

**The Influence of Federal Housing Policy  
on Crime in Durham, North Carolina**

by

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A Masters Project submitted to the faculty  
of the University of North Carolina at Chapel Hill  
in partial fulfillment of the requirements  
for the degree of Master of City and Regional Planning  
in the Department of City and Regional Planning.

Chapel Hill

April 2009

Approved by:

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## **ABSTRACT**

Katharine E. Neuman: The Influence of Federal Housing Policy on Crime in Durham, North Carolina

One of the primary purposes of federally sponsored housing developments is to reduce community crime and blight. For decades, federally initiated housing programs failed to provide residents with safe, affordable, and quality housing. Recent initiatives focus on demolishing and reconstructing the failed government housing projects around the nation, in an attempt to use improved urban design principles, stricter resident screening, and community/policing initiatives to create safer and more sustainable housing complexes.

Using geographic analysis, spatial statistics, and interviews, this study examines the impact of new federal housing policies on crime trends in one of the most historically distressed cities in the country, Durham, North Carolina. Results indicate that although the HOPE VI development area experienced a significant reduction of crime after demolition/reconstruction, few of the original residents benefited from the HOPE VI development. In addition, new hotspots of violent crime simultaneously developed further from the revitalization area. Qualitative data, in the form of surveys, and quantitative analysis demonstrate the potential benefits of current federal housing programs. With a more comprehensive approach to federal housing initiatives, more sustainable programs can be designed in order to develop strategies to facilitate a community-wide impact.

## **Acknowledgements**

A special thanks to the following organizations and individuals who made this study possible. Your compassion and deep desire to see better housing policies developed both in Durham and nationally was the driving force of this project.

Rebecca Crawford, Durham County Sherriff's Office

Jennifer Doty, Librarian, City & Regional Planning, UNC-Chapel Hill

Terrance Gerald, Director of Development, HOPE VI Development, Durham Housing Authority

Amanda Henley, Geographic Information Systems Librarian, UNC-Chapel Hill

Clintess Johnson, Resident Services Department, Durham Housing Authority

Michael P. Neuman, support staff and loving husband

Linda Y. Peters, editorial assistant

Earl Phillips, NECD Initiative Team, Department of Community Development, City of Durham

William M. Rohe, Advisor, Professor and Director of the Center for Urban & Regional Studies, UNC-CH

Jason Schiess, Crime Analysis Division, City of Durham Police Department

Bev Wilson, P.H.D. Candidate and GIS specialist, City & Regional Planning, UNC-Chapel Hill

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## Introduction of Federal Housing Policies

Government-sponsored public housing, according to the U.S. Department of Housing and Urban Development (HUD), was first established in the early 1930s “to provide decent and safe residential housing for eligible low-income families, the elderly, and persons with disabilities.”<sup>1</sup> Public housing was considered a better alternative to the growing homeless population and shanty towns plaguing large cities. Beginning in the 1960s, however, studies show that public housing had failed to meet its goal of providing safe and civilized housing for the impoverished; it actually concentrated behavioral, drug, and crime problems (DeKesseredy, et al 1999, Holzman et al 2001, Froman 1967, Anderson 1964). Research and crime statistics leading to the demolition of these “projects” indicate that public housing high-rises encouraged concentrations of crime, drug use, teenage pregnancies, domestic abuse, and low test scores in school. One longitudinal study, completed in 2001, concludes that “extreme problems with crime persisted in many public housing developments even as crime dropped elsewhere during the 1990s.” Over two-thirds of the residents living in traditional public housing complexes reported that “shootings and violence were big problems” in their neighborhood.<sup>2</sup>

The more recent strategies to create safe public housing are the Housing Choice Voucher (previously called Section 8) and Housing for People Everywhere (Hope VI) Program. Both of these federally initiated and funded programs have the same goals as the initial federal public housing program, but use opposite measures to accomplish them. These newer government initiatives aim to transform the design and policies employed in traditional public housing, so the social problems related to concentrated housing complexes will be eliminated.

The purpose of this study is to examine the effectiveness of these two programs (HOPE VI and Housing Choice Voucher) in terms of their observed impact on crime trends. The City of Durham, North Carolina is examined by analyzing spatial crime and housing patterns before and after a major HOPE VI development was constructed. Supplemental data is collected through surveys of police officers, city employees, and former public housing residents who were displaced due to the HOPE VI development.

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<sup>1</sup> HUD’s Public Housing Program. (28 November 2007). U.S. Department of Housing and Urban Development.  
[www.hud.gov/renting/phprog.cfm](http://www.hud.gov/renting/phprog.cfm)

<sup>2</sup> Popkin, S. et al. (2004). A Decade of Hope VI: Research findings and policy challenges. Washington, D.C.: Urban Institute.

### *Housing Choice Voucher and HOPE VI Programs*

The Housing Choice Voucher Program (Section 8) was initiated in 1978 to encourage the private sector to build affordable homes with government subsidies. This program, as well as other demand-based policies, was also developed to reduce the concentration of urban poor in public housing developments, to diminish racial segregation in housing projects, and as a response to the escalating costs of project-based developments. It functions by creating a partnership between the Public Housing Authority and private landlords. The Public Housing Authority (PHA) reimburses the landlord the difference between 30 percent of the tenant's household income and the PHA-determined standard, which is usually between 80-100 percent of the fair market rent. According to an analysis of the Moving to Opportunity Program, the primary reason that individuals sign up for the Housing Choice Voucher Program is to move into safer neighborhoods.<sup>3</sup>

One downfall of this program has been the public perception regarding the residents that occupy Housing Choice Voucher dwellings. Because people are aware of the high crime, physical decay, and social disorganization that exist in many public housing complexes, residents in neighborhoods receiving voucher recipients expect the relocatees to bring those issues to their new communities.<sup>4</sup>

HOPE VI represents the federal government's most ambitious attempt to revitalize public housing since the 1930s. It is a more recent program, approved in 1992, which demolishes selected traditional public housing developments in order to construct lower-density, mixed-income developments. HOPE VI attempts to address a wider variety of problems besides housing needs, including child care facilities, technology training, counseling, and employment services. \$300 million was allocated to HOPE VI when it was formally authorized in 1993, with the intent to demolish and reconstruct the most dilapidated public housing projects, in the most dangerous neighborhoods, in the nation's largest cities (estimated at 7% of the total public housing inventory). According to the 1992 Senate Bill which initiated the program, HOPE VI's three goals are shelter, self-sufficiency, and community sweat equity.<sup>5</sup> In addition, Congress intends to utilize this program to foster more public-private partnerships in order to boost investment in those distressed areas.<sup>6</sup> Hope VI advocates expect this program will reduce concentrated crime and provide

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<sup>3</sup> Popkin S., etal. (November 2002). The HOPE VI resident tracking study: A Snapshot of the current living situation of original residents from eight sites. Prepared for the U.S. Department of Housing and Urban Development. Abt Associates Inc. p. 84.

<sup>4</sup> Turner, M.A., S. Popkin, & M. Cunningham. (April 2000). Section 8 mobility and neighborhood health: Emerging issues and policy challenges. The Urban Institute.

<sup>5</sup> U.S. Department of Housing & Urban Development, HOPE VI: Community building makes a difference (2000). [www.huduser.org/publications/pdf/hope\\_vi.pdf](http://www.huduser.org/publications/pdf/hope_vi.pdf) (quoting S. Rep. No. 102-355, at 40 ([1992])).

<sup>6</sup> About Hope VI. U.S. Department of Housing and Urban Development. [www.hud.gov](http://www.hud.gov)

more opportunities for positive social interaction that would help residents have greater employment opportunities and behavioral role models. As of 2000, Congress has provided roughly \$4.2 billion dollars to fund HOPE VI projects in 130 public housing developments.<sup>7</sup>

While numerous studies have shown that the HOPE VI and Housing Choice Voucher Programs are influential in creating an immediate improvement in residents' social, economic, and health environment (Johnson, et al 2002, Leventhal & Brooks-Gunn 2003), there is still much debate on the long-term effects of these programs. Some recent studies indicate that while the newer initiatives are intended to benefit the lower-income population, they most often only help a small percentage of that population, while placing the remaining residents in worse situations (Reeder 1985, Finkel, et al 1992, Manzo, et al 2008). This can occur with families who were relocated out of public housing and were unable to go back into Hope VI developments or attain a housing voucher. It is therefore possible that while assisting some lower-income residents in improving their housing situation, those who do not get assistance end up in more dangerous living environments, negatively impacting the larger region.

Popkin's 2002 study also reveals some discrepancies in the results of the new federal housing programs. This HUD-sponsored study represents the first systematic look at the results of the HOPE VI Program by analyzing the effects of the program in eight developments across the country. It draws conclusions based on the survey results from 818 randomly selected residents across these eight developments. Results demonstrate that the majority of participants prefer their new housing condition to their original. Individuals who returned to HOPE VI units, as opposed to using the Housing Choice Voucher Program, moving to another public housing development, or renting/buying in the private market, rated their new housing situation significantly higher than those who moved to the other housing options. Surprisingly, returning HOPE VI residents were also the most likely to report problems with drugs and violence in their new neighborhoods. Voucher users (Housing Choice Voucher Program), on the other hand, had the lowest ranking in satisfaction with their new living situation, being the least likely to report having developed close social networks in their new neighborhoods.<sup>8</sup>

### **Federal Housing Policies and Crime**

While most studies of the effects of the Housing Choice Voucher and Hope VI Programs pertained to their overall effects, the impact on crime has been a recent hot topic since a controversial report about

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<sup>7</sup> Naparstek, A.J., et al. (February 2000). HOPE VI: Community building makes a difference. Prepared for the U.S. Department of Housing and Urban Development.

<sup>8</sup> V. Popkin. 2002.

Memphis, Tennessee was released. In the July/August 2008 issue of *The Atlantic*, Hanna Rosin reported on a recent finding by Richard Janikowski (criminologist at the University of Memphis) and Phyllis Betts (housing expert at the University of Memphis). The researchers had created two maps, one with violent crime areas shaded in dark blue, and the other indicating every address where a Section 8 voucher recipient lives. The combination of the two maps produced an image where “all of the dark-blue areas are covered in red dots, like bursts of gunfire. The rest of the city has almost no dots.”<sup>9</sup> According to the study’s conclusions, while traditional public housing had created a few dense concentrations of crime in Memphis a few years prior, it might be better than the federal government’s new housing strategy of deconcentrating the location of public housing recipients. Janikowski and Betts conclude that as low-income voucher recipients spread out, they push neighborhoods to their tipping point (“the point at which an ordinary and stable phenomenon...can turn into a public crisis”<sup>10</sup>), which is likely to produce more total crime in the city and study area. The report also claims that policing is made more difficult with the Section 8 program (i.e. Housing Choice Voucher Program), as “dealers sell out of fenced-in backyards, not on exposed street corners. They have cars to escape in, and a landscape to blend into.”<sup>11</sup>

Within two weeks of publication of Rosin’s article, a large group of housing, law, and urban policy scholars refuted the article in the National Housing Institute’s *Shelterforce* magazine. The authors, led by Xavier de Souza Briggs (sociology and planning professor at MIT) and Peter Dreier (director of Urban & Environmental Policy Program at Occidental College), claim that Rosin’s article “sensationalizes some facts, misstates others, skews the views of policy experts to fit a narrow storyline, and confuses the public policies it means to address.”<sup>12</sup> More specifically, Briggs and Dreier state that most families who have moved under the current federal housing program are in safer neighborhoods, that the effects of HOPE VI vary based on the specific city, and that the first article provides little evidence that it was the new lower income residents specifically who caused the increased crime in their neighborhoods. Also, the success of housing policy strongly depends on market forces, a factor which is not addressed in Rosin’s article.

The influence of federal housing policy on neighborhood crime has been addressed in various other studies, aside from the Memphis report discussed above. Results, however, reveal vast discrepancies, as research conducted around a similar timeframe has substantially different results. Varaday and Walker’s (2000) study, analyzing the relocation experience of residents using the Housing Choice Voucher Program in four cities (Baltimore, Newport News, Kansas City, San Francisco), indicates that a high percentage of

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<sup>9</sup> Rosin, H. (July/August 2008). American murder mystery. *The Atlantic*. <http://www.theatlantic.com/doc/200807/memphis-crime>

<sup>10</sup> The Tipping Point. (3 June 1996). *The New Yorker*.

<sup>11</sup> Rosin.

<sup>12</sup> Briggs, X., et al. (22 July 2008). Memphis murder mystery? No, Just mistaken identity. *Shelterforce*. <http://www.shelterforce.org/article/special/1043>.

voucher-recipients (84 percent) feel safe in their new neighborhoods, with almost half of those respondents claiming to feel “very safe.” Explanations for the sense of improved safety include more caring neighbors, neighborhood watch groups, and an increase in homeowners. The same study, however, concludes that there is not enough social support available to positively impact the dislocated residents or their new communities, thereby revealing insufficiencies in implementation leading to a failure to achieve the program’s goals. The majority of residents interviewed continued to live in highly segregated neighborhoods, with little change in crime or housing satisfaction.<sup>13</sup>

A similar inconsistency occurs in the Kling (2004) study, which investigates change in youth crime patterns in five U.S. cities from the Moving to Opportunity (MTO) demonstration. Kling’s results indicate that moving to lower poverty areas through the Housing Choice Voucher Program reduces arrest rates for female and male youth, for both violent and property crimes in the *short-term*. However, when examining *long-term* effects, behavior problems and property crime arrests increased for male youth.<sup>14</sup> Katz’s study (2004) also questions the effectiveness of the Housing Choice Voucher Program by analyzing its affect on criminal behavior trends in males and females. Katz’s results, which claim that most males experience an “increase in problem behavior and property crime arrests” following relocation with vouchers,<sup>15</sup> contradict Ludwig, Duncan, and Hirschfeld’s 2001 study, stating that moving from public housing complexes to lower-poverty neighborhoods reduces violent behavior among *all* teens.

Keels (2005) takes the blame and responsibility away from the program itself, and instead places it on the condition of a neighborhood before new residents move in. The analyst supports the neighborhood threshold/tipping point theory, describing how, as new low-income residents move into a neighborhood, they will further whatever trend (positive or negative) is already occurring in the community. Therefore, if a neighborhood is already experiencing a high crime rate, moving displaced residents, or Housing Choice Voucher recipients, into that neighborhood will increase crime, and the opposite will occur in a low-crime neighborhood.<sup>16</sup> Once a neighborhood reaches its threshold for disruptive social behavior, therefore, any additional potential negative influences will push the community over its threshold and it will become concentrated with problems. Keels advocates for locating residents to high-income neighborhoods.

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<sup>13</sup> Varaday, D.P. and C.C. Walker. 2000. "Vouchering out distressed subsidized developments: Does moving lead to improvements in housing and neighborhood conditions?" *Housing Policy Debate* . 11:115-62.

<sup>14</sup> Kling, J.R., J. Ludwig, L.F. Katz. (September 2004). Neighborhood effects on crime for female and male youth: Evidence from a randomized housing voucher experiment. National Bureau of Economic Research, Working Paper Series.

<sup>15</sup> Katz, L., Kling, W.R., Ludwig, J. (February 2005). Neighborhood effects on crime for female and male youth: Evidence from a randomized housing voucher experiment. *Quarterly Journal of Economics*. 120,1.

<sup>16</sup> Keels, M. (Feb. 2005). Fifteen years later: Can residential mobility programs provide a permanent escape from neighborhood segregation, crime, and poverty? *Demography*. 42.1

The few studies conducted on the effectiveness of the HOPE VI program have been sponsored by the U.S. Department of Housing and Urban Development, with the majority of these reports concluding that HOPE VI has positively benefited the communities in which they have been implemented. One such study was completed in 2000, concluding that Hope VI achieves six beneficial results, including significant reduction of crime and violence in Hope VI communities (usually by over 70%).<sup>17</sup> Popkin (2004) and other researchers before her (Brophy and Smith 1997) also support Hope VI developments, claiming that a mix of incomes helps to decrease crime not only in the development itself, but also in the perception of crime in neighboring communities. This finding is supported in a similar study based in Fort Worth, Texas on neighborhood perception of crime in Hope VI communities.<sup>18</sup>

This idea of the spillover of positive effects from HOPE VI communities is refuted in another study in Louisville, Kentucky. Suresh's (2000) analysis of change in crime rates after the construction of a HOPE VI development claims that while the revitalization area experienced a sharp decline in crime, smaller pockets of concentrated crime arose in other regions throughout the city.<sup>19</sup> Similarly, Naparstek's (2000) study of HOPE VI's early outcomes analyzes seven HOPE VI projects that had formally been regions of high crime, welfare dependency, and minority and single-parent concentrations. The study, which claims that HOPE VI reduced overall crime rates, is unsure whether these benefits are only experienced at the HOPE VI site, or if there is a "positive spillover effect for the community as a whole."<sup>20</sup>

### **Durham, North Carolina's Federal Housing Initiatives**

The present study analyzes the effects on crime patterns, from the implementation of the two most recent federal housing programs, the Housing Choice Voucher and HOPE VI programs, in the city of Durham, North Carolina. Durham was selected as the study area because of its lengthy completion time (over four years) of the HOPE VI development and history of receiving ample housing vouchers. Durham was also populated as a city of former slaves, leading to years of segregated housing and corrupt government policies, making it a fascinating region to analyze housing patterns. Settlement patterns from years of discrimination have resulted in low-income, African-American minorities being forced to settle on one side of the city's railroad tracks in regions of low elevation and flood plains. Arguably, segregated

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<sup>17</sup> Naparstek, A.J. et al. (February 2000). Hope VI: Community building makes a difference. U.S. Department of Housing and Urban Development.

<sup>18</sup> Barrett, Edith J., P. Geisel, and J. Johnston. 2003. The Ramona Utti Report: Impacts of the Ripley Arnold Relocation Program Year 1 (2002–2003). Arlington: University of Texas.

<sup>19</sup> Suresh, G. (2000). Aggravated Assault, Homicide, and Rape Patterns in the City of Louisville(1989-1998), Department of Urban and Public Affairs, University of Louisville, Louisville, KY.

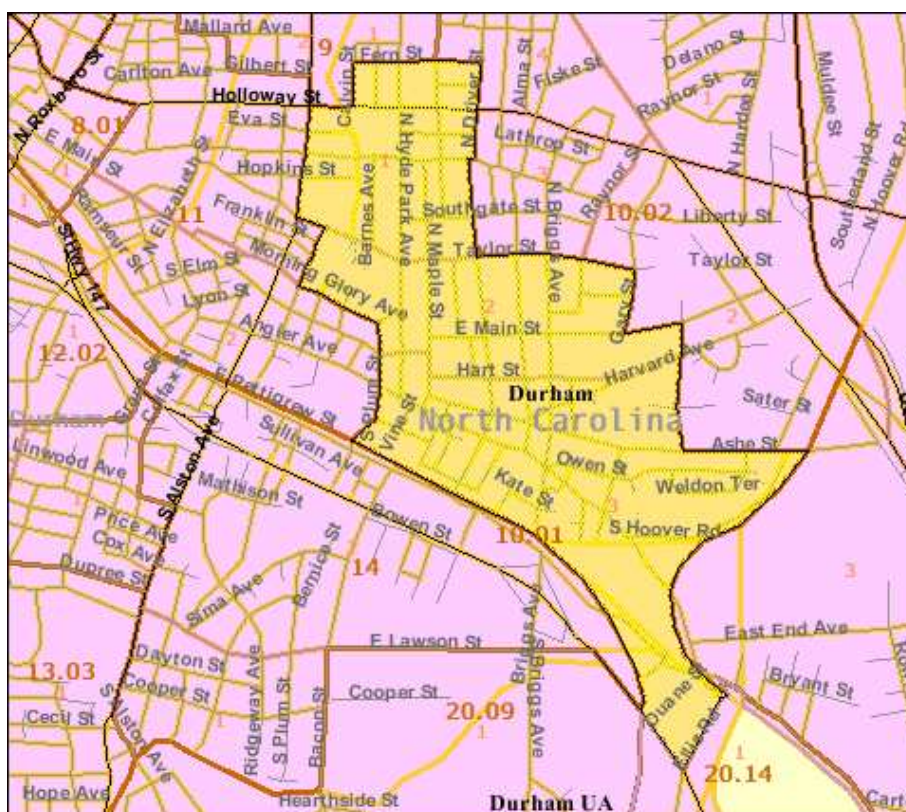
<sup>20</sup> Naparstek. p. 52

housing practices are still taking place in Durham, as African-American and Caucasian families still tend to live in converse areas of the city. Most of the area's minority residents live in regions with the lowest median socioeconomic status and also represent the majority of public housing residents.

Northeast Central Durham (NECD), displayed in *Figure 1*, is the general region where Few Gardens/HOPE VI is located. According to the United States Census Bureau, it has a substantially higher percentage of renters than the city of Durham and national averages with almost 78% of residents renting, compared to approximately 50% of the city's population and 33% nationally. Vacancy rates are only slightly above normal, as NECD has a 12.43% vacancy rate, compared to 12.1% in the city and 11.6% nationally. The racial divide is represented in these housing statistics; while the area is only 8.5% Caucasian, white residents represent almost 15% of the homeowners in the area, which is nearly double their overall rate in NECD.<sup>21</sup>

*Figure 1.*

**Map of Northeast Central Durham<sup>22</sup>**



<sup>21</sup> United States Census Bureau. 2000.

<sup>22</sup> The Annual Action Plan, FY 2007-2008. Department of Community Development, City of Durham.  
<http://d.scribd.com/docs/5orvwxwedycr8u06vj.pdf>

Few Gardens, specifically, was historically known as an area of concentrated crime, racial segregation, and economic insecurity. The primary reasons for this trend were major losses in textile manufacturing and tobacco sales, both former assets and employment centers in the region. Employment in growing fields like bioscience, technology, and the healthcare industry are in decline in this region, defined roughly as Census Tract 10.01, as the number of healthcare businesses has declined over ten years, and professional business numbers have remained stagnant. In addition, the high poverty and unemployment rate and the close proximity to Research Triangle Park make the area less desirable for locating new businesses. The Few Gardens neighborhood represented a large portion of the region's impoverished and minority residents. More specifically, "Few Gardens was predominantly African-American (75 percent), with 13 percent other races and 12 percent white."<sup>23</sup>

#### *Acquisition and Relocation*

Eight years after the national HOPE VI funds were appropriated (1992), HUD awarded a \$35 million grant to the Durham Housing Authority to redevelop the 96 block area surrounding the fifty year-old Few Gardens public housing complex, located just east of downtown. This grant was critical for Durham, a city which had been battling violent crimes for years, including two separate incidents involving the shooting of small children close to the HOPE VI target area.<sup>24</sup> The money was to be specifically allocated to demolition, redevelopment (\$18 million), and resident social services. While this project was heavily federal government funded, an estimated \$120 million in total will be from private outside sources and city contributions.<sup>25</sup>

Few Gardens was demolished in 2003, and the first stage of construction was completed in March 2005, with "Main Street Townhomes," a collection of 43 rental units. A year later, the majority of the HOPE VI development was complete, including "Calvert at Main Street" and "Calvert Place," encompassing 75 townhomes and duplex units for rent and 25 senior apartments. In addition, 42 townhomes and single family units were constructed and sold at affordable prices averaging \$140,000 to \$176,000.<sup>26</sup> The former Few Gardens location was home to well over half of these units, and the remaining was located in close

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<sup>23</sup> Fraser, J. (June 2008). Durham Hope VI evaluation final report. The University of North Carolina at Chapel Hill: Center for Urban and Regional Studies. Submitted to the Durham Housing Authority. p. 29.

<sup>24</sup> Wise, J. (2003). 50 years of Few Gardens: What went wrong with Durham's first public housing? *Durham Herald Sun*, E1.

<sup>25</sup> Durham HOPE VI neighborhood revitalization. "History." The Housing Authority of the City of Durham & The Community Builders, Inc. <http://www.durhamhopevi.com/history.asp>

<sup>26</sup> Fraser. 2008. p. 5.

vicinity. Since 2006, more units have been constructed and are occupied in the historic Golden Belt district and around the Angier Ave/Goley Street intersection.

According to Fraser's (2004) study, of the 240 households who were living in Few Gardens prior to demolition, 168 were included in the relocation effort (remaining chose to stop receiving housing assistance or were unable to be tracked by the Housing Authority). Approximately half of those individuals being relocated were given rental vouchers through the Housing Choice Voucher Program, while the remaining were relocated to either HOPE VI units or traditional public housing located throughout the city of Durham. An estimated 4.8% were given housing in Durham's HOPE VI Main Street townhomes.<sup>27</sup> On average, the neighborhoods in which residents relocated still have a majority of African-Americans (67.5 percent), but have higher percentages of whites (21.6 percent), as compared to Few Gardens."<sup>28</sup>

### *Literature Review*

A variety of studies have been conducted on crime in Durham and its recent HOPE VI Program. Bacon's (2006) report analyzes changes in violent crime rates after the development was completed. Bacon chose to study violent crimes because they are most often considered the most crucial crimes to reduce when designing community development policies/programs and are also "fundamentally interpersonal crimes, most frequently committed against one individual by another, and thus are more responsive to changes in social dynamics, as opposed to the location of property or other external factors which influence crimes such as burglary or larceny."<sup>29</sup> Bacon excluded simple assaults as those were mostly clustered around commercial dwellings, such as nightclubs and bars, and therefore irrelevant when examining crime in residential neighborhoods. Results reveal that from 2002 (immediately before demolition) to 2004 (immediately after demolition), "violent crime increased in several other pockets of the city, including some areas where large numbers of former Few Gardens residents relocated."<sup>30</sup>

While Bacon's results would suggest that crime followed the former Few Gardens residents to their new housing locations, it is important to note that it was too soon for analysis to be conducted and causality determined. The present study examines post-demolition crime data from 2007, four years after demolition. This is a more reasonable amount of time for the community to become adjusted and for

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<sup>27</sup> Fraser, J., S. Van Zandt, W. Rohe, and C. Warren. (October 2004). Impacts of Relocation on Former Residents of Few Gardens: Neighborhood Quality. Chapel Hill, N.C.: The Center for Urban and Regional Studies.

<sup>28</sup> Fraser. 2008. p. 29.

<sup>29</sup> Bacon, M.T. (2006). A Spatial statistics examination of changes in violent crime patterns following a redevelopment project. Chapel Hill, N.C.: University of North Carolina at Chapel Hill. Masters Thesis. Department of Geography p. 38.

<sup>30</sup> Bacon. p. 30.

normal living patterns to develop. Another drawback of Bacon's study is its failure to address the qualitative side of crime reduction strategies, measured by interviews with police officers and residents. The present analysis will build on Bacon's study by examining various types of crime, as well as collecting/analyzing data from surveys with former Few Gardens residents, community officials, and police officers.

Fraser (2008) worked with the Durham Housing Authority to conduct a four year evaluation of the HOPE VI project. According to the report, relocated residents moved into neighborhoods with higher average socioeconomic levels, as well as more diversity. The percent below poverty rate was 47.6 percent in the Few Gardens development, versus fewer than 30% on average in the relocation neighborhoods. The unemployment rate and the number of single-parent families indicate a similar trend. While the relocation neighborhoods are an improvement from Few Gardens, residents have still relocated to the mostly disadvantaged neighborhoods, as compared to the rest of Durham. Like Bacon, Fraser's study focuses on violent crime, which evidently decreased in the HOPE VI community from 2002 to 2004. Fraser also notes that there were several pockets of increased crime throughout Durham during that time, including some areas where former Few Gardens residents relocated to.<sup>31</sup>

## Methods

The present study differs from ones discussed above by its narrow scope. While preceding HUD-sponsored reports on the results of federal housing programs look at various localities, this report focuses on one location in order to critique the programs based on their specific impact on Durham. Recent assessments of Durham's urban neighborhoods note the lack of economically stable and safe neighborhoods surrounding the former Few Gardens area, indicating that this condition might make it difficult for displaced Few Gardens residents to improve their quality of life by relocating to surrounding neighborhoods.<sup>32</sup> Durham also had problems incorporating former Few Gardens residents back into the HOPE VI community as many did not meet the self-sufficiency requirements to return to the revitalized development. Due to reasons which include an inadequate tracking and communication system, a "substantial number of former Few Garden's residents....were lost prior to or during the relocation process."<sup>33</sup> Some former Few Gardens residents also failed to provide their relocation addresses or were

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<sup>31</sup> Fraser. 2008.

<sup>32</sup> IBID 3-3, RKG Associates & SEPI Engineering. 2005. Economic Assessment, Old Five Points, Northeast Central Durham and Fayetteville Street Corridor. Durham, NC.

<sup>33</sup> Fraser. p. 19.

kicked out due to tenant violations. For these reasons, it is imperative that the effects of Durham's housing policies be examined independently, without comparing the results to other cities.

This report also varies from previous studies as it attempts to improve upon their limitations. In Popkin's 2002 HUD-sponsored study, there is "no baseline information from residents to rigorously assess how big a change this is from the pre-HOPE VI" neighborhoods as well as no analysis of historical crime data.<sup>34</sup> In addition, Popkin's and Bacon's (2006) studies were conducted too soon after the revitalization of the HOPE VI sites. In Popkin's specific study, most of the developments were not completely finished when the data was collected. A study of the true effectiveness of these programs requires that they have existed long enough for residents and their respective neighborhoods to adjust. The analysis of HOPE VI and the Housing Choice Voucher Program in the present study is made approximately four years after the development was opened, making the results a more realistic representation of the neighborhood's true condition and the federal housing policies' impacts.

The present study also varies from prior ones by incorporating both qualitative and quantitative data. The majority of the Durham-specific studies discussed above only use quantitative data for analysis. Both quantitative and qualitative information for this study was gathered in the form of surveys which asked respondents to rate neighborhood crime levels on a scale of 1-5 and also allowed respondents to elaborate on crime trends by asking open-ended questions. Survey recipients include 83 former Few Gardens residents still receiving housing assistance from the city of Durham, police officers in all five police districts, as shown in *figure 2*, the lieutenant from each district, and city and Housing Authority representatives who have been intimately involved with HOPE VI, Few Gardens, or the Housing Choice Voucher Program. Questions focused on determining whether or not crime has decreased in Durham overall, around current public housing complexes, and in the old Few Gardens neighborhood since the implementation of the Hope VI program. Questions to officers also included whether policing has changed since public housing residents were deconcentrated and the federal housing policies emphasized scattering of low-income residents as a strategy to reduce crime.

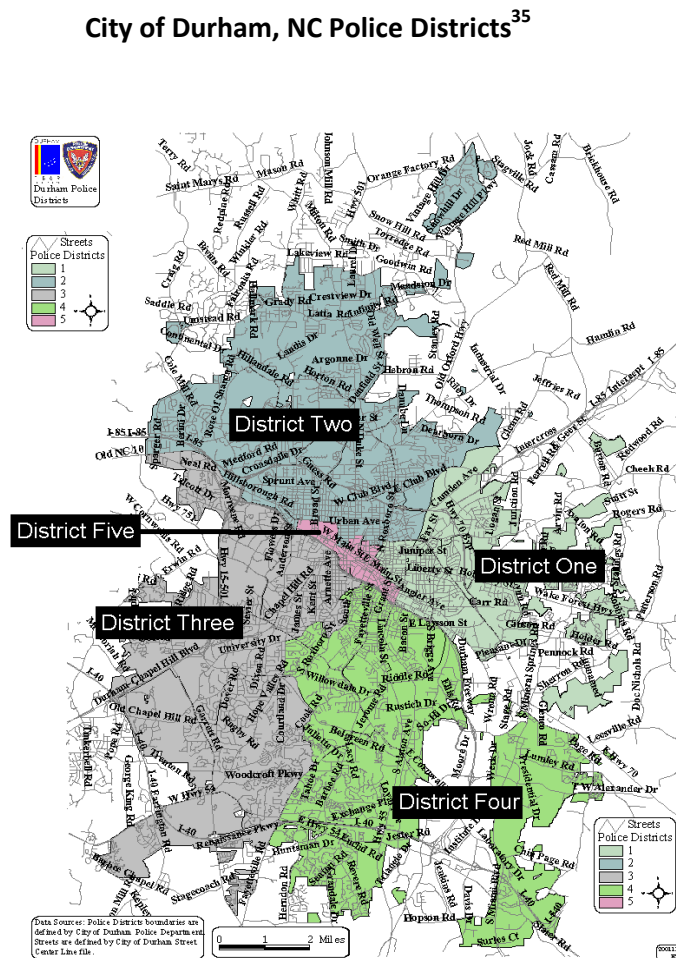
The quantitative impacts of the Hope VI program on Durham's crime rates are analyzed by comparing county-wide crime rates before demolition of the Few Gardens public housing complex to crime rates after the Hope VI development was opened. Total crime, violent crime, forced burglary, and assault are analyzed. The specific Few Gardens/Hope VI site is scrutinized in detail by looking at crime in that

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<sup>34</sup> Popkin. November 2002. p. 15.

neighborhood both before and after demolition of Few Gardens. Crime incident reports were obtained from both the City of Durham’s Crime Analysis Division and the Durham County Sheriff’s Office.

Figure 2.



The Housing Choice Voucher and HOPE VI Program are examined using a similar methodology employed in the aforementioned Memphis, Tennessee study, which analyzes the impact of the Section 8/Housing Choice Voucher Program on citywide crime trends. A list of before and after addresses of displaced residents (from Few Gardens) who are still receiving services from the Durham Housing Authority’s Residence Service Department was provided by the Housing Department. Once addresses were geocoded, a map of resident locations in both 2000 and 2007 was created and juxtaposed/placed atop of a map of the exact location of crimes in 2000 and 2007. Various maps combine assorted crime and housing data. Specific addresses of housing recipients are protected by removing road demarcations and scale from the maps.

<sup>35</sup> <http://www.radioreference.com/data/images/ct/1918/CityPolicemap.gif>

As police departments throughout the country are modernizing and recording/geocoding their crime data, using GIS for spatial crime analysis has become popular in various studies of community crime (Craglia, Haining, and Wiles (2000), Garson and Vann (2001), Doran and Lees (2005), and Wilcox (2004)). This study analyzes crime data of the County of Durham by census blocks. Spatial statistics supplement maps to quantify visual representation of clustering. Moran's I is used to examine the total spatial autocorrelation for the dataset, as well as Multivariate Moran's I, which incorporates an independent variable in examining the distribution set. LISA (Local Indicators of Spatial Association), developed in 1995 by Anselin, allows analysis of spatial clustering of similar values around a specific observation or point. It is used in the present study to identify "hotspots" of crime where high-high locations indicate Census block groups of high crime rates *and* high levels of Few Gardens/former Few Gardens residents. These values represent areas of above-average clustering than would be expected in a purely random sample of the data set. Ordinary Least Squares (OLS) Regression is conducted to determine the impact of independent variables on crime patterns and to control for these variables when examining the impact of displaced Few Gardens residents' location on crime dispersion. A spatial weights matrix, queen contiguity, and Euclidean Distance were used for the regression analysis.

## **Quantitative Results**

Quantitative analysis on crime and housing data was performed using ArcMap and GeoDa. Cumulative crime reports for 2000 and 2007 indicate that total crime, at the county-wide level, decreased substantially during this time period, dropping approximately 18.9%. Results further show that various independent variables (i.e. housing location of former Few Gardens residents, number of vacant homes) are associated with the spatial dispersion of crime both in 2000 and 2007. Independent variables have a greater effect on crime patterns in 2007, versus in 2000. Spatial dispersion was analyzed on a block group level, using the combined crime data from the City and County of Durham for 2000 and 2007.

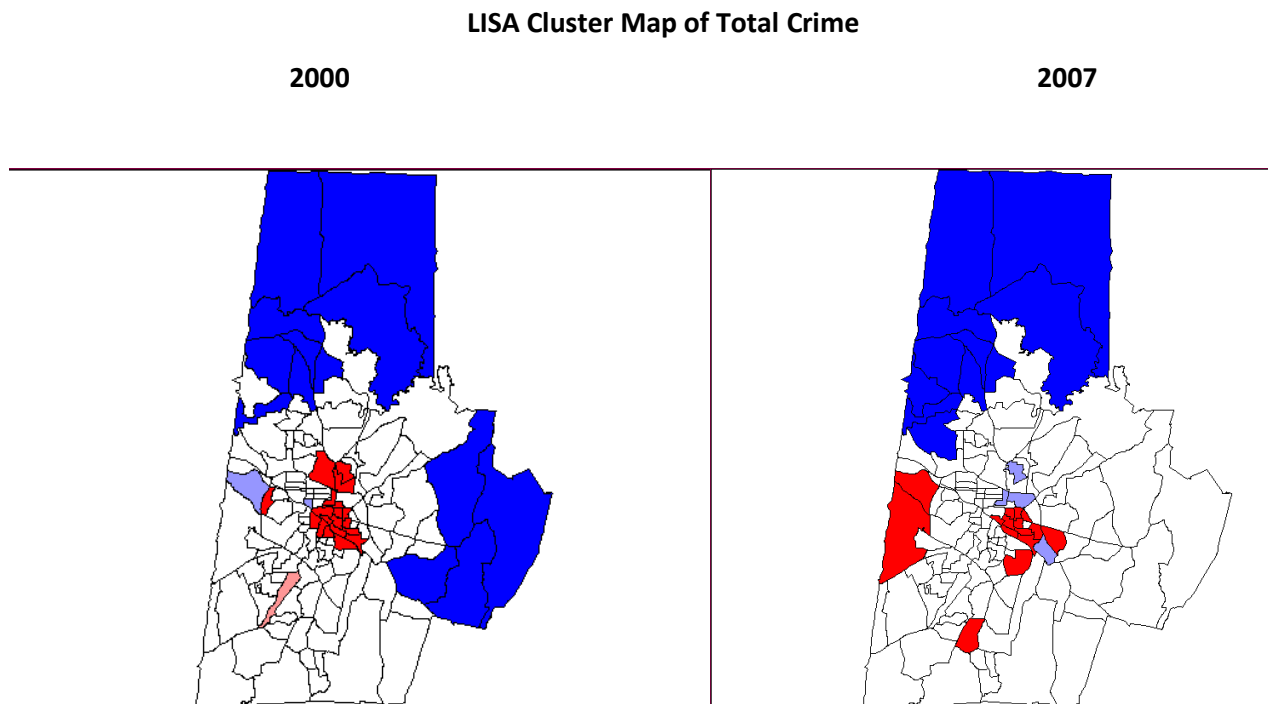
Global Moran's I was conducted to determine whether the total crime in 2007 and 2000 resemble a clustered, dispersed, or random pattern. A value near +1.0 indicates clustering, while a value closer to -1 signifies spatial dispersion; a value of 0 indicates random dispersion of the data. Shoplifting crimes were eliminated from all datasets due to the scope of this study, which is primarily interested in analyzing crime on the neighborhood level where commercial crimes are infrequent. Due to the large number of crimes in regional shopping centers (Northgate Mall, Southpoint Mall), including shoplifting in the data analysis would have skewed the results to indicate a much larger percentage of crimes occurring in block groups

where shopping centers are located. Moran's I analysis on the total crimes (excluding shoplifting) in 2007 and 2000 shows greater clustering of crimes in 2000. Moran's I for 2000 is 0.321, signifying medium, positive clustering. In 2007, the Univariate Moran's I variable is 0.2178, indicating slight spatial clustering of crimes in Durham. High/Low Clustering of total crimes in 2007 was also analyzed in ArcMap by calculating the Getis-Ord General G statistic. The calculated index indicates that while there is medium strength clustering, the pattern may be due to random chance. A Z-score of -1.64 standard deviations also shows a clustering of low values.

A multivariate Moran's I was conducted on the same two datasets, using the location of Few Gardens housing recipients as the independent variable. This statistical analysis tool indicates whether an independent variable is correlated with a weighted average of the dependent variable, as calculated over neighboring locations. In the 2000 analysis, the datapoints for the housing variable were all centered around the Few Gardens complex, versus in 2007, where the datapoints represent the location where the former Few Gardens residents currently live. The Multivariate Moran's I Index in 2000 is .1268, versus 2007, where the value is .1310. This signifies a slight relationship between crime and public housing recipients for both years, meaning there is a potential relationship between location of federal housing and crime. Areas with higher concentrations of former Few Gardens (or present in 2000) residents are likely to have slightly higher concentrations of crime than regions where former Few Gardens residents do not reside. Scatterplots of crime and housing for 2000 and 2007 also demonstrate a positive correlation between the two variables, with slopes of 1.06 and 9.79 respectively.

Since global measures of spatial autocorrelation often overlook clusters of observations which go against the general trend, Local Indicators of Spatial Autocorrelation (LISA) statistics are employed to identify hotspots/clusters of the dependent variable (crime). Unlike Moran's I, LISA does not generate one spatial statistic in which to measure the data dispersion; it produces Cluster Maps and Significance Maps which identify areas of potential local clusters and whether or not those hot spots are statistically significant. The following page portrays a LISA Cluster Map of Total Crime in 2000 versus a LISA Cluster Map of Total Crime in 2007, showing substantially different trends in terms of local hotspots of crime.

Figure 3.

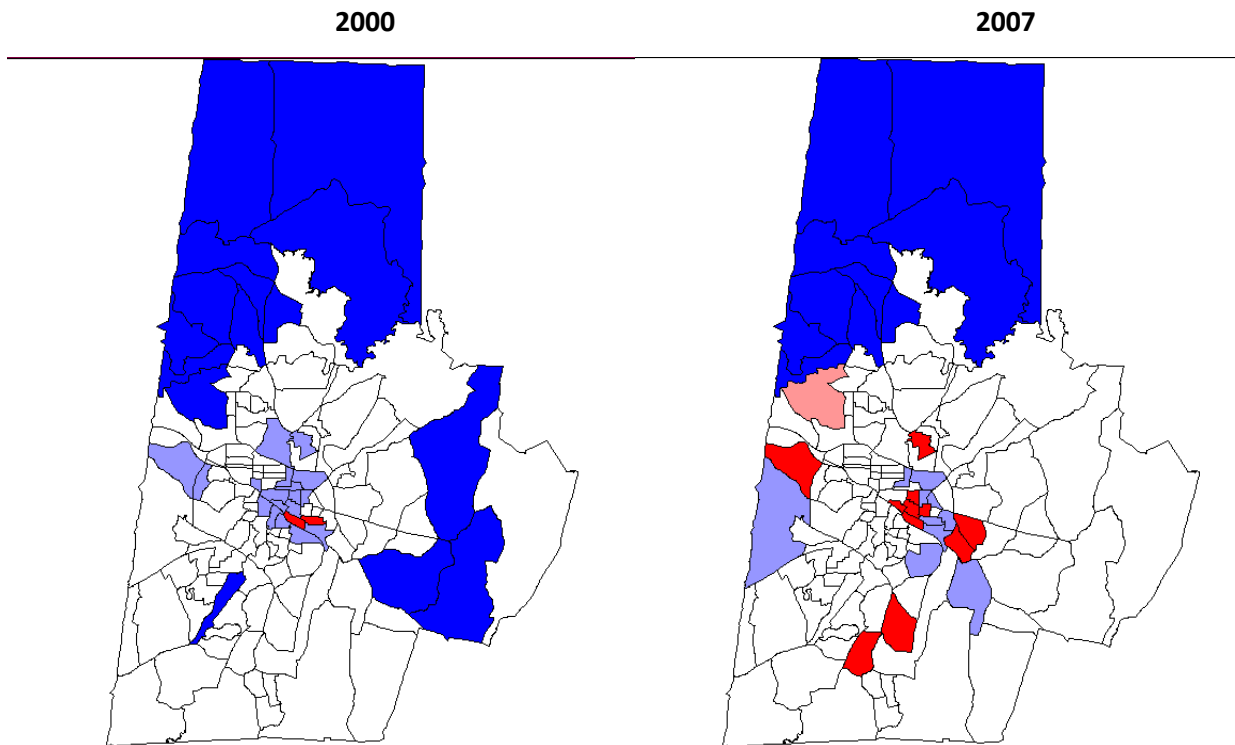


Areas with a high crime rate surrounded by block groups with high crimes rates are shown in red, versus areas of low crime rates surrounded by ones of low crime rates are represented in dark blue. High-low crime areas are in pink and low-high crime regions are colored in light blue. The 2000 LISA cluster map demonstrates a greater amount of high-high crime areas located in central Durham, where Few Gardens was located, than in 2007, four years after Few Gardens was demolished. In addition, the 2007 cluster map displays regions of high concentrated crime outside the inner core of the city, a trend which is not evident in 2000. The corresponding LISA Significance Maps, which display if values are significant or if they are expected under spatial randomness, indicate that the LISA cluster maps are significant ( $p \leq 0.05$ ), and, therefore, that spatial clustering of crimes is occurring at more than random chance.

Bi-LISA maps, which output the same maps as described above, examine the spatial relationship between an independent (housing location) and dependent (crime) variable. These were also created to interpret the spatial randomness of crime and its relationship to housing location of former Few Gardens residents. *Figure 4*, represented on the next page, shows the comparative Bi-LISA maps for 2000 and 2007:

Figure 4.

**Bi-LISA Cluster Map (Total Crime [excluding shop-lifting] and Few Gardens residents housing)**



Bi-LISA Cluster Maps and Significance maps clearly demonstrate variability in the spatial hotspots of crime and housing. Block groups shaded in red in 2000 signify hotspots with high crime rates and high levels of Few Gardens residents. In 2007, red block groups represent regions with high crime rates and large numbers of the present locations of former Few Gardens residents still receiving housing assistance. When comparing the two Bi-LISA Cluster Maps, crime hotspots in relation to federally-funded government housing were much more concentrated in central Durham, near Few Gardens, in 2000 in comparison to 2007, where hotspots of crime are dispersed further from the former Few Gardens location. 2000 also has more low-low locations, where there are regions of low concentrations of both crime and Few Gardens residents.

Regression analysis was performed on total crime data for 2000 and 2007 in order to test the impact of the *location of former Few Gardens residents* on dispersion of crime, while controlling for other potential influencing independent variables, including *race, population, household size, vacant housing units, and renter-occupied dwellings*. Regression Analysis on the 2007 data indicates that 50.9% of the variance in crime is attributed to the independent variables. The F-test computes probability values in the analysis of variance based on the degrees of freedom. Since the results demonstrate that there is a big F-value and a small P-value ( $\leq 0.05$ ), the null hypothesis is rejected, meaning that there is a relationship

between the dependent variable (crime) and the independent variables (listed above). A high F-Statistic represents the importance of using the regression model over analyzing crime patterns without including other independent variables. According to this analysis, the number of renter-occupied units in each block group is the only variable that has a significant effect on the distribution of crime. The location of Few Gardens residents has a probability indicator of .22, when performing regression analysis while controlling for other influencing factors, making it insignificant in the impact of crime location.

Multicollinearity was tested when running the regression of the entire dataset and also between the average household size and location of displaced residents. In both instances, extreme multicollinearity existed, indicating that the regression results are potentially unstable due to the high correlation of the explanatory variables. According to Anselin (2005), the creator of GeoDa, “this may not be too serious of a problem, since many properties in regression analysis hold *asymptotically* even without assuming normality.”<sup>36</sup> Regression analysis, therefore, was performed excluding *average household size* as a variable, resulting in an increase in the probability of a significant relationship between crime and housing ( $p = .029$ ). The corresponding coefficient indicates that a one-unit increase in Few Gardens residents would yield a 31.77 unit increase in the predicted crime rate.

Unlike regression analysis in 2007, the same test in 2000 indicates that none of the independent variables, whether or not *average household size* is excluded, have a significant effect on the location of crime. Only 38% of the variability in crime dispersion is attributed to the independent variables included in the regression analysis. Compared to 2007, a weaker relationship of crime and the independent variables exists in 2000.

Most previous crime analysis studies examined (Fraser 2008, Bacon 2006) focus on violent crimes. To distinguish this study from what was conducted previously, the present study analyzes the spatial dispersion of both violent (assault, forced burglary, robbery, homicide) and nonviolent crimes, as well as assault and forced burglary by themselves. Statistical analysis of these crime patterns indicate that the location of former Few Gardens’ housing recipients only makes a statistically significant impact on the spatial dispersion of certain types of crimes. Also, the relocation location of former Few Gardens residents (2007 data) usually has a greater impact on the spatial distribution of crime, as compared to analysis of Few Gardens residents and crime in 2000.

Violent crime trends for both years were studied by calculating a Univariate (violent crime) and Multivariate (crime and Few Gardens’ housing recipients’ location) Moran’s for 2000 and 2007. The output

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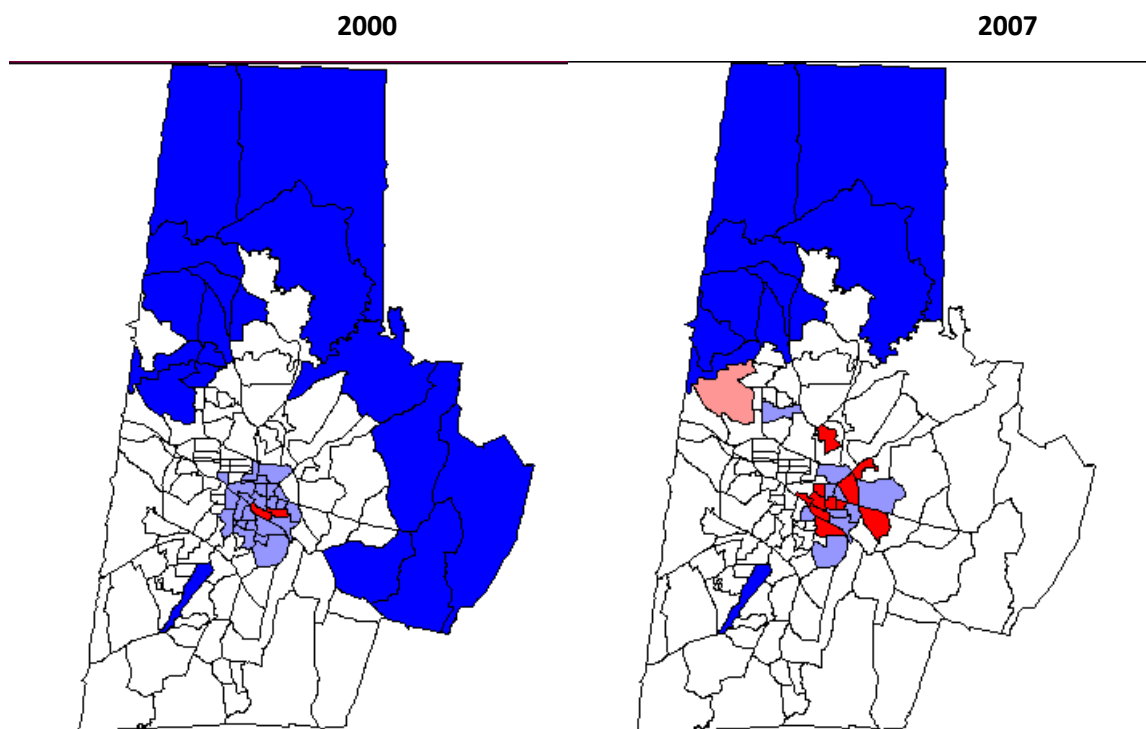
<sup>36</sup> Anselin, L. (2005). *Exploring spatial data with GeoDa: A Workbook*. Spatial Analysis Laboratory, Department of Geography. Urbana-Champaign: University of Illinois and Center for Spatially Integrated Social Science. p. 195.

for Moran's I displays a stronger spatial clustering in 2000 (Moran's I = .51) versus 2007 (Moran's I = .32). Bivariate Moran's I results are similar, with 2000 having a slightly higher spatial autocorrelation (BiMoran's I = .21) versus 2007 (BiMoran's I = .18).

The Univariate LISA Cluster and Significance maps of *violent crime* for 2000 depict strong *violent crime* clustering in the center, with low-low regions of significance in northern Durham County. The 2007 Univariate LISA images were similar to the 2000 maps, with more block groups with high-high indicators in the central Durham area. BiLISA (violent crime and housing) for both years demonstrates a large variance in spatial crime dispersion between 2000 and 2007. As displayed in *Figure 5*, *violent crime/housing* was notably more concentrated in Durham's core in 2000, with the region in red representing a block group of high crime and Few Gardens housing recipients, surrounded by block groups with similar characteristics. The light blue around it signifies an area with low concentration of *violent crime/housing* next to a region with a high concentration of *violent crime/housing* (i.e. the block groups in red, where Few Gardens was located). In 2007, high-high regions are dispersed further from the center core. In addition, there are fewer block groups representing low-low crime areas, demonstrating an overall spreading out of crime.

*Figure 5.*

**Bi-LISA Cluster Map (Violent Crime [excluding shop-lifting] and Few Gardens residents housing)**



The BiLISA maps are supported by other images created in ArcMap, including *Figure 6*, displaying the total number of *violent crimes* and Few Gardens residents in each block group. A pattern persists where violent crime is significantly more concentrated in Durham's central core in 2000. As former Few Gardens residents move to regions further from central Durham in 2007, *violent crime* is also dispersed, although not always to the same block groups as former Few Gardens residents moved to.

Regression analysis of *violent crime* in 2000 and the R-Squared statistic demonstrates that 42.4 percent of the variance in the distribution of *violent crimes* is related to the independent variables (*race [black-white]*, *average household size*, *population*, *renter-occupied dwellings*, *number of vacant properties*, and *Few Gardens housing locations*). The same analysis conducted in 2007 shows a greater reliance on independent variables in the distribution of violent crime (R-squared = .58). The F-test, signifying how unlikely the result would have been if the values compared were not different, supports the R-Squared analysis with a greater F-statistic in 2007. This indicates a strong correlation between the dependent (violent crime) and independent variables.

The influence of individual independent variables on *violent crime* dispersion is represented in *Figure 7*. No variables have a significant effect on the spatial dispersion of *violent crime* in 2000. In 2007, average household size, renter occupied dwellings, and the location of former Few Gardens residents all have a statistically significant ( $p \leq 0.05$ ) effect on the distribution of violent crime. Due to extreme Multicollinearity of *Average Household Size* and the former Few Gardens housing location, regression analysis was re-calculated leaving out *Average Household Size*, resulting in an increase in the effect of housing location on *violent crime* ( $p = .027$ , Coefficient = 2.37).

Spatial analysis demonstrates a near random distribution of *nonviolent crimes* in 2000 and 2007, either with or without the consideration of independent variables. The Moran's I coefficient was constant (.18) for 2000 and 2007. Likewise, the multivariate Moran's I in 2007 (.06) was close to random distribution and did not change significantly from 2000 (.05). Furthermore, LISA cluster and significance maps of *nonviolent crimes* show nonviolent crimes as more clustered in central Durham in 2000 than in 2007, but with most of the clustering as insignificant. According to the R-Squared statistic, more of the variance in crime patterns is explained by independent variables in 2007 (R-squared = .35), versus 2000 (R-squared = .26).

Figure 6.

**Spatial Distribution of Violent Crime and Housing of  
Former Few Gardens Residents in Durham (2000 v. 2007)**

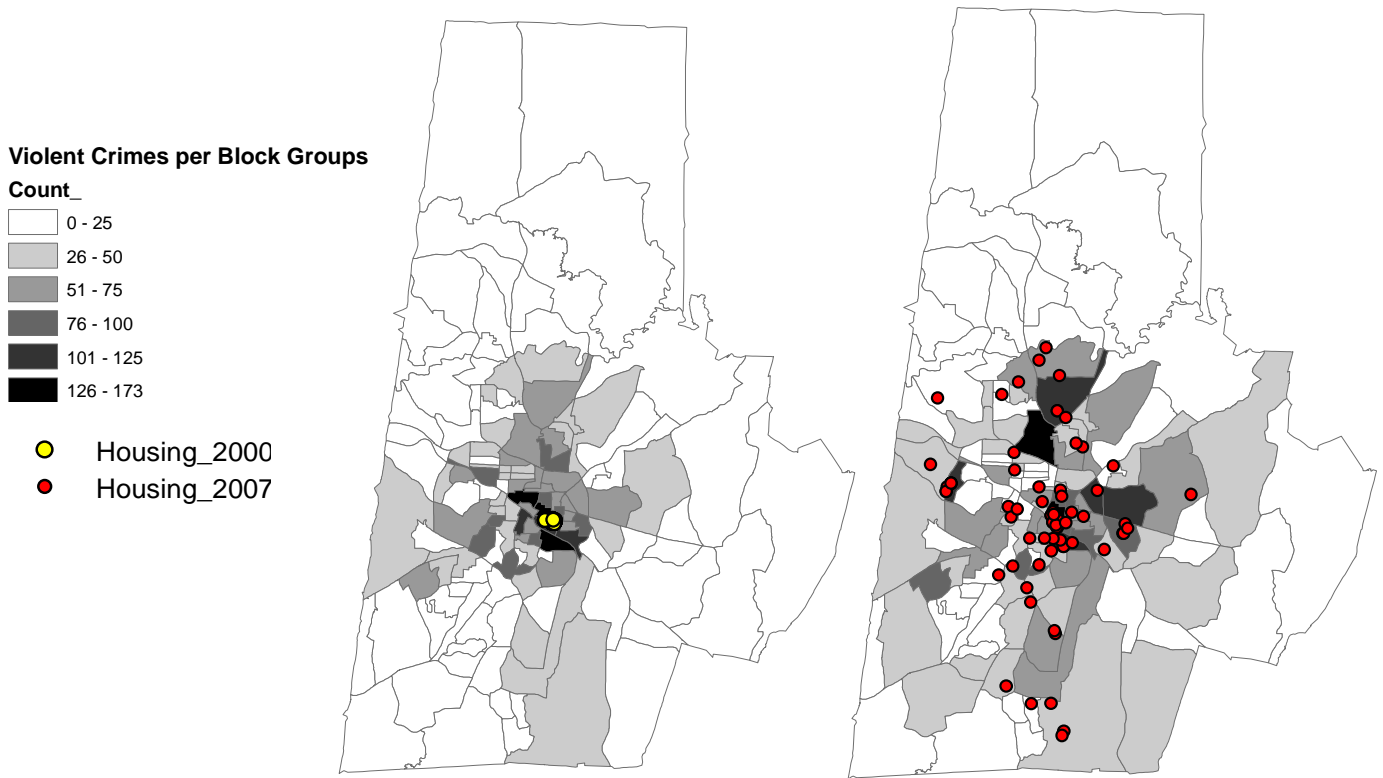


Figure 7.

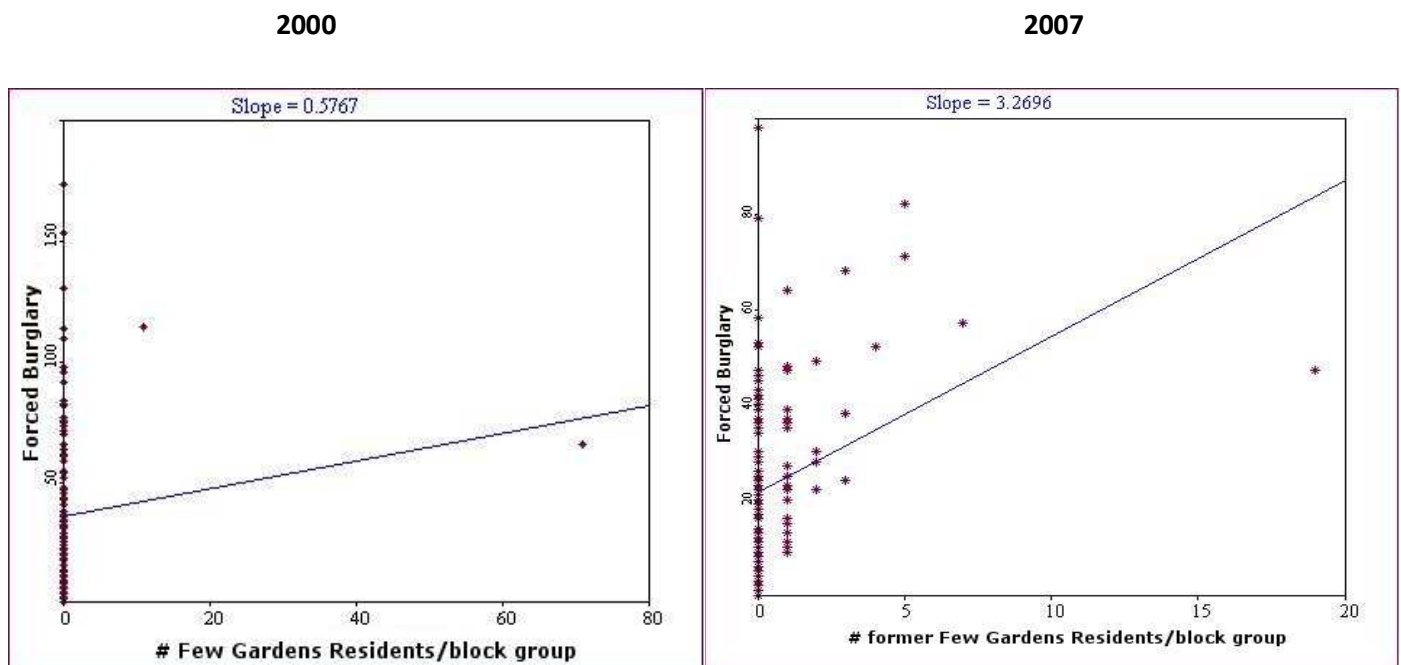
**The Influence of Independent Variables on the Spatial Dispersion of Violent Crime (2000 and 2007)**

	<b>2000</b>		<b>2007</b>	
	<b>Probability</b>	<b>Coefficient</b>	<b>Probability</b>	<b>Coefficient</b>
<b>Population</b>	.82	0	.88	0
<b>White</b>	.49	-.02	.63	0
<b>Black</b>	.63	.01	.53	.01
<b>Average Household Size</b>	.07	15.89	.00	24.38
<b>Vacant Properties</b>	.06	.18	.84	-.01
<b>Renter Occupied Units</b>	.12	.03	.00	.05
<b>Location of Few Gardens (former) residents</b>	.97	.01	.05	2.0

Due to minimal spatial clustering of *nonviolent crimes* in 2000 or 2007, violent crime trends were examined in more detail. *Violent crime* data was divided in order to exclusively analyze the spatial patterns of *forced burglary* and *assault* for both years. As shown in *Figure 8*, the positive relationship between *forced burglary* and the location of Few Gardens housing recipients is considerably stronger in 2007, versus 2000. The considerably stronger relationship between forced burglary and housing in 2007, as compared to 2000, is even more severe when considering the impact of the two outliers in 2000, causing the slope of the line to be steeper than it would be if the outliers were removed.

*Figure 8.*

**Scatterplot: Forced Burglary v. Few Gardens Housing Recipients Location/Relocation (2007)**

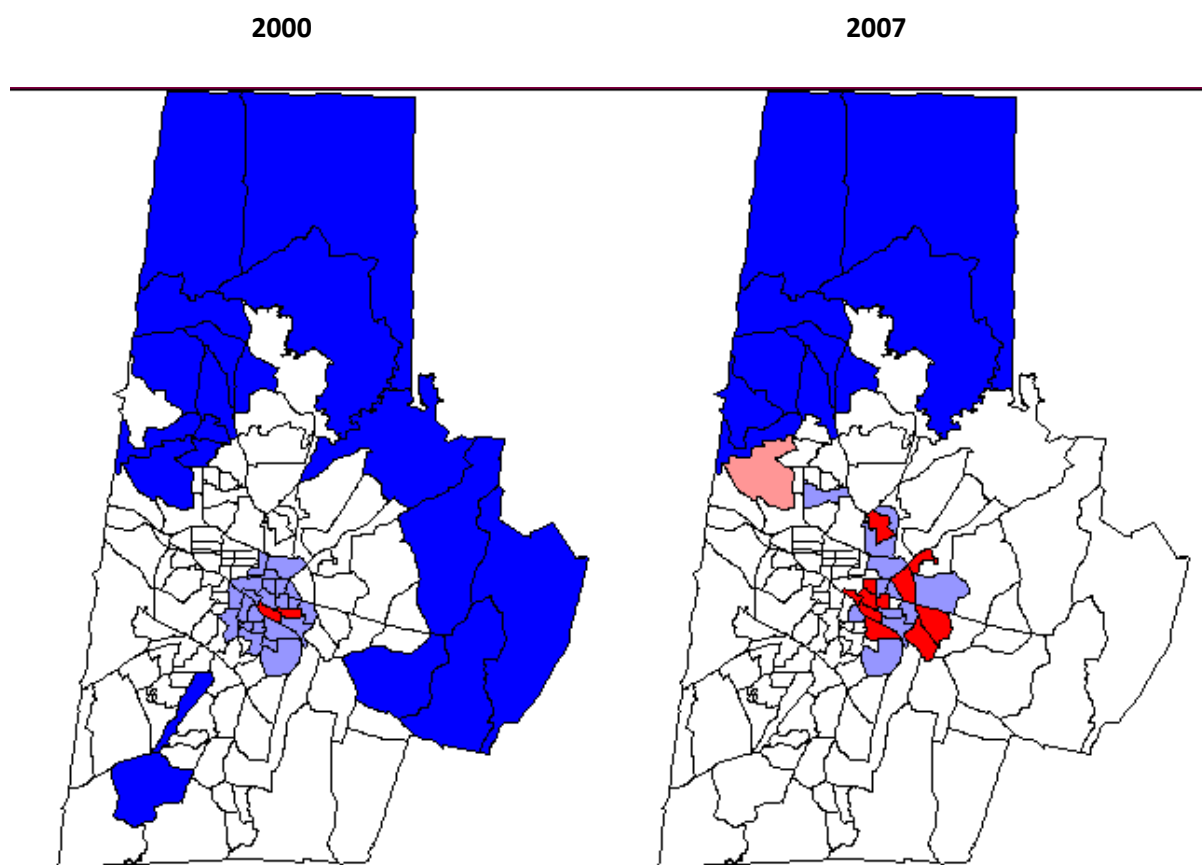


The Univariate and Multivariate Moran's I coefficients for both years exhibit a stronger spatial autocorrelation for crime alone in 2000, meaning the occurrences of forced burglary are more clustered in 2000 (Moran's I = .51) than in 2007 (Moran's I = .32). When statistically analyzing locations of *forced burglary* in relation to Few Gardens recipients' housing location, however, there is little difference in the strength of the spatial relationship between 2000 and 2007. Although the scatterplots represent a much stronger relationship between forced burglary and housing in 2007 as compared to 2000, this can be explained by the differences in the X-axis. In 2007, the relationship *appears* stronger; this is only because the crimes are more scattered and there is a smaller interval of change occurring in the number of former Few Gardens residents per block group.

While it is unclear based on the comparison of the multivariate Moran and scatterplots which year has a stronger correlation between the location of forced burglaries and location of former Few Gardens residents, a BiLISA analysis graphically displays how forced burglary was dispersed throughout Durham County. *Figure 9* indicates a strong concentration of *forced burglary* and Few Gardens residents (in 2000) in two block groups (the former Few Gardens area), which is echoed in the two outliers shown in the scatterplot in *Figure 8*. 2007 BiLISA output shows hotspots of *forced burglary* and location of former Few Gardens residents (in red) being dispersed further from the initial Few Gardens area and downtown.

*Figure 9.*

**Bi-LISA Cluster Map (Forced Burglary and Few Gardens residents housing)**



Finally, regression analysis where the dependent variable is *forced burglary* and the independent variables are the same as used in the analysis above was conducted for 2000 and 2007. Results demonstrate that more of the variance in crime patterns (55%) was explained by the independent variables in 2007 than in 2000 (42%). None of the independent variables were statistically significant in their effect

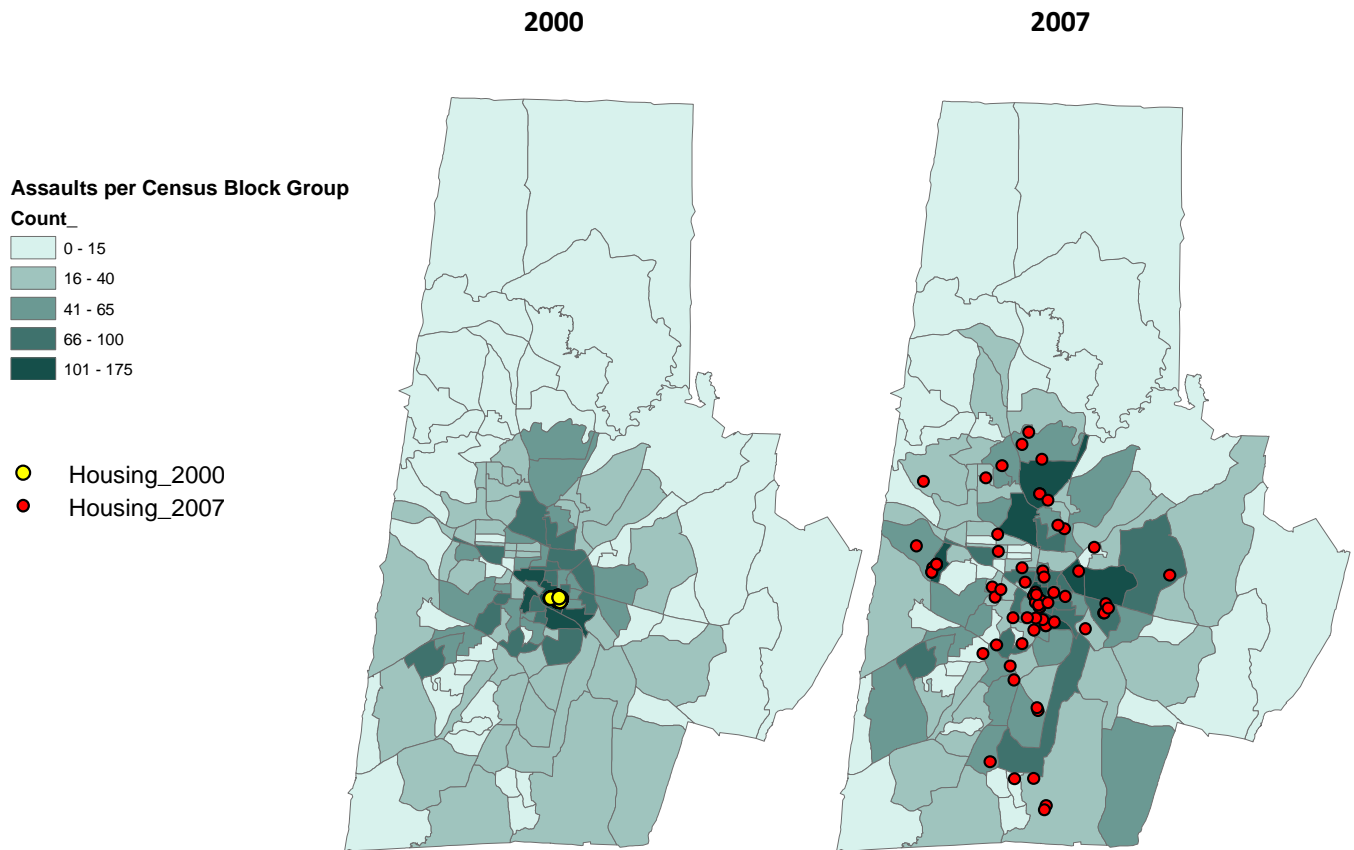
on *forced burglary* in 2000. In 2007, *average household size* and the *number of renter-occupied dwellings per block group* were statistically significant ( $p \leq 0.05$ ). Average household size was particularly influential as for every unit increase in average household size, *forced burglary* will increase an estimated 13.67 units. While the location of former Few Gardens residents was insignificant in the regression analysis with all independent variables included, removing *average household size* from the regression calculation significantly lowered the p-value of location of former Few Gardens residents. The value was not statistically significant, however, until the housing location was analyzed with forced burglary by itself, thereby removing all other independent variables.

*Assault* is the final type of crime examined in the present study. Results are similar to *forced burglary*, with the Univariate Moran's I statistic, examining the spatial autocorrelation of crime by itself, being much stronger in 2000 (.51) versus 2007 (.32). *Figure 10* presents two maps created in GIS that portray the total number of *assaults* (in 2000 and 2007) occurring in each block group with the location of Few Gardens residents in 2000 (yellow) and 2007 (red). It is evident from these images that the spatial pattern of *assaults* is concentrated in the former Few Gardens area in 2000. By 2007, *assaults* are more dispersed throughout Durham County, but not exclusively to regions where former Few Gardens residents relocated to. In fact, many former Few Gardens residents moved south to block groups that have among the lowest levels of *assault*. The level of spatial autocorrelation shown in multivariate Moran's I (crime and housing) is similar in 2000 and 2007.

Regression analysis reveals that the spatial distribution of *assaults* is more strongly correlated with the independent variables in 2007. Finally, similar to the analysis of *forced burglary*, no independent variables have a significant effect on the spatial location and distribution of assaults in 2000. In 2007, average household size, renter-occupied dwellings, and the location of former Few Gardens residents all have a significant effect on the spatial distribution of assaults. If Average Household Size is removed as an independent variable in 2007, every one unit increase in the number of former Few Gardens residents per block group corresponds to a 2.37 unit increase in crime per block group.

Figure 10.

### Spatial Distribution of Assaults and Housing of Former Few Gardens Residents in Durham (2000 v. 2007)



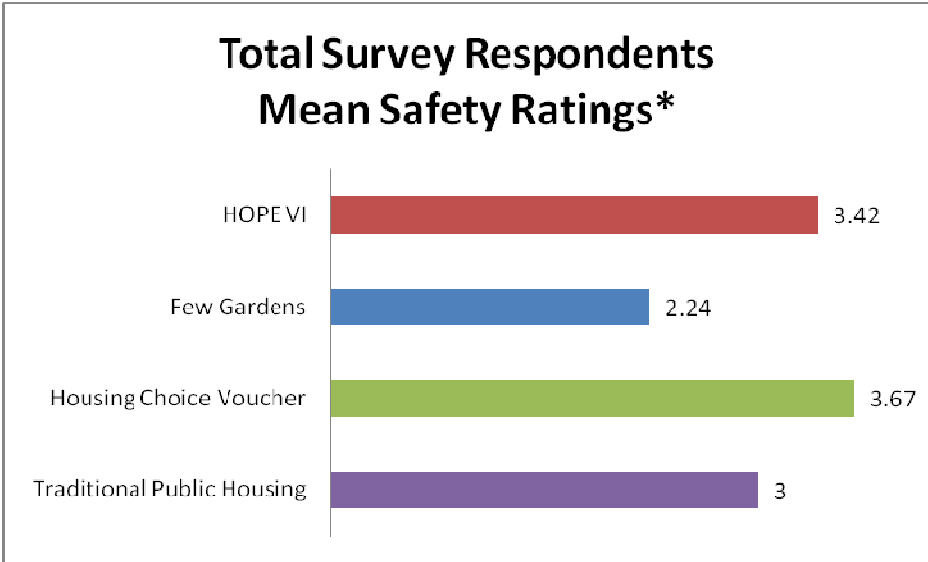
### Qualitative Results

Over 150 surveys were distributed (either by mail or in person) to former Few Gardens residents still receiving housing assistance, police officers, lieutenants, and commanders from all five police districts, and representatives from the Durham Housing Authority and city government who were actively involved in the Few Gardens Community, Housing Choice Voucher Program, or HOPE VI. The survey response rate was approximately 33%, with less than 50 completed, primarily from residents and police commanders. In order to keep the surveys confidential and unobtrusive, no demographic or personal information was requested, except for the current living environment (i.e. HOPE VI, private market, etc.) of former Few Gardens residents. The printed surveys presented similar questions to all groups, asking respondents to rate on a scale from 1-5 (1 = extremely unsafe; 5 = completely safe) the safety in Few Gardens and HOPE VI/the individual's current housing location (Housing Choice Voucher, Traditional Public Housing, etc.).

Survey recipients were also asked to list the types of crimes that occur in Few Gardens, HOPE VI, and other housing environments. Questions regarding the effectiveness of HOPE VI in reducing crime were also asked.

Overall mean ratings of safety for all respondents are exhibited in *Figure 11*. Respondents were asked to rate crime in different communities from 1 to 5, where 1= extremely unsafe and 5=completely safe. Results indicate that the Housing Choice Voucher Program is considered the safest amongst residents, police, and City/Housing Authority representatives who were actively involved in implementing the Section 8 and/or HOPE VI federal housing programs. Regardless of post-relocation housing type, average safety ratings indicate that all other housing options are safer than Few Gardens was considered to be.

Figure 11.

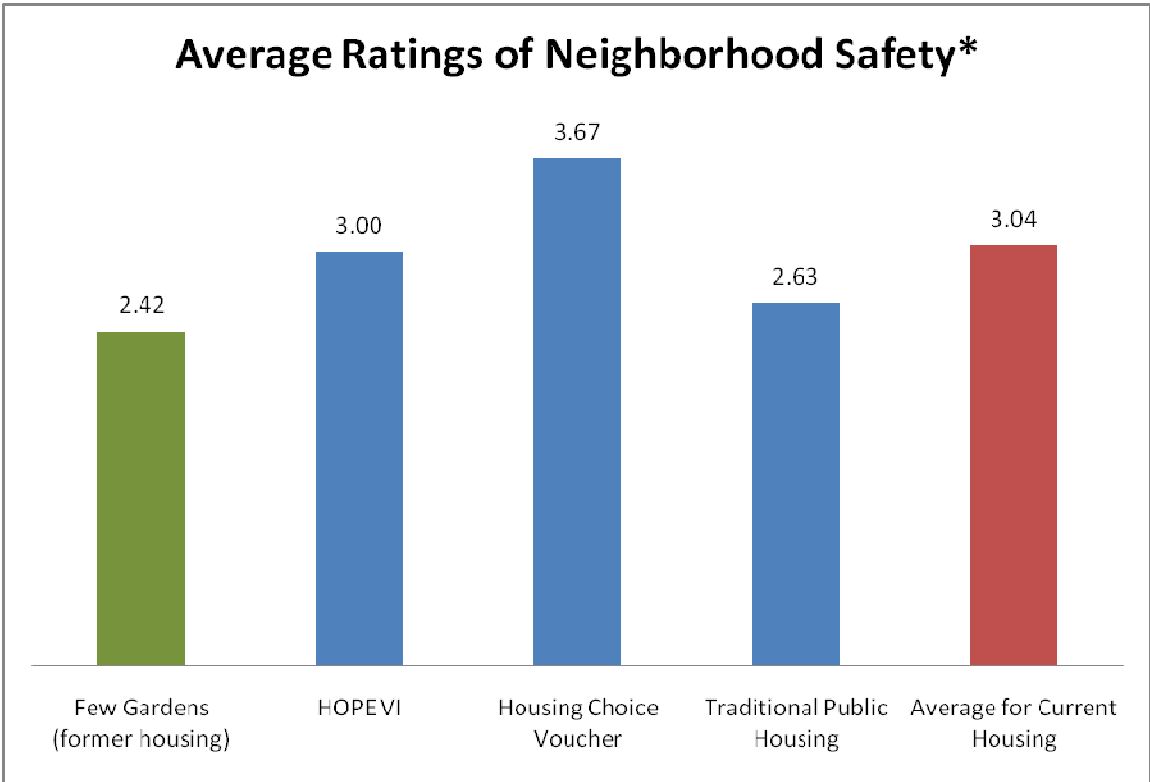


\*Data from surveys, where 1=extremely unsafe, 2=unsafe, 3=so-so, 4=safe, 5=completely safe; no concern

Results from surveys distributed to former Few Gardens residents, summarized in *figure 12*, indicate that former Few Gardens residents rate safety, on average, higher in their new neighborhood ( $\bar{x}$  = 3.04) when compared to Few Gardens ( $\bar{x}$  = 2.42). This trend is consistent across every housing type, although residents who moved into Traditional Public Housing (i.e. Club Blvd, Cornwallis Road, Damar Court, Laurel Oaks, Liberty Street, McDougald Terrace, Morreene Road, Oxford Manor) give their new housing community a much lower safety rating than residents living in HOPE VI or using the Housing Choice Voucher Program. Data analysis consistently demonstrates that Durham residents hail the independence and responsibility gained from the Housing Choice Voucher program, claiming that the city “need[s] to update more houses for Section 8.” Residents renting in these non-government subsidized apartments or

single-family dwellings (Housing Choice Voucher) also rate safety substantially higher than any of the other housing options ( $\bar{x} = 3.67$ ). While these trends are consistent with other findings in this report and other studies about the effectiveness of federal government housing programs, total frequencies for residential responses are under 20, indicating that results do not represent statically significant conclusions.

Figure 12.

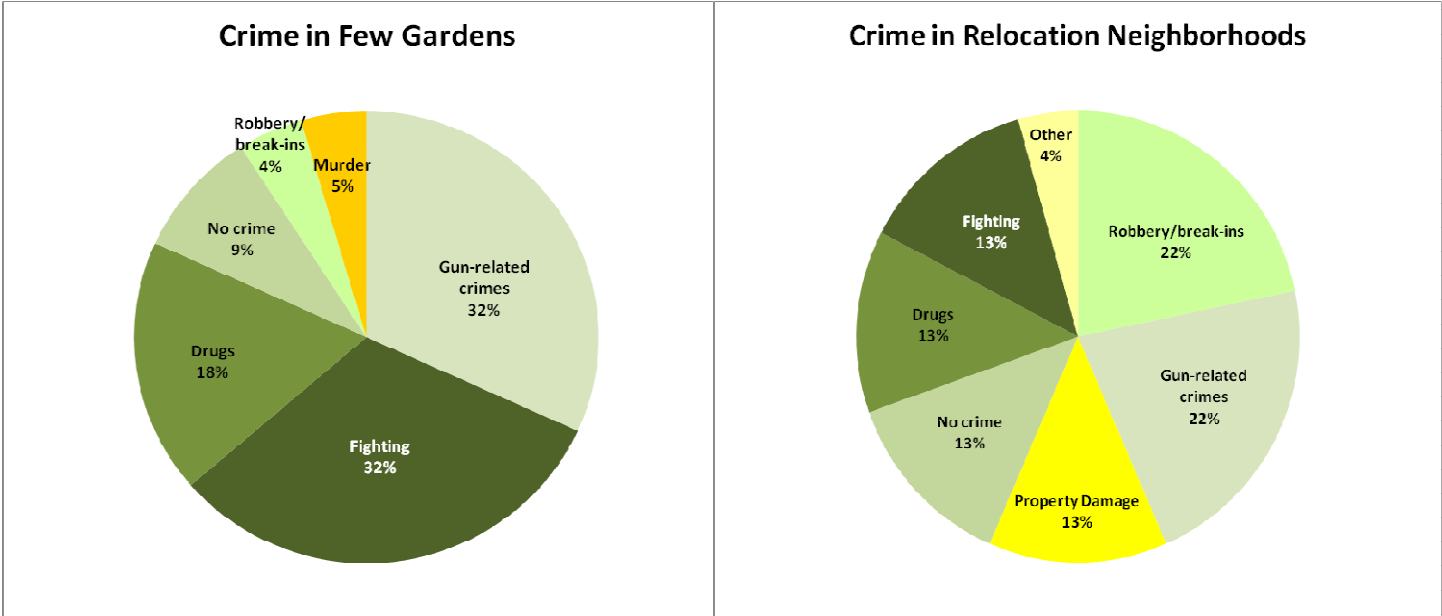


\*Data from mailed surveys, where 1=extremely unsafe, 2=unsafe, 3=so-so, 4=safe, 5=completely safe; no concern

Figure 13 presents the various types of crimes indicated by former Few Gardens residents in their old community, versus in their present living situation. Results indicate that violent crimes (fighting and gun-related incidents) and drug-related crimes had a much greater presence in the Few Gardens neighborhood as compared to residents’ new communities. Property-related crimes, however, increased in the new communities according to resident survey responses. Finally, no residents indicate murder as an occurring crime in their new community; this type of crime represents 5 percent of the crimes experienced by residents in Few Gardens. There is also a greater number of former Few Gardens residents who indicate that there is “no crime” in their new neighborhood, as compared to Few Gardens.

Figure 13.

Crime in Few Gardens v. Crime in Relocation Neighborhoods



A closer examination of crimes being experienced in the relocation neighborhoods of former Few Gardens residents reveals a sharp difference in the types of crimes occurring, depending on the type of community. More specifically, residents having been relocated into traditional public housing complexes indicate that shootings, drug abuse, and robbery are the most frequent crimes in their new communities, and that the violence was often worse than in Few Gardens: “not as much shooting in Few Gardens...and I’ve never been robbed in Few Gardens.” This negative sentiment was also echoed by some residents in the HOPE VI community, where respondents claim to experience robbery, property damage, and other violent crimes. Residents who currently use the Housing Choice Voucher program experience the least severe crimes (i.e. no violent crimes) and cite some problems with lose dogs and occasional theft.

Results of surveys from the Durham Housing Authority and city government representatives are substantially different when compared to responses of former Few Gardens residents. Interviewees from these departments include the HOPE VI property manager, program manager, and director of development, the Program Manager for the Resident Services Department of the Durham Housing Authority, and the director of the Northeast Central Durham Initiative, which focuses on revitalizing the former Few Gardens site and surrounding community. Survey results from City/Housing Authority representatives indicate a greater discrepancy between safety in Few Gardens versus HOPE VI, as compared to survey results from residents. The majority of interviewees agree that “No question about it;

it [Few Gardens] was extremely unsafe.” The mean rating of safety in the Few Gardens neighborhood by Housing Authority and government representatives is 2.25, significantly lower than the ratings by former Few Gardens residents. The average safety rating of HOPE VI by Housing officials is 3.67, representing a “safer” rating than current HOPE VI residents. These values indicate that those officials actively involved in the demolition and redevelopment of Few Gardens have a more exaggerated view of the level of crime than did the residents actually living there and experiencing the crime first-hand. This amplification of neighborhood conditions can be attributed either to the negative *perception* of crime in public housing complexes throughout Durham, or that residents are too familiar and comfortable with crime in their neighborhoods to recognize their own risky living conditions.

Another common perception of crime by housing officials is demonstrated in the survey results from the HOPE VI program manager, who was intimately involved in the relocation of residents by serving as the lead case manager/relocation specialist for residents moving from Few Gardens to other complexes throughout Durham. The position has now evolved to designing, implementing, and overseeing the HOPE VI project. Through her experience with the project, the HOPE VI program manager believes that crime in the former Few Gardens corridor has reduced as a direct result of the federal housing program. The new mixture of residents in the community, more stringent employment and education criteria, better design principles, and higher rents are all reasons cited for the reduction in crime: “the clientele appears to be somewhat different from the previous public housing site.” This leads to the explanation that it is not the program in and of itself that is causing a direct reduction in crime, but, rather, the new mix of residents coming into the complex. However, the respondent also claims in the interview that “often the crimes are committed by someone who does not reside in the community.”

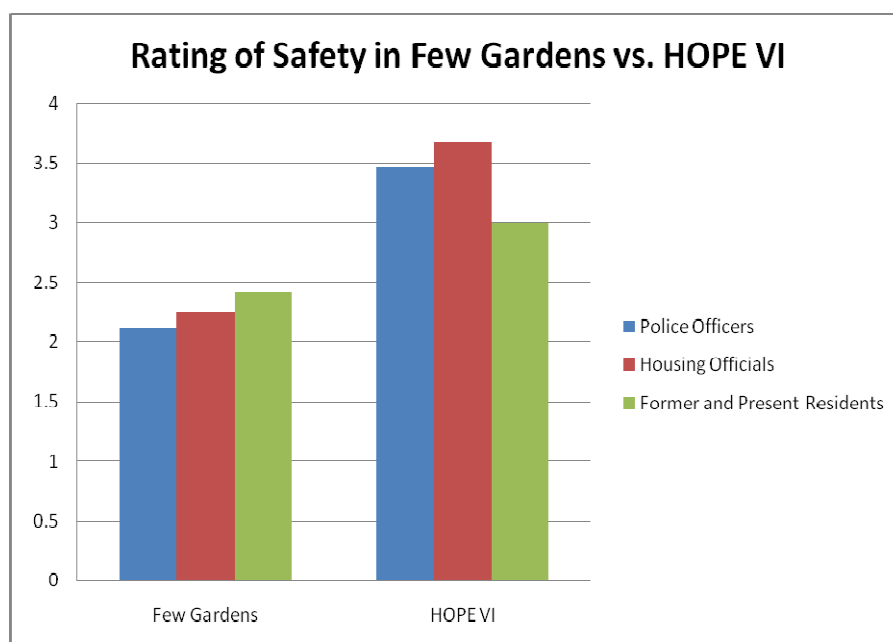
A more representative view of what the residents themselves are experiencing in the HOPE VI community was gathered in the interview with the current HOPE VI property manager, who works at the Hope VI property on Main Street. She claims that crime is not a localized situation and that it can easily occur in all Durham neighborhoods. Despite contrary statements from other Housing Authority representatives, the property manager indicates that crime has *not* changed as a result of the new federal program: “I would not even say that crime at Few Gardens was at an all-time high. There was a little crime there before, and there is a little crime there now.”

Finally, other City of Durham/Housing Authority representatives indicate that the reduction in crime in the former Few Gardens area has occurred because of the simultaneous implementation of a variety of crime prevention programs, availability of different types of housing, increased home ownership, an “excellent director of HOPE VI”, efforts by the Northeast Center Durham Leadership Council, the Bulls Eye

Program, and increased monitoring by the Durham Police and Sheriff's Department. In addition, one city official attributes the sharp change in crime patterns to a transformation in the community's mission and a renewed sense of responsibility, partially brought on by homeownership: "Crime has decreased and in order for it to continue to decrease, will require active participation from the community to ensure that they are doing their part in addressing any concerns with local police and neighborhood watch affiliations."

A final set of interviews were distributed to police officers in all five Durham police districts. A random sample of responses from officers and district commanders was obtained by requesting interviews from all district commanders and also by distributing surveys to any officers who attended the February Community Partners Against Crime (PAC) meetings, which occur monthly in each police district. The majority of officers recorded that they have had substantial involvement in one or more public housing complexes in Durham, typically both before and after Few Gardens was demolished. Three officers worked in criminal investigations in Few Gardens, three presently focus on public housing complexes (non-HOPE VI), and numerous ones currently work in PAC 5, the district where HOPE VI is located. Compared to the City of Durham and Housing Authority representatives, and former Few Gardens residents, police officers rate Few Gardens the most unsafe. The comparison among housing employees, former residents, and police officers' safety ratings is displayed in *figure 13*. As stated previously, results indicate that public housing residents see the smallest change in safety between Few Gardens and HOPE VI, as compared to police officers and City/Housing authority employees.

*Figure 13.*



\*Data from surveys, where 1=extremely unsafe, 2=unsafe, 3=so-so, 4=safe, 5=completely safe; no concern

The general opinion of police officers reveals that while HOPE VI did not eliminate crime in Durham, it made policing easier by not concentrating crime in one location: "If criminals are concentrated together their infrastructure is stronger, giving them the ability to commit more crimes." Despite this shift in crime, most police respondents claim policing improved and crime decreased after Few Gardens was demolished. Almost half of the police department respondents claim that policing was "less difficult" in their district after Few Gardens was demolished, compared to when it existed. The other half of police respondents' state there was "little impact, positive or negative" in terms of a change in crime after demolishing Few Gardens. Only two respondents state an increase in crime resulted from the public housing demolition.

When asked reasons why crime patterns changed after the demolition of Few Gardens and construction of HOPE VI, the most frequent response is related to the shifting around of the people who used to live in Few Gardens and were relocated to other sections of the city: "That group of folks went to District 4," "Younger, less civilly minded multiple child families [were] distributed into older single family neighborhoods." The second most frequent explanation from police officers for the change in crime patterns after HOPE VI was constructed involves the design of the development. Officers claim that because the buildings which were crime hot spots were destroyed, there was no place nearby for criminals to engage in bad behavior, resulting in an overall decline in criminal activity. Also, one officer states that because residents take greater pride in their revitalized community, the neighbors are more engaged in crime prevention measures. Durham police respondents were also fairly uniform in their opinion that crime moved from the former HOPE VI location to other public housing complexes, which ended up housing more residents after demolition. Only one officer stated the contrary, that "arrestees are not former Few Gardens residents" and that they are not responsible for the changing crime patterns.

Finally, when officers were asked whether or not crime decreased as a direct result of HOPE VI, over 75 percent of respondents stated that HOPE VI was *not* the primary influence in Durham's recent drop in crimes. Many respondents claimed that "HOPE VI was backed up by Bulls Eye and overall violent crime is down because of it." Bulls Eye, a program initiated by the city and police department staff in 2007, increased patrolling by 90 hours in Durham's two square mile area where 20 percent of crime was taking place. This is also an area with an estimated 700 vacant properties, prime spots for criminal and drug activity. According to an article quoting the Deputy Chief, Ron Hodge, both overall crime and violent crime rates were reduced by over 15 percent just six months after the program began.<sup>37</sup> Other police department respondents claim crime "has just moved with the tenants," that housing codes must be better

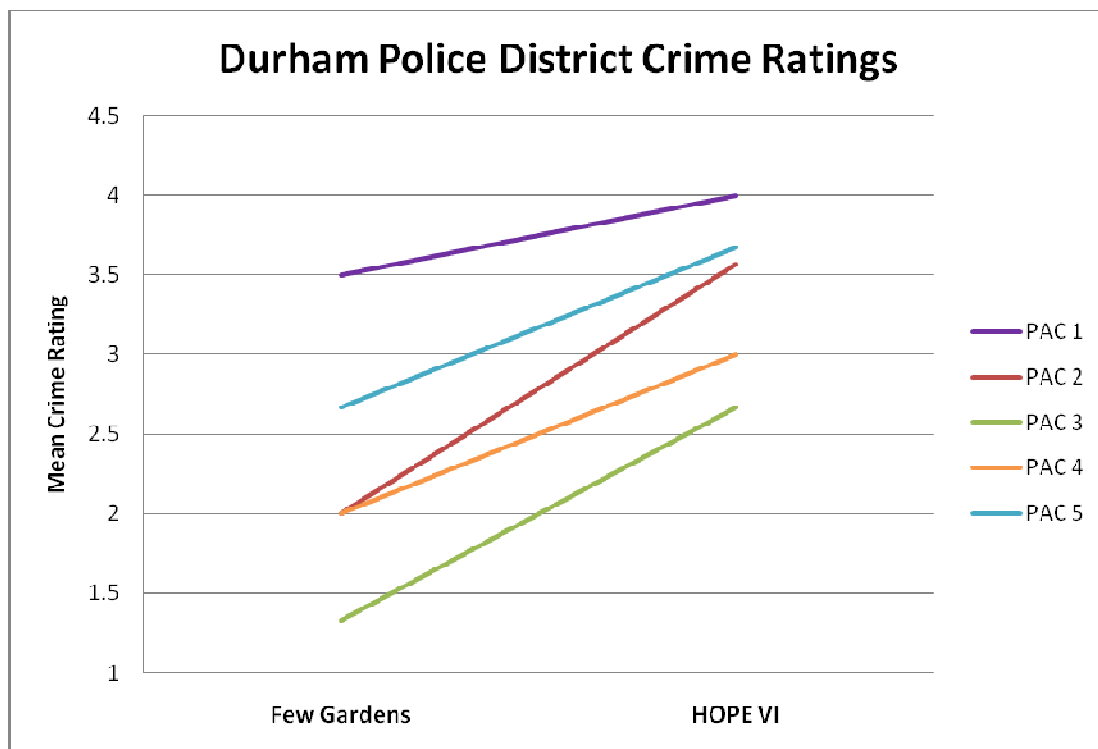
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<sup>37</sup> Green, J. (17 July 2008.) *Evaluating the Bulls Eye*. <http://durham.mync.com/site/Durham/news/story/5517>

enforced, and that community, city departments, and police efforts were the main reasons for change in crime patterns.

Police responses were broken down into the five Partners Against Crime (PAC) districts in the city, which correlate to Durham's five Uniform Police Districts. Each PAC/police district has its own patrol squads, command staff, Crime Area Target Team, investigators, Community Policing Team, and holds monthly meetings that focus on community crime prevention. This PAC breakdown is shown in *figure 2*, Few Gardens/HOPE VI is located within PAC/District 5. The police officers' opinions of the effects of HOPE VI and the Housing Choice Voucher program on crime in Durham was heavily influenced by which PAC/district the police officer is stationed in. *Figure 14* demonstrates that the police districts that rated Few Gardens the best in terms of safety (closest to 5), also rated the HOPE VI community much safer than other PAC districts. Similar to the resident surveys, the PAC that includes Few Gardens/HOPE VI (PAC 5) and the PAC which has the most low-income residents (PAC 1/PAC 5) ironically has the highest ratings of safety. The wealthiest communities, on the other hand (PAC 2 and PAC 3), rated safety lower in both Few Gardens and HOPE VI.

*Figure 14.*



\*Data from surveys, where 1=extremely unsafe, 2=unsafe, 3=so-so, 4=safe, 5=completely safe; no concern

The specific comments in each PAC made by officers reiterates the differing opinions of the effects of federal housing policy on local crime trends. Survey results from both PAC 1 and PAC 5 indicate that officers believe crime decreased in their districts as a result of the demolition of Few Gardens and the subsequent rebuilding of HOPE VI. PAC 3, on the other hand, has both the lowest rating of safety in Few Gardens and HOPE VI, and officers also frequently respond that they have received Few Gardens transplants who “acted out often.” PAC 2 police officials were the most likely to claim that HOPE VI had no effect on crime in Durham overall, the former Few Gardens area, or policing in their district.

## **Discussion**

Results from this study and others mentioned indicate numerous benefits from the most recent federal housing programs, including increased safety and quality of life for Durham residents in the revitalized area, decrease in blight, and a reduction in concentrated poverty. The challenge in this study and similar ones, however, is determining the true cause for the reduction in crime. Based on the present study’s analysis, crime patterns cannot be explained by a single, or perhaps even primary, factor. While results lean to federal housing policy as a contributing factor in the changing crime trends, there is no way establish a causal relationship. Results within and outside of this study, however, consistently find that localized crime diminishes after the implementation of the HOPE VI program. In Durham, this translates to a 19% reduction in crime, or more specifically, a decrease from approximately 17,348 instances in 2000 to 14,588 in 2007. This drop in *localized* crime, however, has cost the city in terms of the area affected, as crime is now more spatially dispersed throughout Durham, as indicated in numerous police interviews and LISA cluster maps/GIS renderings. Federal housing policy (specifically HOPE VI) serves to reduce crime in the immediate vicinity of the redevelopment area, but does not address community-wide crime.

In Durham, the majority of residents were unable to move back into the HOPE VI community after demolition and reconstruction, resulting in mass relocation to other public housing projects, renting through the Housing Voucher Program, or leaving assistance-based housing entirely. This movement of former Few Gardens residents to other areas of the city infers that *potentially* it is those residents causing dispersion of crime, following the former residents to their new housing location. However, interviews with former Few Gardens residents rated safety in the Housing Choice Voucher program as the greatest, compared to Few Gardens, HOPE VI, or traditional public housing complexes. In addition, statistical analysis of the correlation between former Few Gardens residents’ housing location and violent crimes

(specifically *assault* and *forced burglary*) demonstrates that crime did disperse from 2000 to 2007, but it did not have a statistically significant probability of being correlated to the *specific block group* of former Few Gardens residents.

Interviews and crime trends also suggest that there are many other factors in Durham leading to its successful reduction in crime from 2000 to 2007. Numerous police officers and city officials cite the Bulls Eye program as influential in the former Few Gardens area in increasing the number of patrol officers and also helping to boost community crime reduction initiatives. This increase in government, police, and citizen concern about crime in Northeast Central Durham potentially has a greater impact on the demonstrated crime reduction, than solely federal housing policy.

What can be concluded from this study is the positive influence HOPE VI has on the quality of life in the *specific* neighborhood that was revitalized. Spatial statistics consistently reveal a decrease in crime rates in the former Few Gardens neighborhood. As also verified in Bacon's (2006) study of crime in Durham, violent crime rates appear to decrease in the new neighborhoods residents moved into, as compared to the rates in the Few Gardens neighborhood, pre-demolition. Both residential and police interviews, as well as geographic and statistical analysis, support this reduction in concentrated violent crime.

#### *Housing Choice Voucher Program*

There are numerous factors revealed in this study and in other studies indicating the success of the Housing Choice Voucher Program in reducing neighborhood crime. One potential downfall of the program is that although most former Few Gardens residents have moved into better neighborhoods, they are still primarily low-income and minority areas, impeding the ability of former public housing residents to improve their quality of life. According to Kling's study (2004), the Housing Choice Voucher Program is only influential in reducing crime rates if individuals are placed into communities of lower crime and poverty rates than their former neighborhoods.<sup>38</sup> This could be a contributing factor as to why crime dispersed after many Few Gardens residents were displaced into poorer neighborhoods. Another consideration is whether the number of Housing Choice Voucher recipients in the neighborhood/block group affects its stabilization and ability to control crime.<sup>39</sup> Although the U.S. Department of Housing and Urban Development emphasizes the use of housing choice vouchers to deconcentrate low-income families and

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<sup>38</sup> Kling, J.R., J. Ludwig, L.F. Katz. (September 2004).

<sup>39</sup>Turner. April 2000. p. 9.

crime, many landlords still refuse to accept vouchers, resulting in a continuation of poverty and crime concentration.

Spatial dispersion of crime post-demolition of Few Gardens can also be interpreted by the collective efficacy theory, introduced by Sampson and Raudenbush in 1997. Collective efficacy is described as “social cohesion among neighbors combined with their willingness to intervene on behalf of the common good.”<sup>40</sup> The level of collective efficacy in a neighborhood is determined by the area’s informal controls and the level of trust and social cohesion. In neighborhoods where there is a high level of collective efficacy, the researchers found that crime was low. This theory is echoed in the present study because former Few Gardens residents moved from a public housing community with a strong collective efficacy, as indicated in various interviews, to new neighborhoods where there is often less social bonding, since neighbors are less likely to share the same socioeconomic hardships. If residents in their new communities felt a strong commitment to their neighbors, they would be more likely to be proactive in crime prevention. It is important, however, to point out that some studies (Pattillo, 1998) have refuted Sampson and Raudenbush’s theory, stating that neighborhoods with a high social cohesion have the most difficult time controlling crime because criminals are often members of the strongly bonded community and are thereby protected.<sup>41</sup>

### *Hope VI*

According to the statistical analysis in the present study, HOPE VI and its subsequent relocating of its original dwellers was in part responsible for the reduction of crime, specifically violent crime, in the former Few Gardens area. A potential pitfall of this program, however, is that crime dispersed from one centralized area in Durham to various locations throughout the city, at the same time frame as Durham’s HOPE VI demolition/reconstruction efforts. Despite this spatial scattering of crime, the majority of police officers responded that policing was less difficult since the HOPE VI program was implemented in Durham. Wilson’s 1982 “Broken Windows Theory” provides an explanation to the dispersion of crime after HOPE VI was constructed. Wilson claims that in areas where there is a high *perception* of crime, typically marked by graffiti, damaged property, loitering, drunkenness, and solicitation of prostitution, actual crime rates will rise. Numerous police officers echoed this idea that “Durham developed a bad rep, because of the surrounding towns. People who never set foot in Durham make bad comments.” Moreover, the link

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<sup>40</sup> Sampson, R. J., and S.W. Raudenbush. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science* 277.

<sup>41</sup> Pattillo, M. E. 1998. Sweet Mothers and Gangbangers: Managing Crime in a Black Middle-Class Neighborhood. *Social Forces*. 76 (3).

between actual disorder and fear of crime causes residents to use the streets less often and therefore are less involved in crime prevention.<sup>42</sup> It is possible that former Few Gardens residents moved from Few Gardens into equally as destructive, if not worse, neighborhoods. Because of HOPE VI's initiative to construct residences of quality urban design, it is likely that design helped decrease the negative stigma of that particular section of the city, resulting in a lower perception of crime and a corresponding decrease in actual crime rates around HOPE VI.

Durham was also successful in reducing crime in the HOPE VI community because of its strict residential screening, including drug testing and a background check for criminal activity, allowing only the "best" residents to return. In addition, many HOPE VI developments have enhanced security procedures or partnerships with local police departments. Screening is less likely to take place in the private market or with renters using vouchers. One former Few Gardens resident reiterated the idea that it is not the HOPE VI programmatic efforts that have led to a reduction in crime, but the changing population living in those complexes: "Buildings don't change; it's people that bring their selves into the communities that cause problems."

#### *The True Cause of Crime Dispersion*

While spatial statistics indicate that crime, dispersed from the former Few Gardens area from 2000 to 2007, there is no direct evidence that it is the Few Gardens residents themselves who were causing these crimes. Residents often ended up moving to block groups where there was a very low crime rate. Also, the small number of people who located from Few Gardens into other housing developments pales in comparison to the number of other residents who were already residing in those complexes. Therefore, it is unlikely that it is the Few Gardens residents who caused the increase in crime. Bacon (2006) argues that "as lower income, often politically and economically marginalized citizens, the former residents may be more prone to robbery, and hence are more likely to be victimized wherever they live."<sup>43</sup> The correlation of crime dispersion and the location of former residents is therefore caused by larger societal factors, not by individual citizens. In addition, Pattillo's (1998) theory might argue that although residents are not criminals themselves, the criminals are linked to their social networks, thereby causing crime to follow previous Few Gardens residents. However, this contradicts with the decrease in crime in the Hope VI

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<sup>42</sup> Wilson, J. Q., and G. L. Kelling. (1982). Broken Windows. *Atlantic Monthly* 249.3

<sup>43</sup> Bacon. p. 54.

community, thereby removing the residents as the sole reason for the changing crime patterns and new crime hotspots.

Finally, Shaw and McKay (1942) propose a theory that would argue against former Few Gardens residents being the direct reason for the increase in crime in the neighborhoods they move into. The social disorganization theory states that economically disadvantaged neighborhoods remain centers of crime, even when local residents move. This is because the families who are able to climb up the economic ladder consistently chose to leave the community, leaving those with the lowest socioeconomic status in the community.<sup>44</sup>

### *Limitations and Additional Research*

One of the limitations of the present study is that it is difficult to determine whether the federal housing programs are the primary reason for changes in criminal behavior patterns. Bacon's similar 2006 study in Durham recognizes that "interpersonal crimes, such as violent crime in general and homicide in particular, are based on social interactions and are therefore subject to diffusion processes."<sup>45</sup> This indicates that many acts of violence are targeted and purposeful and would be orchestrated around the victim of the crime, not its location, or a result of changing housing patterns. To better counter this problem, additional variables can be controlled for in future studies, including median household income and the number of single-parent households per block group. The present report would have benefited from having a larger sample size and also sending surveys to the "receiving" neighborhoods, to analyze their perception and potential impacts from the increase in former Few Gardens residents.

This study also examines crime as a point pattern, as opposed to standardizing crime and independent variables as a rate (i.e. by population size and/or block group size). To get a more adequate measure of crime patterns in Durham, future analysis should be run as proportions. Results could also be strengthened using multiple regression models, aside from OLS regression, used in this report. Finally, spatial analysis was conducted at block group levels, which vary in size and shape depending on the population. Blocks that are small and clustered tend to have denser population, while larger, sprawling blocks are more underdeveloped. This element of uncertainty can be controlled in future studies by

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<sup>44</sup> Shaw, C. R., and H. D. McKay. (1942). Juvenile delinquency and urban areas, a study of rates of delinquents in relation to differential characteristics of local communities in American cities. Chicago, Ill.: The University of Chicago Press.

<sup>45</sup> 11. Bacon, M.T. (2006). A Spatial statistics examination of changes in violent crime patterns following a housing redevelopment project. The University of North Carolina at Chapel Hill. Master's thesis.

running the same analysis using a regular lattice of uniformly shaped cells, thereby separating Durham into equal parts, based on location, not population.

## Implications and Conclusion

Regardless of the *specific* causes of the reduction in crime in the former Few Gardens community and Northeast Central Durham, the HOPE VI project and corresponding crime reduction has made the area a much more aesthetically pleasing corridor, attracting long-awaited private commercial and retail investment. Scientific Properties, a private developer, opened a mixed-use (artists' lofts, rental units, office space) development across from the HOPE VI project, which also houses the City of Durham's Departments of Housing and Community Development and Neighborhood Improvement Services, along with over fifteen artists' studios and apartments. Additional activity is expected along the Angier/Driver and East Main Street corridor with a commercial streetscapes project and a larger neighborhood revitalization project funded by GlaxoSmithKline. Federal government housing programs can also help to decrease the large cost of crime, which according to Turner's 2007 report, is approximately \$6,360 per crime.<sup>46</sup> Reducing crime in housing projects decreases public costs by reductions in criminal justice system processing, police emergency system responses, legal proceedings, and incarceration.

This report also demonstrates the importance of comprehensive approaches to solving community issues. While federal housing policy has been statistically significant in reducing various violent crimes in Durham, the number of vacant houses and the number of people per household also had statistically significant effects on crime reduction in some regression models. By utilizing a comprehensive community development strategy to crime reduction, where dilapidated public housing is demolished, vacant homes are boarded, and communities become more actively involved, there is a much greater chance for not only targeted crime reduction, but regional as well. Other methods to reduce crime in public housing can include strict screening criteria; site design that creates a safe, open, and personable environment; partnership with local police authorities; resident participation in crime reduction strategies.

This study demonstrates that federal housing policy cannot be successful without the inclusion of various other social services and commitment from other parties. The goal of federal housing policy should not be to accomplish short-term and localized reductions in crime, but instead to create comprehensive and long-term commitments to eliminating crime. While HOPE VI is clearly successful on a small scale,

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<sup>46</sup> Turner, M.A., et al. (June 2007). Estimating the public costs and benefits of HOPE VI investments: Methodological report. Washington, D.C.: The Urban Institute.

there is not enough federal funding to transform all public housing complexes into mixed-use, better designed developments. Also, the residents most in need are displaced out of those communities based on strict screening criteria. In order to better impact the health and well-being of all public housing recipients and the communities in which they reside, the federal government must continue developing comprehensive and long-range plans for improved housing programs, while both qualitatively and quantitatively analyzing the effects of current federal programs. Creating a collaborative program with local government and private enterprises is one strategy for developing programs that are more suitable to the particular community, are beneficial to more residents, and have greater long-term sustainability.

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