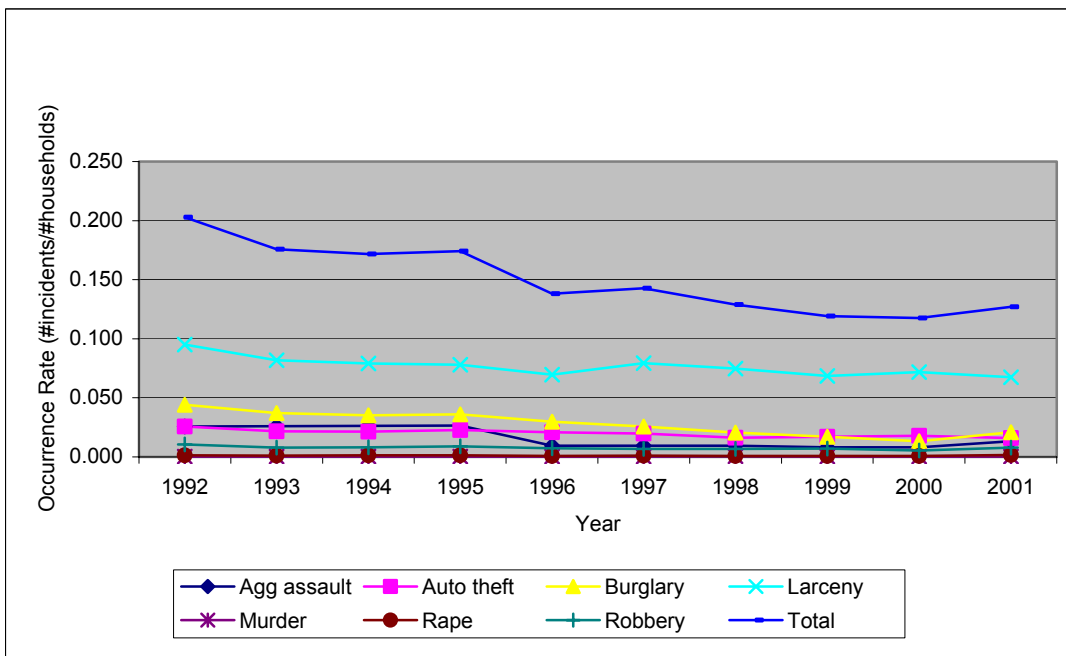


Figure 6. Occurrence Rates of Part I Crimes City-wide (KCDC exclusive)

A Methodological Problem Emerges

Although I do not intend to delve into my findings until Chapter 4, one can easily see from Figures 5 and 6 that something happened between 1995 and 1996 in KCDC. Initially I was very excited about the tremendous crime reduction in Figure 5. Unfortunately, there were several occurrences that might explain the drop which have nothing to do with policies under study. First, as Table 1 indicates, the timing of the downturn coincides with the two years (1995 and 1996) during which the most money was spent on the KCDC/KPD contract. A reduction in crime caused by the spending of more money on law enforcement personnel is a simple, logical explanation. Second, the '95-'96 timeframe also coincides with the arrests of several gang leaders by federal and state authorities. These two confounding factors would make it difficult for me to separate the effects of the policies.

Seeking additional insight into possible explanations for the drastic crime reduction in KCDC, I showed the above tables and figures to the KPD computer analysis staff. Not only did they tell me that they had previously found similar results, but they warned me of a potential methodological problem that occurred during the data-collection phase within the KPD. Specifically, they believed someone on KPD's staff had counted *all* assaults as aggravated assaults for the years preceding 1996. The '95-'96 reduction reveals when the problem was corrected. Assuming the problem is true, their concern about this problem calls into question the validity of any findings prior to 1996.

Removing improperly included simple assaults is not possible. I could subtract the total number of simple assaults to adjust the total number of aggravated assault incidents and the total number of crimes, yet it is impossible to determine which individual incidents should be removed, making it impossible to subtract the correct number of KCDC incidents and non-KCDC incidents. Also, I would be unable to accurately adjust the total number of crimes per census tract, which would preclude using tract-level census data for later regression analyses.

Reducing the timeframe to 1996-2001 solved several problems. First, it eliminated the methodological concerns and the confounding factors regarding the pre-1996 data. Second, the list of implemented policies I knew about grew from an initial four to a total of seven policies during the research for Chapter 1. By reducing the timeframe, I was able to shorten the list of policies to be evaluated to four, with two years (1996 and 2000) seeing no policies as comparison years.

The remaining policies to be evaluated are:

1. A "One Strike" eviction policy added to KCDC leases in Sept. 1996 (1997 impact)
2. The demolition of the College Homes housing project in Dec. 1998 (1998 impact-residents were moved out early in the year)
3. A new team-based approach to policing, implemented in March 1999 (1999 impact)

4. A new residency applicant screening process in Sept. 2000 (2001 impact).

The Problems With Surveys in Public Housing

Some of the literature mentioned in Chapter 2 uses socio-economic or demographic area characteristics to search for patterns in crime. In addition, multiple sources mentioned the use of customer satisfaction or victimization surveys to gauge policy effectiveness or measure factors such as “cultural social isolation” and “social disorganization” (i.e. Sampson and Wilson 1998). Given the available literature, I felt it was necessary to gather some form of data regarding the above types of variables to obtain an accurate understanding of the factors influencing crime in Knoxville’s public housing.

The Gwaisda et al. (1997) multi-year study of residents in Chicago housing projects is illustrative of the problems faced by researchers wanting to collect information about public housing. They conducted four waves of a cross-sectional, personal interview survey in nine Chicago Housing Authority (CHA) locations, beginning in May 1994. Funded by the National Institute of Justice, the study was to be an evaluation of CHA’s Anti-Drug Initiative (ADI). The ADI included law enforcement actions, including security sweeps, patrols, security guards, drug prevention and intervention programs, and community programs such as resident patrols (Gwaisda et al. 1997).

A principle concern of the Chicago researchers was the development of methods that allowed safe, reliable data collection. A telephone survey could not be used due to the high percentage of residents not having phones. Poverty, illiteracy, and the fact that public housing authority records do not yield reliable mailing lists make a self-administered mail survey problematic. A face-to-face survey was preferable, but conducting interviews in residents’ homes created safety concerns. The buildings could be filthy, elevators in the high-rise buildings might not work, lights may be out in hallways, and interviewers could be expected to encounter groups of young men outside and inside buildings who were gang members, drug users, or drug dealers (Gwaisda et al. 1997).

Gwaisda et al. (1997) used residents as interviewers, because they were familiar with the environment and were less afraid, respondents might be more willing to talk to other residents and provide more accurate responses, and the researchers would be providing employment to a population they were ultimately trying to help. However, the resident interviewers required extensive training and supervision due to deficiencies in education and job experience. Police and guards were on standby for assistance, yet they did not accompany the interviewers because the security staff was a source of respondent complaints (Gwaisda et al. 1997).

A second significant problem encountered in Chicago was the identification of political structures that had to be notified of the research. These included advisory councils within the developments, and CHA site managers and staff. By using resident

interviewers and by working with CHA, the official barriers to site access were eliminated, yet resident leaders who had not be notified in advance of the first wave of surveys were uncooperative and suspicious toward survey staff. This was alleviated in future waves by notifying CHA staff in writing and circulating a quarterly (Gwaisda et al. 1997).

Available resources (particularly time) did not permit me to conduct any form of survey. As a possible middle ground, I originally intended to conduct brief interviews with key policy makers and implementers, as well as resident leaders in the KCDC study sites. The KCDC staff and the KPD officers involved in the policy changes seemed to be willing to be interviewed; however, my attempts to contact willing resident leaders in the public housing sites were unsuccessful.

I also discovered that using socio-economic or demographic variables to compare KCDC to the rest of Knoxville was problematic. Trying to compare census variables for the two populations (e.g., comparing mean differences) was not possible for the same reason I could not generate total population data for KCDC in Chapter 3; the data was only available from KCDC for 1999 and 2000.

Consequently, I decided to replace the interviews with multivariate regression analyses utilizing census data already in my possession. I will conduct a separate regression analysis for each year (1996-2001) to determine a parsimonious model of area-characteristic and policy variables that affect the crime rate in Knoxville. The dependent variable will be the total Part I crimes divided by total population (or Knoxville's Part I crime rate). The unit of analysis will be an individual census tract.

Tract Selection and the Regression Variables

Even though useful socio-economic and demographic data were unavailable for the KCDC study sites alone, the Knoxville-Knox County Metropolitan Planning Commission (MPC) provided tract-level census data for 1990 and estimates for 1997¹², while the 2000 census data are available on the MPC website. Due to the shortening of my timeframe, I decided to rely on the 1997 and 2000 census information to estimate data for all the remaining years between 1996 and 2001.

Because the unit of analysis would be at the census tract level, it was first necessary to determine which tracts to use. I began the tract-elimination process by first eliminating the tracts that are clearly outside the perimeter of the Knoxville city limits. Next, I ensured that census data are available for 1997 and 2000 (which allows estimation of missing census variables), and the tracts are geographically contiguous (for visual continuity). The final product is 50 tracts. Because crime incidents occurred in the 33 tracts that I did not use for the regression analysis, these incidents were lost. Table 6

¹² The 1997 source data was provided by the U.S. Department of Housing and Urban Development, and was later compiled by the Knoxville-Knox County Metropolitan Planning Commission in 1998.

below indicates the scale of the lost data, due to the timeframe shift and the eliminated tracts. Despite the large number of incidents not used in the regression analyses, I am still able to utilize 49,408 incidents, or an average of 8235 incidents per year for my shorter timeframe.

To calculate the dependent variable, I had to determine how many crime incidents occurred within each of the remaining tracts each year. This was accomplished by using the Arcview software in a manner similar to the process used to create Figure 3, except I used it to determine the incidents each year that intersected each census tract. Once I knew the number of incidents per tract each year, I could divide them by the population in each tract to determine the crime rate.

The independent variables and my rationales for selecting them follow.

- ***proportion of total population that is male*** (males/total population) – None of the area-characteristic literature studied whether gender was a factor. Throughout the Criminology, Sociology, and Psychology literature regarding individual-level characteristics and their relationships to crime, males are universally believed to be more violent than women.
- ***proportion of total population over 60*** (sum of categories ages 60 to 85 and older/total population) -- Felson and Cohen (1980) and Cohen et al. (1981) considered elderly residents as potential targets.
- ***proportion of total population under 18*** (sum categories under 5 years to 18 divided by total population) -- Shaw and McKay (1942) and Brantingham and Jeffery (1981) were concerned with youthful offenders.
- ***proportion of total population that is not caucasian*** (sum of categories Black, Amer. Indian, Alaskan Native, Asian, Nat. Hawaiian/Other Pac. Islander, Hispanic, and Other divided by total population) – Race and its relationship to crime was a factor in many studies, including Park and Burgess (1925), Brantingham and Brantingham (1975), Pettitway (1982), Hirsch (1983), Sampson and Wilson (1998), and McNulty and Holloway (2000).

Table 6.
Difference Between Incident Totals in Descriptive Analyses
and Incident Totals Used in Regression Analyses

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
Total Incidents	15232	13372	13257	13658	10750	11162	10162	9489	9459	10254	116795
Used in Regression	0	0	0	0	8499	8804	8096	7755	7774	8480	49408

- ***proportion of total population w/ less than a high school education*** (population 25 years and over; sum of categories Less than 9th grade and 9th to 12th w/ no diploma divided by total population) – Proponents of the comprehensive crime control measures (e.g., Podolefsky (1983)) argue that crime is a product of inadequate educational opportunities. Sampson and Wilson (1998) believe poor-quality schools in inner cities may lead to more crime.
- ***proportion of total population unemployed*** (in civilian labor force, population 16 years and over divided by total population) – Sampson and Wilson (1998) argue that inner city residents' inability to find jobs contributes to the social disorganization and cultural isolation that creates conditions conducive to crime.
- ***proportion of total households earning less than \$10,000*** (households earning less than \$10,000 divided by total households) – If positively related to crime, this variable could indicate that individuals who are economically disadvantaged are the cause (i.e., Shaw and McKay 1942 and Sampson and Wilson 1988). However, Ehrlich (1973), Fabrikant (1979), Hakim (1980), Harries (1980), and Deutsch et al. (1987) write that offenders would seek to minimize their costs by committing property crimes in affluent areas, while Felson and Cohen (1980) and Cohen et al. (1981) believe wealthy people and property are attractive targets.
- ***proportion of total households that are renter-occupied housing units*** (total renter-occupied housing units divided by total households) – Implicit in the HOPE VI grant from HUD is a belief that residents in owner-occupied housing units will be better motivated to maintain and protect their property as compared to renters. Shaw and McKay (1942) include residential mobility among the four structural characteristics of the community that increase crime by eroding community social organization.
- ***crime control policy implemented*** (coded: 1=received policy, 0=did not receive policy) – This is my policy dummy variable to differentiate between census tracts receiving policies (i.e. contained a KCDC study site) from those which did not. Because I am using a cross-sectional design, each implemented policy was coded in the same manner for the single year that I anticipated to see policy effects. Potential cumulative effects of the policies will be discussed in Chapter IV.
- ***proportion of total households in the tract that is public housing*** (estimated number of occupied KCDC households divided by total households¹³) -- Waller

¹³ I had already calculated the yearly average of total occupied KCDC units in each study site for the calculations for Table 5 (see Footnote 8). A problem arose when I discovered that Montgomery Village and Christenberry Heights both straddled two different pairs of adjacent census tracts. Using the Arcview software, I placed the KCDC perimeter map theme and the building footprint theme over the census tract theme. This allowed me to manually count the total number of buildings in the two study sites and the number of buildings that fell within each of the four census tracts. Next, I divided the total number of units for both sites by the total buildings in each site to calculate the average number of units per building.

and Okihiro (1978) and McNulty and Holloway (2000) found relationships between crime and the mere presence of public housing. Because the policy dummy variable applied to an entire census tract, I wanted to include a measure of the level of public housing within a tract affected by the new public policies. I hoped this variable would reveal whether census tracts containing public housing were affecting the citywide crime rate differently than other census tracts. This variable should allow more variance than the policy dummy.

Estimation Method For Missing Data

Beginning with the 1997 and 2000 census data for the above variables (excluding the policy dummy variable) for each census tract, I calculated the difference between 1997 and 2000 for each tract, and then divided the difference by three years to determine the yearly change for 1998, 1999, and 2001. A reverse calculation was completed to account for 1996. A sample calculation for three census tracts to estimate the proportion of total households that are renter-occupied is shown in Table 7.

Regression Procedure

SPSS was used to perform the cross-sectional regression analysis for each year. I began by conducting stepwise linear regressions utilizing all of the independent variables. Any variable that was statistically significant at a minimum .05 level was noted for each year. All of the variables that were statistically significant during any year for the stepwise regressions were then analyzed with SPSS to ensure a correlation between each

Table 7.
Example of Calculation for Missing Data

Calculation	Definition										
Rentdif	difference between the 2000 and 1997 data										
rentdif/3	difference divided by 3 (years)										
Reverse96	the reverse of the rentdif/3 column to account for the year preceding 1997										
Tract #	97rent	00rent	rentdif	rentdif/3	reverse96	96rent	98rent	99rent	00rent	01rent	01rent
1	619	694.00	75	25	-25	594	644	669	694	719	719
2	388	428.00	40	13	-13	375	401	415	428	441	441
3	666	711.00	45	15	-15	651	681	696	711	726	726

Finally, I used the number of units per building and the building counts for each tract to estimate the total units that fell within each tract. College Homes fell completely within the boundaries of census tract number 12. Because College Homes was demolished in December 1998, yet the residents were relocated earlier in the year, the proportion of total households that was public housing for all years after 1997 in census tract number 12 is calculated as zero.

Table 8.
Correlations between Crime per Population and Independent Variables,
1996-2001 ($N = 50$ [census tracts])

Variable	1996	1997	1998	1999	2000	2001	Pearson R Sig. (2-tailed)
Proportion of housing that is public housing	-0.019 0.897	-0.071 0.627	-0.008 0.995	-0.018 0.902	0.092 0.524	0.520 0.000	
Proportion male	0.272 0.056	0.273 0.055	0.417 0.003	0.507 0.000	0.411 0.003	0.230 0.108	
Proportion over age 60	0.191 0.184	0.124 0.392	0.039 0.786	-0.069 0.632	-0.182 0.205	-0.291 0.041	
Proportion under age 18	-0.078 0.588	-0.100 0.491	-0.177 0.219	-0.314 0.026	-0.267 0.061	0.052 0.719	
Proportion of non-caucasians	0.171 0.235	0.172 0.232	0.176 0.223	0.215 0.134	0.275 0.053	0.322 0.022	
Proportion w/ less than high school education	0.485 0.000	0.526 0.000	0.591 0.000	0.534 0.000	0.549 0.000	0.567 0.000	
Proportion unemployed	0.506 0.000	0.448 0.001	0.585 0.000	0.491 0.000	0.411 0.003	0.656 0.000	
Proportion of households renter-occupied	0.395 0.005	0.396 0.004	0.425 0.002	0.499 0.000	0.551 0.000	0.489 0.000	

of the remaining independent variables and the dependent variable (total Part I crimes divided by population) for each year. The results are in Table 8 above. Because all the remaining independent variables were correlated with the dependent variable in at least one year, all the independent variables were used again to conduct listwise linear regressions for each year.

Summary of Data and Methods

As the reader can see, the biggest problem I faced during this study was the same problem faced by other researchers interested in crime in public housing: data availability. Fortunately, the staffs of KPD, KCDC, and the Metropolitan Planning Commission were tremendously helpful, not only in providing data sources, but also providing tutelage in the manipulation of them. The Arcview mapping software allowed me to separate the incidents of crime in public housing from the incidents occurring in the rest of the Knoxville, which allowed me to create descriptive statistics for the two populations. Although I could not generate statistics using a crime rate (or crimes per population) due to inadequate data for KCDC's population, it was possible to estimate a crime *occurrence* rate (crimes per household).

Despite the agency assistance and the plethora of crime data, the pre-1996 methodological problem necessitated that I reduce the timeframe for any analysis beyond simple descriptive statistics. I was forced to use a cross-sectional design regression

analysis to search for other variables that might be influencing Knoxville's total crime rate for two reasons. First, census-type data for KCDC alone was unavailable (except near the end of my original 1992-2001 timeframe). Second, a survey was not a feasible alternative due to the inherent problems of surveys in public housing, disinterest on the part of local housing resident leaders, and a lack of resources.

Chapter IV will begin with some assumptions and limitations of the descriptive statistics, to be followed by an exploration of the descriptive findings. Next, there will be a discussion of the limitations of the regression analyses, and the results of the listwise regression for each year. Chapter IV will conclude with a discussion of caveats for the findings that must be acknowledged.

**CHAPTER IV
FINDINGS**

An Assumption and Limitations of Descriptive Statistics for 1992-2001

As I have already discussed in Chapter III, there is a serious methodological problem with the KPD crime incident data prior to 1996. Nevertheless, if simple assaults were incorrectly counted as aggravated assaults, the data entry error was systematically done for all simple assaults citywide. Although this problem forces me to restrict my regression analyses to 1996-2001, I can still use my original 1992-2001 timeframe for comparisons of crime occurrence rates between the separate KCDC and remaining city populations, if I assume that simple assaults are randomly distributed between the two populations. Figure 7 supports this assumption, which is a combination of the total crime occurrence rates from Figures 5 and 6. Both the KCDC study sites and the rest of the city experienced similar overall crime occurrence rate patterns, prior to and including the 1995-'96 reduction. For discussion purposes, the portion of Knoxville outside public housing will be referred to as the "City", while references to the area inside public housing will be referred to as "KCDC".

Completely analyzing the descriptive statistics for each type of crime is not entirely useful, given the small number of incidents per year for two types of crime. Table 5 reveals that murders and rapes in both KCDC and the City are rare occurrences when compared to the other types of Part I violent crime. Both murder and rape tend to

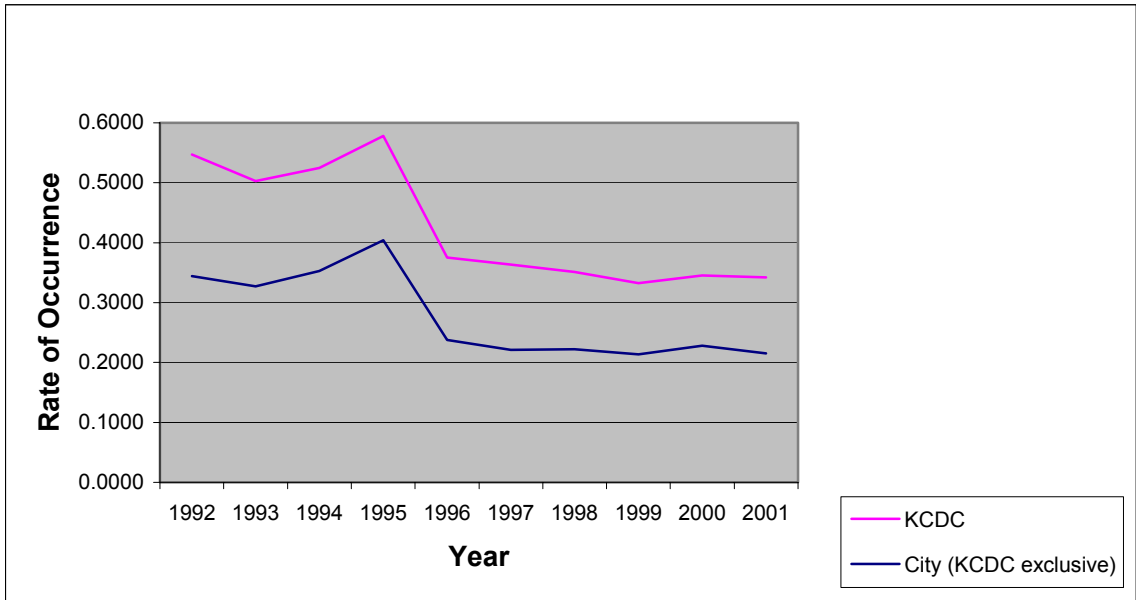


Figure 7. Comparison of Total Crime Occurrence Rates for KCDC and City (KCDC exclusive)

fluctuate independently of the other crime variables, sometimes varying dramatically from year to year (e.g., up 400% in KCDC in 2000), given the small number of incidents. However, occurrence rates of rape and murder are consistently higher in KCDC than in the City. Murder rates range from .0005 to .0041 in KCDC, and rape ranges from .0023 to .0061. City murder rates range from .0002 to .0004, and rape ranges from .0008 to .0016.

Comparing descriptive statistics from one year to another assumes that the effects of the individual policies occurred at discrete points in time, and are observable in terms of impact upon incidents of Part I crime. This assumption does not account for the compounding effects of multiple policy implementations upon the crime rate over time. In other words, the independent effects of any single policy may be indistinguishable from crime rate changes caused by preceding policies.

Descriptive Findings

The combination of privatization of city streets in 1992 and the assignment of one Security Patrol officer to each site in 1993 was intended to reduce crime in several ways. First, privatization of the streets meant that the Security Patrol could treat the study sites as private property. This permitted the Security Patrol to stop and identify any individual on the premises, because all residents were issued identification cards by KCDC. Due to street privatization, the Security Patrol could place non-residents on a No Trespass List, which permitted the Security Patrol to physically remove anyone who should not be on the property. Second, the installation of a regular police presence was intended to place constant pressure upon those wanting to sell or buy drugs, engage in prostitution, or anyone wanting to commit a crime of opportunity.

The privatization of streets in October 1992 and the assignment of one Security Patrol officer to each site in February 1993 are too close in time to separate the impact of each policy. Nevertheless, if the policies had a cumulative impact, one might find a greater decrease in the incidents of crime or the occurrence rates for 1993 in KCDC than for the City. Table 4 indicates that total crime incidents decreased by a greater percentage in the City (- 12.6%) than in KCDC (- 5%). The total crime occurrence rate from Table 5 for KCDC dropped from 0.3444 in 1992 to 0.3271 in 1993 (-.0173), while the total City rate dropped from 0.2030 in 1992 to 0.1757 in 1993 (-.0273). In fact, auto thefts (+ .0018) and larcenies (+ .0032) rose slightly between the two years in KCDC, while the City had small decreases (auto theft -.004, larcenies -.0132). Both KCDC and the City had reductions in burglaries (KCDC -.0181, City -.0071) and robberies (KCDC -.0027, City -.0028), while aggravated assaults rose slightly for both populations (KCDC + .0013, City +.0002). If there was a delayed effect for the two policies, it may appear in 1994. Table 4 shows that KCDC experienced a total 7.9% crime incident increase in 1994, while the City experienced a 1.4% decrease.

In order to gauge whether crime that was occurring in KCDC was being affected by the policies relative to total citywide crime, one can look at the calculation at the

bottom of Table 3, which shows the proportion of total citywide crime represented by KCDC each year. Between 1992 and 1994, the KCDC proportion of total citywide crime rose from .0498 to .0587.

In 1993, when the two policies may have a cumulative effect, the City saw a bigger reduction in overall crime incidents than KCDC. With regards to occurrence rates for individual types of crime, the two populations had similar results for burglaries, robberies, and aggravated assaults, yet KCDC saw increases for auto thefts and larcenies when the City saw small reductions. There does not appear to be a delayed impact in 1994, and the proportion of total citywide crime occurring in KCDC seems to be rising between 1992 and 1994. Given the trends for the two populations, the two policies do not seem to be effective.

The descriptive statistics reveal that KCDC experienced a greater reduction in crime incidents during 1995-1996 than the City, and a tremendous drop in aggravated assaults dominated the greater overall KCDC occurrence rate reduction. KCDC experienced a crime reduction of 41.3%, as compared to a City reduction of 19.9%. The proportion of total citywide crime represented by KCDC in Table 3 dropped from .0652 to .0487, which was the largest drop between years during the 1992-2001 timeframe.

Prior to the 1995-1996 reductions, the rates of occurrence for aggravated assault, auto theft, burglary, and robbery rose noticeably between 1994 and 1995 in KCDC (average increase = .01238), while occurrence rates for the same crimes rose to a much smaller extent in the remaining City during 1995 (average increase = .0009). The total occurrence rate for KCDC dropped from .4043 in 1995, to .2373 in 1996, and .2210 in 1997. During the same period, the City rate began at .1740, dropped to .1381 in 1996, yet rose to .1428 in 1997.

If one ignores aggravated assaults (due to the methodological problem), and murder and rape (due to their high variance) in Table 4, one can see that KCDC saw double-digit percentage reductions between 1995 and 1996 in every other Part I crime category, dropping significantly more than the City in terms of auto thefts, burglaries, and larcenies. The biggest one-year occurrence rate reductions in Table 5 were between 1995 and 1996 in KCDC, with aggravated assaults (- .1334), auto thefts (- .014), burglaries (- .0173), and larceny (- .0177). Comparatively, City aggravated assaults fell .0171, auto thefts dropped .0022, burglary fell .0062, and larceny dropped .0083. Robbery dropped similarly for both populations during 1996.

Assuming again that the incorrectly included simple assaults were randomly distributed between the two populations, one could conclude that KCDC did experience a greater overall crime reduction in 1995-1996. The assumption is supported by the fact that aggravated assaults were the crime type that comprised the biggest proportion of the 1995-1996 crime occurrence rate reduction for *both* KCDC and the City. Unfortunately, explaining findings for 1995-1996 remains problematic due to the pre-1996 data entry errors and confounding events.

I tried to gauge the potential effects of the confounding events that occurred between 1995 and 1997. The highest level of funding for the Security Patrol occurred in 1995 and 1996 (see Table 1), which indicates either more officers were present at any one time, the officers at each site worked more hours, or a combination of both.

I inquired about the deployment level of officers during the information gathering stage of this research, but the data existed only in the form of personnel timecards. Time did not permit me to dig through the cards for hundreds of officers for ten years, assuming KPD would be willing to give me access. According to the 1996 – 1998 PHDEP applications, 1995-1997 was the period in which KPD's enforcement efforts were supplemented by the FBI and Tennessee Bureau of Investigation, resulting in the arrests of several leaders of the Florida-based drug trafficking ring based in part in the KCDC sites. Given the influence of the external actors and lack of data, it is unknown how much the external agencies affected crime in KCDC.

On the one hand, it is impossible to separate the effects of the coinciding 1996 One-Strike policy, the increased law enforcement presence by external agencies in KCDC between 1995 and early 1997, and the highest level of grant funding which occurred during 1996. On the other hand, if One-Strike policy had a separate effect from other events, the effect may remain during 1997, because the policy was implemented during September 1996 near the end of the external agencies' involvement. The policy was intended to reduce the number of problem tenants by simply evicting them from their residences within the study sites.

During 1997, KCDC saw a 6.9% decrease in total crime incidents, and small total occurrence rate reduction (-.0163). There was a coinciding 4.4% increase in the City's total crime incidents and an overall occurrence rate increase (+.0047). Burglary (-.0068), auto theft (-.0023), and robbery (-.0099) did see minimal reductions in KCDC occurrence rates between 1996 and 1997, which could suggest an impact upon crimes of opportunity. KCDC aggravated assault (+.0018) and larceny (+.0023) increased during 1997 in KCDC. For the City, burglary (-.0041), auto theft (-.001), and robbery (-.0004) fell less than KCDC, aggravated assaults remained virtually unchanged (-.0001) and larceny rose (+.0099). The proportion of total citywide crime in KCDC fell from .0487 in 1996 to .0436 in 1997.

There are differing crime trends for the two populations in 1997. KCDC experienced overall reductions in the number of crime incidents, its proportion of total citywide crime, and a decrease in overall occurrence rates, while opposite trends occurred for the City. Occurrence rates for burglary, auto theft, and robbery fell at a higher level in KCDC than in the City, and the City larceny rate rose more than four times as much as KCDC larceny. Although the City aggravated assault rate remained virtually unchanged, KCDC experienced a small increase. These findings suggest that the One-Strike policy was effective upon crimes of opportunity and property crimes, yet did not reduce aggravated assaults. However, to make this conclusion, one must assume that

confounding variables (i.e., the external actors) are not causing the 1997 reductions in KCDC crime as compared to the City.

Because one entire study site was removed with the demolition of College Homes in 1998, one might intuitively anticipate a related reduction in crime. Demolition began on College Homes in December 1998, yet the policy impact should be in 1998 because KCDC began relocating residents as early as late 1997 (White 2002). If the number of Part I crime incidents occurring in College Homes was small, then the removal of the College Homes households could potentially cause the KCDC occurrence rates to *rise* slightly.

Table 3 shows a continuation of the downward trend in the proportion of total citywide crime in KCDC that began in 1996, with the proportion falling to .0428 in 1998. Table 4 reveals that KCDC saw a total incident reduction of 10.7%, while the City experienced an 8.9% reduction. KCDC saw bigger reductions in aggravated assaults (-15.9%) and larcenies (-13.9%) than the City (aggravated assault + 0.3%; larceny - 5.2%), but the City had a 2.1% reduction in robbery while KCDC had a 20.7% increase. The City saw a much larger reduction (-17.3%) in auto thefts, while KCDC was unchanged, and the City had a slightly larger reduction (by 1.1%) in burglaries than KCDC.

Table 5 demonstrates that the City experienced overall crime occurrence rate reduction in 1998, and either small reduction or stability in the occurrence rates for the different crime types, but KCDC saw opposite findings. The total crime occurrence rate for KCDC increased .0012 as compared to a small reduction (-.0139) for the City between 1997 and 1998. Auto thefts (+.0033), and robberies (+.0047) increased in KCDC to small degrees, while the rates for the same crimes fell slightly in the City (auto theft -.0036; robbery -.0002). Aggravated assaults fell in KCDC (-.0032), while the City remained unchanged. Burglary and larceny decreased similarly in both populations during the same term.

Drawing conclusions about the removal of College Homes is problematic. Table 3 shows a downward trend in the proportion of total citywide crime, but the reduction in 1998 could be due to the removal of College Homes, or it could be due to a trend begun by previous policies. Table 4 shows that KCDC saw larger reductions in aggravated assaults and larcenies than the City, but the City saw bigger reductions in the other crime categories than KCDC. Table 5 indicates that the City had slightly larger occurrence rate reductions or stability in every category, while KCDC saw small increases or similar reductions. Tables 4 and 5 agree that KCDC seemed to experience greater reductions in aggravated assaults between 1997 and 1998, but the two tables disagree in terms of which population experienced less total crime.

In terms of crimes per households (Table 5), the demolition of College Homes appears to be ineffective upon total crime, but it must be noted that the differences between the occurrence rates for 1997 and 1998 for the two populations are very small.

All of the findings suggest that the policy may have a marginal impact upon aggravated assaults in KCDC.

The implementation of the team-based approach in March 1999 was probably early enough in the year to have an impact on the 1999 crime levels. Table 3 shows a reversal in the proportion of total citywide crime in KCDC in 1999, which increased to .0441. According to Table 4, incidents of crime dropped 10.7% in 1998 in KCDC, yet fell only 3.9% in 1999. Taken together, Table 3 and 4 are inconsistent with a negative impact of the policy upon overall crime. In addition, the City experienced an 8.9% reduction in 1998, and a larger 6.7% reduction in 1999. Crime occurrence rates fell slightly overall between 1998 and 1999 (KCDC -.0087, City -.0098). When one examines the occurrence rates for the different types of crimes, a different pattern emerges for the two populations. The occurrence rates for burglary (-.0026), larceny (-.0072), and robbery (-.0036) fell between 1998 and 1999 for KCDC, yet aggravated assaults (+.0071) rose in 1999 and auto thefts remained unchanged. City aggravated assaults (-.0015) fell in 1999, burglary (-.0035) and larceny (-.006) rates were reduced at similar levels to KCDC, and City robbery (+.0004) and auto theft (+.001) slightly increased.

The City had a greater reduction in the total crime incidents and the total crime occurrence rate than KCDC in 1999. However, burglary, larceny, and auto thefts fell similarly for the two populations, with KCDC seeing occurrence rate reductions for property crimes that were slightly larger than City rate reductions. In addition, the two populations exhibited different patterns for occurrence rates for crimes against persons, with City robbery increasing and aggravated assaults falling, while KCDC robbery fell and aggravated assaults rose.

The 1999 team-based approach to policing was intended to create a group of Security Patrol officers at each KCDC site who worked well together and who could develop a sense of trust with the residents by getting to know them. If the officers became familiar with individual residents, then this could explain the reductions in KCDC property crimes and crimes of opportunity, but it appears as though the new policy was ineffectual against the larger problem of aggravated assault.

The implementation of new applicant screening procedures occurred in September 2000, which may appear as a reduction in crime in 2001. In Table 3, the proportion of total crime represented by KCDC dropped from a four-year high of .0472 in 2000 to .0411 in 2001. The 2001 KCDC proportion of total citywide crime was the lowest level reported for the 1992-2001 timeframe. The total percent change in overall crime increased by 6.7% in KCDC in 2000, but was reduced by 5.6% in 2001 in Table 4. The City experienced a decrease of .6% in 2000 that was followed by an increase of 9.1% in 2001. Occurrence rates in Table 5 for the two populations also include differences. During 2001, KCDC and the City saw decreases in rates for auto theft (KCDC -.0127, City -.0021) and larceny (KCDC -.0082, City -.0041), yet KCDC's decreases were noticeably larger. Both had increases in aggravated assault (KCDC +.0132, City +.005).

While the City's burglary (+.0076) and robbery (+.0024) rates increased in 2001, KCDC's rates for burglary (-.0051) and robbery (-.0005) decreased.

All of the indicators for crimes of opportunity decreased in KCDC during 2001, while the City's occurrence rates for the same crimes either decreased less, or the City's occurrence rates increased. Aggravated assault increased for both, with KCDC experiencing a greater increase. In terms of property crimes, the new policy for screening applicants seems to be effective.

Despite all the time, energy, and money spent on the Security Patrol, Figures 5 and 6 also demonstrate that KCDC is a more dangerous place to live than the rest of Knoxville. In Figure 6, only larceny (.0676) remains above the .05 occurrence rate in the City. Figure 5 shows that aggravated assault (.0587) and larceny (.0613) remain problems for KCDC. Burglary in KCDC has continued to fluctuate around the .05 level since 1996, dropping slightly to .0455 in 2001.

Assumptions and Limitations of the Regression Analyses

Two independent variables were not statistically significant at a minimum alpha of .05 for the stepwise linear regressions for each year, resulting in their elimination from the subsequent listwise regressions. The policy dummy variable was one, providing some evidence that the policies were not having a significant independent impact upon the crime rate in Knoxville. Nevertheless, concluding that the policies had no independent effects requires one to accept some assumptions and to acknowledge some limitations of the research design.

Like the descriptive statistics, the cross-sectional design for the regression analyses, including the coding scheme for the dummy variable, assumes that a maximum of one policy was affecting the crime rate in Knoxville each year. My method of coding the policy dummy variable was to assign a "1" to an entire census tract (in the year an individual policy was expected to cause an effect in the citywide crime rate) if a policy was implemented in a KCDC study site falling within the boundaries of the individual tract. Because two study sites straddled the boundaries of two tracts each, it was necessary to assign a "1" to 9 out of 50 census tracts during 1996 and 1997 (there are 7 KCDC study sites). The number of tracts affected by policies was reduced to 8 out of 50 for 1998-2001, due to the demolition of College Homes.

The lack of variance within a single year between tracts for the policy dummy variable could explain its lack of statistical significance in the stepwise regressions. If more cases were available, they might show that the policies have an independent effect.

The assumptions of the policy dummy coding method and the lack of variance created by it were the reasons behind my desire to include another independent variable that took into account the level of public housing within each tract. (See Footnote 10 in Chapter 3.)

Regression Findings

Another look at Figures 5, 6, and 7 demonstrates two things: 1) need for the timeframe change due to the obvious drop during 1995-1996, and 2) KCDC has consistently more total crime than the rest of Knoxville. Figure 7 and the elimination of the policy variable led to a fundamental question: if the policies don't seem to be affecting overall crime, what factors are influencing it? The yearly listwise regression analyses are intended to provide additional answers.

The second variable eliminated due to a lack of significance in the stepwise regressions was the proportion of households earning less than \$10,000. This was my only measure of poverty, and its elimination coincides with the belief of multiple authors that offenders choose affluent targets (i.e., Ehrlich 1973; Fabrikant 1979; Hakim 1980; Harries 1980; Deutsch et al. 1987). This finding also contradicts the arguments of Shaw and McKay (1942) and Sampson and Wilson (1998) who believe that areas characterized by poverty are more likely to experience more crime.

Because all the remaining variables were correlated to the citywide crime rate (in Table 8), they were combined into a single listwise regression model for each year. The results for the cross-sectional listwise regressions are contained in Table 9. The Adjusted R^2 for each year ranges from 0.517 in 1997 to 0.708 in 2001. Two variables stand out from the rest: the proportion male and the proportion of the population (over age 25) with less than a high school education. The proportion male was significant at the .01 level every year 1996-1999. The proportion with less than a high school education was statistically significant at the .01 level for 1999-2001, and was significant at the .05 level for 1998.

The variable included to gauge the degree to which total housing in each tract was public housing was significant at the .05 level for 1996, 1997, and 2001. Like the policy dummy variable, the proportion of public housing in each tract should remain fairly constant from year to year, except for the complete removal of public housing from one tract that was caused by the demolition of College Homes. Nevertheless, the proportion of total housing that is public housing was significant during the stepwise analysis, was correlated with the dependent variable (the citywide crime rate) for 2001 in Table 8, and was statistically significant at the .05 level for 2001 in the multivariate regression findings of Table 9. Taken together, these findings suggest that tracts with a higher proportion of public housing are positively affecting the crime rate, when controlling for other variables, during 2001. Unfortunately, it is difficult to reconcile the positive effect of the variable in 2001 with the statistically significant (at .05) negative impact it had upon the citywide crime rate in 1996 and 1997.

Table 9.
Listwise Regression Analysis Results
By Year ($N = 50$ [census tracts])

Variable	1996	1997	1998	1999	2000	2001	Beta
Proportion of housing that is public housing	-0.291	-0.342	-0.146	0.028	0.122	0.350	t statistic
	-2.393	-2.239	-1.101	0.229	0.869	2.210	
	0.021	0.031	0.277	0.820	0.390	0.040	
Proportion male	0.475	0.374	0.430	0.500	0.312	0.172	Significance
	3.720	2.469	2.991	3.020	1.520	0.958	
	0.001	0.018	0.005	0.004	0.136	0.343	
Proportion over age 60	0.611	0.463	0.330	0.189	0.106	0.049	
	3.797	2.370	1.895	1.131	0.579	0.333	
	0.000	0.023	0.065	0.265	0.566	0.741	
Proportion under age 18	0.437	0.367	0.122	-0.142	-0.211	-0.273	
	2.258	1.452	0.543	-0.653	-0.832	-1.175	
	0.029	0.154	0.590	0.517	0.410	0.247	
Proportion of non-Caucasians	-0.090	-0.055	-0.052	0.265	0.261	0.174	
	-0.827	-0.378	-0.362	2.073	1.955	1.613	
	0.413	0.707	0.719	0.044	0.057	0.115	
Proportion w/ less than high school education	0.086	0.194	0.369	0.510	0.489	0.404	
	0.567	1.015	2.236	4.063	4.270	4.523	
	0.574	0.316	0.031	0.000	0.000	0.000	
Proportion unemployed	0.421	0.277	0.331	-0.073	-0.066	0.304	
	3.971	1.748	1.790	-0.444	-0.397	1.688	
	0.000	0.088	0.081	0.659	0.693	0.099	
Proportion of households renter-occupied	0.611	0.586	0.315	0.291	0.320	0.158	
	4.265	3.034	1.793	1.630	1.620	0.975	
	0.000	0.004	0.080	0.111	0.113	0.336	
Adjusted R²	0.639	0.517	0.651	0.668	0.601	0.708	
F test	11.855	7.559	12.413	13.343	10.218	15.825	
Total Crime Incidents	8499	8804	8096	7755	7774	8480	

The proportion of households that are renter-occupied is significant at the .01 level for 1996 and 1997. The proportion over age 60 is also significant for the same two years, with significance at the .01 level in 1996, and .05 in 1997.

Three variables were significant only during one year. In 1996, the proportion under age 18 was significant at .05, and proportion unemployed was significant at .01. The proportion of non-Caucasians, which was intended to gauge the importance of race, was significant at the .05 level in 1999.

The findings in Table 9 are interesting for three reasons. First, Table 9 shows that the crime rate in Knoxville is consistently the result of the proportion of males (over age 25), who have less than a high school education. This finding makes intuitive sense, and it coincides with the findings of Sampson and Wilson (1998) who argue that crime is linked to substandard educational opportunities in inner cities.

Second, Table 9 is interesting because of variables that do not appear to be consistent causal factors for crime in Knoxville. Despite all the literature regarding race and crime, the linkage between unemployment or lack of jobs and crime, and the problems caused by youthful offenders, my variables representing race, unemployment, and juveniles were not significant more than one year. Similarly, the variables representing potential targets (proportion over age 60) and residential mobility (proportion of renter-occupied housing) were significant only during 1996 and 1997.

Third, the two years that contain the most significant variables are 1996 and 1997, with 1996 having six and 1997 having four. The proportion of public housing is included in the significant variables for these two years, in addition to 2001. Given that all the variables in the regression analyses are indicators of characteristics common to criminals, are indicators of potential targets, or represent the presence of public housing or mobile residents, something seems to be happening in 1996 and 1997 to cause all of these variables to become significant at the same time.

The same two years also coincide with the enforcement efforts of external federal law enforcement agencies in the mid 1990s. From the perspective of hindsight, it is possible that the presence of federal law enforcement and the highest level of spending for the Security Patrol (see Table 1) occurred at exactly the right time to reduce crime. Multiple variables that one would expect to have a positive effect upon the citywide crime rate became significant at the same time, which could be a reflection of aggressive law enforcement tactics that resulted in more arrests. More arrests would result in more reported incidents of Part I crime and a higher citywide crime rate.

If aggressive enforcement caused multiple indicators of crime to become significant in 1996 and 1997, then explaining the negative relationship between the proportion of housing that was public housing and the crime rate for 1996 and 1997 remains problematic. As already noted in the descriptive findings, separating the combined effects of the 1996 One-Strike policy, external agency involvement, and the

highest level of funding for the Security Patrol is not possible. Although the policy variable was eliminated in the stepwise regression analysis, multiple crime control measures were applied to public housing in 1996 and 1997 by the Security Patrol and external agencies. Because public housing *alone* was the focus of these enforcement efforts, it might explain a positive relationship between the proportion of public housing and the crime rate citywide, but it doesn't explain a negative relationship.

Summary of Findings

Multiple assumptions were made when conducting the above analyses. Due to the pre-1996 methodological problem, I had to assume that aggravated assaults were randomly distributed among the KCDC and City populations. Both the descriptive findings and the regression findings assume that the effects of individual policies are discernible from the effects of policies implemented earlier in time. This assumption was reflected in my coding scheme for the policy dummy variable, which may have resulted in its elimination from the listwise regression analyses.

The descriptive statistics show that the privatization of Knoxville streets in 1992 and the assignment of one Security Patrol officer to each site in 1993 do not seem to have an effect upon KCDC when compared to the City. Although the 1996 One-Strike policy seems to have an effect upon crimes of opportunity and property crimes, the confounding events of the mid 1990s, including the actions of external agencies, make it difficult to find an independent impact of the 1996 policy. There are also no clear conclusions that can be drawn from the removal of College Homes. If demolishing College Homes had an effect, it was a marginal impact upon aggravated assaults at best, particularly when viewed in terms of the overall assumptions being made. The 1999 team-based approach to policing seems to be effective against crimes of opportunity and property crimes, while the new applicant screening process of 2000 seems to reduce property crimes.

The regression analyses indicate that two variables are the primary causal factors behind Knoxville's crime rate: the proportion of males and the proportion (of those 25 years old and older) with less than a high school education. At minimum, these findings make intuitive sense.

CHAPTER V CONCLUSION

Summary of Dissertation

Between the late 1980s and 2001, the Knoxville Community Development Corporation and the Knoxville Police Department created distinct policy or program changes intended to reduce crime in Knoxville's public housing. Crime Prevention Through Environmental Design (CPTED) was the dominant form of crime control during the 1980s. Beginning with pilot programs that reduced thefts and vandalism of newly remodeled buildings in Walter P. Taylor Homes and Austin Homes in 1989, a cooperative relationship between KCDC and KPD was born, which later evolved into the creation of the KCDC Security Patrol in 1990. The Security Patrol is comprised of off-duty KPD officers who work for KCDC as its private security force under a contractual agreement between the two agencies. Funding for the wages of the Security Patrol members and the use of KPD equipment comes from HUD's Public Housing Drug Elimination Program.

The software used by KPD to store its crime data prior to 1992 prevented any analysis of the effectiveness of the CPTED security measures. By using Arcview 3.2 software, I was able to separate the yearly violent crime incidents for 1992-2001 that occurred in two separate geographical regions: 1) the area represented by the perimeters of the KCDC housing sites that were the focus of this study, and 2) the remainder of the City of Knoxville that was not within the housing sites. After generating descriptive statistics for the two separate populations, I was able to make comparisons between them to determine possible effects of six crime control policies that were implemented by the Security Patrol after 1991.

The policies under evaluation either have no negative effects upon the total level of crime occurrences (i.e., street privatization, assignment of one officer per site, and demolition of College Homes), or they have no effect upon the occurrence level of aggravated assaults in the KCDC sites. The 1999 team-based approach and the new applicant screening process of 2000 seem to somewhat reduce crimes of opportunity and/or property crimes. The 1996 One-Strike policy seems to have the same effect, but separating the effect of the policy from confounding variables is not possible. The demolition of College Homes appears to have a marginal effect upon aggravated assaults.

Because the policies under study do not appear to be greatly effective in reducing total crime in Knoxville's public housing, and because a survey of Knoxville's public housing residents was not possible, regression analyses in a cross-sectional design were used to gain further insight into the effects of other variables upon Knoxville's crime rate. An individual census tract was the level of analysis. Socio-economic and demographic indicators of crime were used, as well as a policy dummy variable and a variable representing the degree of public housing within each census tract. A methodological problem at the data-collection phase within KPD prevented the use of data prior to 1996.

The listwise regressions indicate that crime in Knoxville is most closely associated with the proportion of males, and by those who are over the age of 25 who do not possess a high school education. Despite strong support in the literature to the contrary, race, unemployment, the presence of juveniles, households with low income, potential targets of crime (as represented by the proportion over age 60), and a mobile population (as indicated by the proportion of renter-occupied households) did not appear to be predictors of crime in Knoxville, once other variables were included. It could be that these variables have an impact upon crime, but they do not produce significant, explained variance when the other independent variables are in the model. The proportion of housing that was public housing was statistically significant in 2001, but the negative direction of the relationship between it and the dependent variable in 1996 and 1997 cannot be explained.

There are several caveats that must be placed on this entire study. First, as noted in Footnote 4 of Chapter 1, the Part I crime incident data upon which this study is based still have an error rate (due to missing data) of 13%. The high error rate is a product of using street addresses to assign geographical locations to the individual incidents of crime with the Arcview software. Second, the descriptive statistics and regression analyses do not account for the compounding effects of multiple policies over time, or they do not account for possible diminishing returns of policies due to previous policies. Third, it is conceivable that things might be worse in public housing if no policies were implemented to control crime between 1992 and 2001.

The problem in Knoxville may be that there is little else KPD and KCDC can do to reduce crime in the KCDC sites. Knoxville's public housing contains a dense population of individuals with comparatively low incomes and educational attainment levels. KCDC installed a constant police presence in the study sites for ten years by spending millions of dollars, and KPD used policing tactics that are not applicable to the general public. Nevertheless, the combination of disadvantaged residents and the physical nature of public housing may simply create an environment conducive to crime that no amount of policy or programmatic change can alter. When one considers that murders and rapes occur within KCDC at higher levels than the rest of the City, and aggravated assaults usually represent serious crimes against persons involving weapons, it is apparent that KCDC and KPD still have a dangerous environment in Knoxville's public housing.

Future Research

The study by Popkin et al. (1999) in Chicago's Housing Authority recommended that demolition of existing public housing sites might be the only solution to solving crime problems. College Homes was demolished and other sites might ultimately follow in Knoxville if KCDC continues to receive HOPE VI funding. The deciding factors may be whether crime rates rise in the new single-family-residential neighborhood that is being built on the College Homes site, or whether other sites are becoming too costly in

terms of facility maintenance and ongoing violent crime. But before other public housing sites are demolished, I believe it is necessary to conduct additional research into the methods used to determine that College Homes was beyond help. Specifically, I question the use of calls for service data (from the 911 system) to gather crime statistics for College Homes.

The grant applications for the HOPE VI funding included statistics showing that College Homes had a much higher rate of calls for service than the rest of Knoxville (KCDC 1998c). Although this may be true, my analyses of the Part I crime data demonstrate that College Homes only had a handful of violent crimes each year between 1992 and demolition in 1998. This discrepancy forces me to question the validity of using the calls for service data as the basis for establishing a crime problem.

I intend to conduct a comparison of the Part I and calls for service data for Knoxville using the separate databases provided by the KPD. At a minimum, I hope to reveal the pitfalls of the calls for service data. I hypothesize that the high number of calls for service in College Homes was a product of having a dense population in a housing project typified by brick construction, narrow alleyways, and bad acoustics. If an incident occurred in College Homes, every resident probably heard it as it happened. Comparing the timing of each call for service to the Part I data may prove interesting.

The Chicago researchers also concluded that demolition might lead to negative externalities, as gangs are displaced to other neighborhoods (Popkin et al. 1999). Several other researchers have noted a “diffusion of crime” to other areas in response to directed law enforcement efforts or new crime control programs (e.g., Press 1970; Mehay 1977; Fabrikant 1979). The Arcview software would allow me to not only determine which crime incidents fall within the public housing sites, but also determine which incidents fall within a specified distance from the sites. By using the software to count the incidents inside the KCDC sites and the incidents within a few blocks or several hundred feet of the site perimeters, I could trace the level of crime diffusion before and after policy implementation. An example is shown in Figure 8 below.

Another possible application of the Arcview software would involve the creation of maps showing the density of crime incidents per year, utilizing a software extension called Spatial Analyst. Spatial Analyst allows the user to transform map layers showing crime incident pins into maps showing different gradations of color or texture that represent different density levels of the pins. Once the graphical pins are transformed into crime “hot spots,” other variables representing census tract data or other geographical identifiers (e.g., streets, or the KCDC study site perimeters) can be laid over them. For example, Figure 9 shows varying densities for crime incidents Citywide in 1996.¹⁴ The darker (or more dense) areas coincide with Knoxville’s downtown, which is

¹⁴ An example showing the density with an overlay of census variables and other geographic identifiers was not possible, because the file formats for densities in Arcview do not produce readable maps in Microsoft Word on Windows XP.



Figure 8. 1997 Part I Crime Incidents Within 1500 ft of College Homes (shown in yellow)

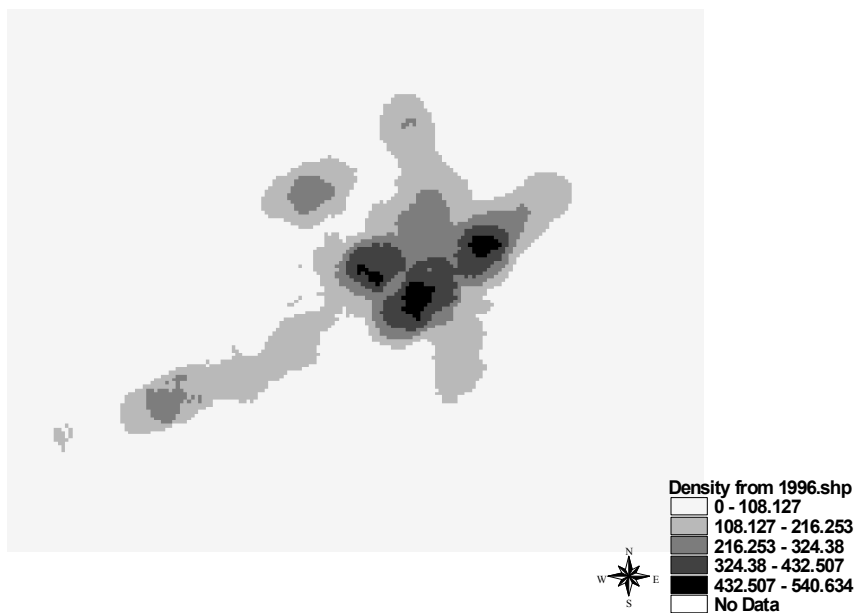


Figure 9.
 Density of 1996 Part I Crime

consistent with researchers who have found relationships between crime and city centers (i.e., Fabrikant 1979; Brantingham and Brantingham 1984).

There are many different ways the Part I crime database alone or in combination with the Arcview software can be used for future research. Due to the pre-1996 methodological problem, any use of the database to study all seven types of Part I crime will require a reliance on the 1996-2001 timeframe. However, if I want to study individual types of crime over time, exclusive of aggravated assaults (to avoid the pre-1996 problem), I could do so utilizing the entire 1992-2001 timeframe. For example, property crimes and crimes of opportunity (i.e., burglary, auto theft, larceny, and robbery) seem to be affected by some of the KPD/KCDC policies in this study. The database contains information regarding the exact time of day, day of week, and month for each incident. It might be interesting to study the temporal patterns of these types of crimes. I could also recreate the cross-section design, except use the different types of crime as the dependent variable.

A time series analysis was not possible for this study, given the six years that were used in the cross-sectional design for my regression analyses, and given the amount of time available in which to defend the dissertation. However, a time series design can be created by using the Part I data on a monthly basis and by using the 1990, 1997, and 2000 census data already in my possession to estimate socio-economic and demographic variables by month. Again due to the pre-1996 problem, I can generate 72 points in time (the months from 1996-2001) if aggravated assaults are included, or I can generate 120 points in time (1992-2001) if aggravated assaults are excluded.

It may be time for a change in law enforcement strategies toward crime in public housing in Knoxville. Millions of dollars were spent, but Knoxville's public housing remains a more hazardous place to live than the rest of Knoxville. The PHDEP grants received by KCDC currently provide a comparatively small amount of funds for a variety of social services and educational programs in the KCDC sites. If the regression findings are accurate, perhaps in the future KCDC will allocate a larger proportion of its federal funding to programs not involving law enforcement, but instead trying to educate its residents who are males over the age of twenty-five, who do not have a high-school education.

As noted in Chapter II, some researchers and PHA staffs nationwide advocate a comprehensive approach to reducing crime in public housing that includes tenant participation, drug prevention programs, and education programs. For over a decade, the KCDC Security Patrol used policing strategies that the average U.S. citizen might consider harsh yet necessary, but these tactics would obviously be unconstitutional if applied to the general public. Consider the public outcries if a police presence was installed in a public, residential neighborhood seven days a week, residents were required to carry identification that had to be presented on demand at ID checkpoints, and residents could be evicted from their homes for relatively minor offenses.

Much of the literature regarding evaluations of police policy involves the use of customer satisfaction or victimization surveys. As previously noted, available resources did not permit me to conduct an extensive survey of KCDC residents. A survey would produce a better understanding of Sampson and Wilson's (1998) notions of social disorganization and cultural social isolation. A survey of the Security Patrol officers might yield insights into their understanding of the crime problems in Knoxville's public housing, as well as their opinions about the residents and the policies of the Security Patrol, KPD as a whole, and KCDC. Because of the problems inherent in telephone surveys conducted in public housing previously mentioned in Chapter III, a face-to-face survey would be preferable. Of course, conducting such a project would require some form of external funding.

Public housing in some form will probably always exist in the United States. As a consequence, public housing authorities and local law enforcement agencies must continue to develop new ways to control crime. Knoxville's crime control policies evolved from the theories of CPTED to the aggressive law enforcement strategies advocated by the federal government and practiced by large cities throughout the United States. Crime control in public housing may eventually take a different direction, yet regardless of the form of such efforts, social scientists need to continue to evaluate the new policies and programs for effectiveness.

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Defendant's Memorandum, *Albert Thompson and James A. Gaines v. Victor Ashe et. al.* In the United States District Court for the Eastern District of Tennessee at Knoxville. December 16, 1997.

United States v. Thompson. 16 Fed.Appx. 340, 2001 WL 820905 (6th Cir.(Tenn.))

Internet Sites

U.S. Census Bureau. 2002. *American Factfinder*. February 22.
<<http://factfinder.census.gov/home>>

APPENDICES

**APPENDIX A.
Government
Documents**

**KCDC
PUBLIC HOUSING PATROL**

PUBLIC HOUSING DEVELOPMENT DEPLOYMENT PLAN				
Development		Supervisor		Quarter/Year

All strategies in the S.P.I.E. Model should be considered in the process of problem solving and order maintenance in public housing developments.			
<p>Screening Background Checks Information Sharing Security Reports Hearings Evictions</p>	<p>Prevention CPTED Education (<i>Managers, Employees, Residents</i>) Awareness</p>	<p>Interdiction "No-Trespass" List I.D. Checkpoints Walking/Bike Patrol Stop and Challenge</p>	<p>Enforcement Order Maintenance Quality of Life Special Operations/DP's Investigations Knock & Talk</p>

CRIME PROBLEM(S)

TACTICS

RESOURCES NEEDED

ORDER MAINTENANCE PROBLEM(S)

TACTICS

RESOURCES NEEDED

PROBLEM TENANTS / APARTMENTS

DESCRIBE SPECIFIC PROBLEMS AND CRIMINAL ACTIVITY. LIST ALL PERSONS INVOLVED, VEHICLES, ASSOCIATES, ETC. AN INVESTIGATION WILL BE INITIATED ON EACH OF THESE APARTMENTS/RESIDENTS BY THE KCDC COORDINATOR'S OFFICE.

**Authorization for the Release of Information/
Privacy Act Notice**

to the U.S. Department of Housing and Urban Development (HUD)
and the Housing Agency/Authority (HA)

U.S. Department of Housing
and Urban Development
Office of Public and Indian Housing

PHA requesting release of information: (Cross out space if none)
(Full address, name of contact person, and date)

IHA requesting release of information: (Cross out space if none)
(Full address, name of contact person, and date)

Authority: Section 904 of the Stewart B. McKinney Homeless Assistance Amendments Act of 1988, as amended by Section 903 of the Housing and Community Development Act of 1992 and Section 3003 of the Omnibus Budget Reconciliation Act of 1993. This law is found at 42 U.S.C. 3544.

This law requires that you sign a consent form authorizing: (1) HUD and the Housing Agency/Authority (HA) to request verification of salary and wages from current or previous employers; (2) HUD and the HA to request wage and unemployment compensation claim information from the state agency responsible for keeping that information; (3) HUD to request certain tax return information from the U.S. Social Security Administration and the U.S. Internal Revenue Service. The law also requires independent verification of income information. Therefore, HUD or the HA may request information from financial institutions to verify your eligibility and level of benefits.

Purpose: In signing this consent form, you are authorizing HUD and the above-named HA to request income information from the sources listed on the form. HUD and the HA need this information to verify your household's income, in order to ensure that you are eligible for assisted housing benefits and that these benefits are set at the correct level. HUD and the HA may participate in computer matching programs with these sources in order to verify your eligibility and level of benefits.

Uses of Information to be Obtained: HUD is required to protect the income information it obtains in accordance with the Privacy Act of 1974, 5 U.S.C. 552a. HUD may disclose information (other than tax return information) for certain routine uses, such as to other government agencies for law enforcement purposes, to Federal agencies for employment suitability purposes and to HAs for the purpose of determining housing assistance. The HA is also required to protect the income information it obtains in accordance with any applicable State privacy law. HUD and HA employees may be subject to penalties for unauthorized disclosures or improper uses of the income information that is obtained based on the consent form. **Private owners may not request or receive information authorized by this form.**

Who Must Sign the Consent Form: Each member of your household who is 18 years of age or older must sign the consent form. Additional signatures must be obtained from new adult members joining the household or whenever members of the household become 18 years of age.

Persons who apply for or receive assistance under the following programs are required to sign this consent form:

- PHA-owned rental public housing
- Turnkey III Homeownership Opportunities
- Mutual Help Homeownership Opportunity
- Section 23 and 19(c) leased housing
- Section 23 Housing Assistance Payments
- HA-owned rental Indian housing
- Section 8 Rental Certificate
- Section 8 Rental Voucher
- Section 8 Moderate Rehabilitation

Failure to Sign Consent Form: Your failure to sign the consent form may result in the denial of eligibility or termination of assisted housing benefits, or both. Denial of eligibility or termination of benefits is subject to the HA's grievance procedures and Section 8 informal hearing procedures.

Sources of Information To Be Obtained

State Wage Information Collection Agencies. (This consent is limited to wages and unemployment compensation I have received during period(s) within the last 5 years when I have received assisted housing benefits.)

U.S. Social Security Administration (HUD only) (This consent is limited to the wage and self employment information and payments of retirement income as referenced at Section 6103(l)(7)(A) of the Internal Revenue Code.)

U.S. Internal Revenue Service (HUD only) (This consent is limited to unearned income [i.e., interest and dividends].)

Information may also be obtained directly from: (a) current and former employers concerning salary and wages and (b) financial institutions concerning unearned income (i.e., interest and dividends). I understand that income information obtained from these sources will be used to verify information that I provide in determining eligibility for assisted housing programs and the level of benefits. Therefore, this consent form only authorizes release directly from employers and financial institutions of information regarding any period(s) within the last 5 years when I have received assisted housing benefits.

Original is retained by the requesting organization.

ref. Handbooks 7420.7, 7420.8, & 7465.1

form HUD-9888 (7/94)

Mgmt. #50

Consent: I consent to allow HUD or the HA to request and obtain income information from the sources listed on this form for the purpose of verifying my eligibility and level of benefits under HUD's assisted housing programs. I understand that HAs that receive income information under this consent form cannot use it to deny, reduce or terminate assistance without first independently verifying what the amount was, whether I actually had access to the funds and when the funds were received. In addition, I must be given an opportunity to contest those determinations.

This consent form expires 15 months after signed.

Signatures:

✓ _____ Head of Household	_____ ← Date		
✓ _____ Social Security Number (if any) of Head of Household		_____ ← Other Family Member over age 18	_____ ← Date
_____ ← Spouse	_____ ← Date	_____ ← Other Family Member over age 18	_____ ← Date
_____ ← Other Family Member over age 18	_____ ← Date	_____ ← Other Family Member over age 18	_____ ← Date
_____ ← Other Family Member over age 18	_____ ← Date	_____ ← Other Family Member over age 18	_____ ← Date

Privacy Act Notice. Authority: The Department of Housing and Urban Development (HUD) is authorized to collect this information by the U.S. Housing Act of 1937 (42 U.S.C. 1437 et. seq.), Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), and by the Fair Housing Act (42 U.S.C. 3601-19). The Housing and Community Development Act of 1987 (42 U.S.C. 3543) requires applicants and participants to submit the Social Security Number of each household member who is six years old or older. Purpose: Your income and other information are being collected by HUD to determine your eligibility, the appropriate bedroom size, and the amount your family will pay toward rent and utilities. Other Uses: HUD uses your family income and other information to assist in managing and monitoring HUD-assisted housing programs, to protect the Government's financial interest, and to verify the accuracy of the information you provide. This information may be released to appropriate Federal, State, and local agencies, when relevant, and to civil, criminal, or regulatory investigators and prosecutors. However, the information will not be otherwise disclosed or released outside of HUD, except as permitted or required by law. Penalty: You must provide all of the information requested by the HA, including all Social Security Numbers you, and all other household members age six years and older, have and use. Giving the Social Security Numbers of all household members six years of age and older is mandatory, and not providing the Social Security Numbers will affect your eligibility. Failure to provide any of the requested information may result in a delay or rejection of your eligibility approval.

Penalties for Misusing this Consent:

HUD, the HA and any owner (or any employee of HUD, the HA or the owner) may be subject to penalties for unauthorized disclosures or improper uses of information collected based on the consent form.

Use of the information collected based on the form HUD 9886 is restricted to the purposes cited on the form HUD 9886. Any person who knowingly or willfully requests, obtains or discloses any information under false pretenses concerning an applicant or participant may be subject to a misdemeanor and fined not more than \$5,000.

Any applicant or participant affected by negligent disclosure of information may bring civil action for damages, and seek other relief, as may be appropriate, against the officer or employee of HUD, the HA or the owner responsible for the unauthorized disclosure or improper use.

Original is retained by the requesting organization.

ref. Handbooks 7420.7, 7420.8, & 7465.1

form HUD-9886 (7/94)

**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION (KCDC)
SUPPLEMENTAL APPLICATION FORM
*PRE-APPLICATION ONLY***

Name: _____ Social Security No.: _____ Phone No.: _____

Emergency Contact Name: _____ Phone No.: _____

List all household members (You must have custody of all minor children listed on application)

Legal Name	Race	Social Security No.	Birth Date	Relationship

Current Address _____
(Street) (City) (State) (Zip Code)

Landlord's Name and Address _____ How Long? _____

Previous Address _____
(Street) (City) (State) (Zip Code)

Have you ever received housing assistance from KCDC (Public Housing or Rental Assistance Programs)? _____

Where? _____ When? _____ Do you currently owe KCDC money? _____

Have you ever been evicted from KCDC Public Housing or terminated from KCDC rental Assistance Program? _____

Have you ever received housing assistance from another Public Housing Authority or any Federal Housing Program? _____

Where? _____ When? _____ Did you leave owing money? _____

Marital History: Head _____ Separated _____ Divorced _____

Marital History: Spouse _____ Separated _____ Divorced _____

Do you or any member of your household have a criminal or drug related police record? _____

All applicants are checked through Knoxville's Police Department for criminal records. The Federal Government prohibits KCDC from providing assisted housing to individuals who have engaged in drug related or violent criminal activity.

WARNING: Intentional misrepresentation of family composition, income, present or past tenant history, or any other information affecting eligibility, will result in the family being declared ineligible. In the event the misrepresentation is discovered after admission, the lease will be terminated for such misrepresentation.

Signature _____

Date: _____

Adm. #1A
Rsvd. 5/99



An Equal Opportunity Employer

KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

P.O. Box 3550 Knoxville, Tennessee 37927-3550
(865) 594-8800 (865) 594-8833 TDD (865) 594-8791 Fax

Alvin J. Nance
President / Chief Executive Officer

AUTHORIZATION TO RELEASE RECORDS AND INFORMATION

TO WHOM IT MAY CONCERN:

Please be advised that **KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION** and any employee or agent thereof is authorized to inspect and copy or be furnished copies of any:

- (a) employment or unemployment records (other than salary and wage information which is subject to a separate authorization);
- (b) Social Security Administration records;
- (c) Department of Human Services records;
- (d) utility records;
- (e) police and sheriff's department records;
- (f) Veteran's Administration records;
- (g) juvenile and circuit court records;
- (h) homeless shelter records;
- (i) child care provider records;
- (j) medical records;
- (k) social worker records;
- (l) parole officer records;
- (m) drug treatment center records;
- (n) records from any landlord and all other records of any description or nature whatsoever from any agency or source which relate to the undersigned or to any minor child of the undersigned and which Knoxville Community Development Corporation determines are necessary to permit it to determine the initial or continuing eligibility of the undersigned to receive benefits or the grant or denial of a federal preference under any public housing or Section 8 housing program or the level of benefits available to the undersigned under such program.

This authorization shall be considered as continuing, and you may rely on it in all respects unless you have previously been advised by me in writing to the contrary. It is expressly understood by the undersigned and you are hereby authorized to accept a copy or photocopy of this authorization with the same validity as though the original had been presented to you.

Dated this ✓ day of ✓, 20✓

✓ _____

Mgmt. #51

APPENDIX B.

Correcting Data with Arcview

Arcview Address Matching

The Geocoding Editor function of Arcview allowed me to review “bad addresses” one at a time to remove spelling errors and/or to find other addresses that were physically close to a bad address. For the non-user of Arcview, this process is similar to using the “Find” function in Microsoft Word, where the software seeks to find possible word matches to user-defined parameters.

The user sets options in the Geocoding Editor that forces the software to list in a pop-up window the possible matches for an address it doesn’t recognize. Possible matches will include all streets that are spelled similarly, and all the addresses on a particular street that are close numerically. The user has to decide how to select an address from the possible list to “match” to the unrecognizable address. Once the user matches a possible address to an unrecognizable one, the software will associate the bad address with the one the user selects. Consequently, it was vital that I selected the closest possible match address to ensure valid map results, upon which all my statistical analyses were based.

Arcview automatically gives percent “match scores” to the addresses it lists from the Address theme that are close to the bad address. One can set preferences (under “Geocoding Preferences”) to cause the software to return possible matches when there is more than one address re-match candidate; when there are multiple candidates scoring higher than the user-defined minimum match score; and when there is no matching candidate. By setting re-match preferences (for spelling and match score) to zero, the software would return all close spelling matches and all possible matches, even if scoring a low percentage match. Reviewing all possible addresses for matching was important, because many possible matches were of a very low percentage match score due to an omission or misspelling in a database entry.

Decision Rules

Occasionally when I removed an obvious spelling error, the software would return a 100% match, resulting in a clear decision. If no possible match returned, I would check for possible spelling errors that may have prevented a match. If there were no spelling errors, or an address was not recognized by the software, it was left as a “No match,” and that crime incident could not be included in my analysis.

Typically, the software returned multiple possible address matches, from which I had to make a decision to assign a map location for a particular crime incident. For example, a given bad address in the database may be “507 Merchants”. The software would return a list of several possible matches with associated match scores, such as the below example:

Match score	Address
32	507 Market St
20	504 Merchant Dr
20	512 Merchant Dr
20	514 Merchant Dr
20	501 Merchant Dr
20	502 Merchant Dr

The highest percentage match score was “507 Market,” yet this is obviously the wrong street. All of the Merchant Drive addresses are likely on the correct street, because Arcview will only return possible matches for similarly named streets, and numerically close addresses on those streets. There could conceivably be another street using the Merchant name (i.e. Merchant Avenue), but Arcview did not show those addresses as possible matches because the other street may only include locations that are in an entirely different numerical range (i.e., ranging from the 5000 to 8000 street blocks).

For this example, 504 and 512 Merchant Drive are closest numerically; however, I would assume they are likely on the wrong side of the street because 507 is an odd number. The 501 Merchant Drive location would be my next choice, because it is presumably on the correct side of the street, but it is more than 5 numbers away (my personal cut-off point). So I would go with 504 Merchant Drive, because it is closest numerically.

If there were two addresses that were equidistant from a given address, with one above and one below, I always went with the lower of the two for consistency. Preferably, if an exact match could not be found, I would first try to find the next address that was numerically lower than the bad address, and which was also likely to be on the same side of the street. Therefore, the optimal choice for a match in the above example would be 505 Merchant Drive. Unfortunately, the software seldom found a match this close, and I would have to make a decision.

If a numerically lower address could not be found, my next preference would be the next numerically higher address, on the same side of the street. After that, I would select the next closest numerical address, regardless of whether it was odd or even numbered. If I could not find a possible match within a range of approximately ten address locations, I left the incident location as a “No match.” Usually I could find an address within five address numbers to the bad address. By keeping the numerical street addresses as close as possible when creating matches, I could with some certainty be confident that all of the crime incidents included in my analysis were mapped close to their true locations. Table 10 contains the match scores for each year. No Match entries

were included in the calculations for my descriptive statistics, because Arcview was still able to place pins representing them.

Table 10.
Match Scores Per Year

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Match	10465	9244	8864	9110	7400	7607	6935	6704	7094	8029
score	69%	69%	67%	67%	69%	68%	68%	71%	75%	78%
Partial	2663	2362	2483	2494	1811	2033	1872	1733	1325	1243
match	17%	18%	19%	18%	17%	18%	18%	18%	14%	12%
No match	2104	1766	1910	2054	1529	1522	1355	1052	1040	982
	14%	13%	14%	15%	14%	14%	13%	11%	11%	10%

VITA

John William Barbrey was born in Greenville, South Carolina on May 2, 1971. He was raised in the small town of Fountain Inn, and graduated from Hillcrest High School in 1989. He graduated from Clemson University with a B.A. in History in 1993. While working for the City of Greenville, South Carolina in the Parks and Recreation Department, he earned a M.P.A. from the joint Clemson/University of S. Carolina program in 1996.

John met Alicia Jean Bodnovich in September 1995 when she was a volunteer at the Greenville Art in the Park Festival. Trying to end the millennium in style, they got married on May 22, 1999, quit their jobs in Greenville, and moved to Knoxville, Tennessee so John could earn a Ph.D. in Political Science at the University of Tennessee. He will graduate in May 2003.