

U.S. Department of Justice
Office of Justice Programs
National Institute of Justice



National Institute of Justice

Research Report

Drugs and Crime in Public Housing: A Three-City Analysis

145329

About the National Institute of Justice

The National Institute of Justice, a component of the Office of Justice Programs, is the research and development agency of the U.S. Department of Justice. NIJ was established to prevent and reduce crime and to improve the criminal justice system. Specific mandates established by Congress in the Omnibus Crime Control and Safe Streets Act of 1968, as amended, and the Anti-Drug Abuse Act of 1988 direct the National Institute of Justice to:

- *Sponsor special projects and research and development programs* that will improve and strengthen the criminal justice system and reduce or prevent crime.
- *Conduct national demonstration projects* that employ innovative or promising approaches for improving criminal justice.
- *Develop new technologies* to fight crime and improve criminal justice.
- *Evaluate the effectiveness of criminal justice programs* and identify programs that promise to be successful if continued or repeated.
- *Recommend actions* that can be taken by Federal, State, and local governments as well as private organizations to improve criminal justice.
- *Carry out research on criminal behavior.*
- *Develop new methods of crime prevention* and reduction of crime and delinquency.

The National Institute of Justice has a long history of accomplishments, including the following:

- Basic research on career criminals that led to the development of special police and prosecutor units to deal with repeat offenders.
- Research that confirmed the link between drugs and crime.
- The research and development program that resulted in the creation of police body armor that has meant the difference between life and death to hundreds of police officers.
- Pioneering scientific advances such as the research and development of DNA analysis to positively identify suspects and eliminate the innocent from suspicion.
- The evaluation of innovative justice programs to determine what works, including drug enforcement, community policing, community anti-drug initiatives, prosecution of complex drug cases, drug testing throughout the criminal justice system, and user accountability programs.
- Creation of a corrections information-sharing system that enables State and local officials to exchange more efficient and cost-effective concepts and techniques for planning, financing, and constructing new prisons and jails.
- Operation of the world's largest criminal justice information clearinghouse, a resource used by State and local officials across the Nation and by criminal justice agencies in foreign countries.

The Institute Director, who is appointed by the President and confirmed by the Senate, establishes the Institute's objectives, guided by the priorities of the Office of Justice Programs, the Department of Justice, and the needs of the criminal justice field. The Institute actively solicits the views of criminal justice professionals to identify their most critical problems. Dedicated to the priorities of Federal, State, and local criminal justice agencies, research and development at the National Institute of Justice continues to search for answers to what works and why in the Nation's war on drugs and crime.

PREFACE

The research described in this report was supported by the National Institute of Justice, U.S. Department of Justice. The research is designed to provide an objective, quantitative description of the extent and nature of crime in selected public housing developments. It presents an analysis of rates of drug, violent, and property offenses in public housing developments in Los Angeles, California; Phoenix, Arizona; and the District of Columbia for the period 1986-1989. It also compares the rates of these types of offenses in public housing to rates in nearby urban areas containing private housing and to rates in the cities overall.

The report should be of interest to federal, local, and private agencies concerned with crime in public housing and public housing safety in general. It will be of particular, though not exclusive, interest to those who are concerned with the problems of drugs in public housing. At the federal level, audiences include the Department of Housing and Urban Development, the Department of Justice, the Office of National Drug Control Policy, and the National Commission on Severely Distressed Public Housing. At the municipal level, city police, housing authorities, housing authority police, city departments of social services, public housing resident councils, community groups, mayors' offices, and city councils should benefit from the availability of an objective description of the crime problems that they wish to control. This is particularly true for groups in the three study cities.

The report also complements the recent and growing evaluation literature regarding techniques of drug and other law enforcement in public housing developments. More generally, the report extends the existing literature on urban policing, safety in public housing and other urban neighborhoods, and drug control techniques.

**U.S. Department of Justice
Office of Justice Programs**

**National Institute of Justice
Winifred L. Reed
Acting Director
Evaluation Division**

**David Hayeslip
Project Monitor**

145329

**U.S. Department of Justice
National Institute of Justice**

This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated in this document are those of the authors and do not necessarily represent the official position or policies of the National Institute of Justice.

Permission to reproduce this [REDACTED] material has been granted by

Public Domain/OJP/NIJ
U.S. Department of Justice

to the National Criminal Justice Reference Service (NCJRS).

Further reproduction outside of the NCJRS system requires permission of the [REDACTED] owner.

This project was supported under award number 91-IJ-CX-K024, award to the RAND Corporation, Los Angeles, California, by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Opinions or points of view expressed in this document are those of the authors and do not necessarily reflect the official position of the U.S. Department of Justice.

NCJ 145329

The National Institute of Justice is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance, Bureau of Justice Statistics, Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime.

Drugs and Crime in Public Housing: A Three-City Analysis

**Terence Dunworth
Aaron Saiger**

**A Final Summary Report Presented to the National Institute of Justice
March 1994**

SUMMARY

CONTEXT OF THE STUDY

This document discusses rates of serious crime for selected public housing developments in three cities: Los Angeles, California; Phoenix, Arizona; and Washington, D.C. Rates are discussed for the four years from 1986 to 1989. Three major questions guide the research:

- How can crime problems in housing developments be quantified using existing records?
- What are the rates of drug and other serious offenses in conventional public housing developments, and how do these rates compare to rates citywide and in urban neighborhoods close to public housing?
- What is the extent of variation in offense rates among individual housing developments?

In addition, the report considers the extent of law enforcement activity, as represented by arrests in housing developments, and compares it to arrest levels in other areas.

The motivation for the research is illustrated by events that occurred in early 1989. Then-Secretary of Housing and Urban Development (HUD) Jack Kemp visited public housing developments in Baltimore and Philadelphia and personally observed "the public and open sale of drugs" (Mariano 1989). Subsequently, he instructed the directors of the more than 3,300 public housing authorities in the United States to report to him on the volume of drug trafficking occurring in the developments under their jurisdiction and to indicate what actions they planned to reduce and eventually eliminate drug problems. Roughly 1,100 directors responded, most of them making two points: first, that the problem was severe and in need of urgent attention; and second, that data that would permit a reliable assessment of the size of the problem simply did not exist (U.S. Department of Housing and Urban Development 1989).

The first component of the response reflected a general perception that still holds true today: that crime and vandalism, long endemic in public housing, have been significantly exacerbated by drug abuse, and particularly by the crack epidemic that swelled in the mid-1980's. Police have described the more notorious developments as "jungles" that they are reluctant even to enter (McInerney 1988). Speaking of one of Los Angeles's most seriously affected developments during an interview with the researchers, an L.A. Housing Authority police department official quipped, only half in jest: "We own it; they run it." "They," of course, are the drug dealers.

Given this level of concern about the drug and crime problem, it was clear that a response by legislators, HUD, housing authorities, and law enforcement agencies would be forthcoming.

HUD quickly implemented changes in eviction policy, authorized local authorities to use Comprehensive Improvement Assistance Program (CIAP) funds — normally reserved for capital improvements in housing developments — to meet drug-control goals and reaffirmed its commitment to combating drug-related crime in public housing with whatever resources it could muster. In addition, HUD implemented the Public Housing Drug Elimination Program, putting into effect the congressional mandate embodied in the 1988 Anti-Drug Abuse Act (P.L. 100-690). This legislation authorized HUD to make grants to individual housing authorities for drug control programs and was followed by congressional appropriations that, between 1989 and 1993, totaled more than \$500 million.

However, none of this activity changed the fact, illustrated by the second component of the responses to the HUD 1989 survey, that nobody knew how big the problem actually was because no reliable data existed. There had even been some research suggesting that the crime problem might not be that much worse in public housing developments than in the surrounding city (Farley 1982). There was also no established methodology for developing the needed data. Though a number of housing authorities reported that they were working with local police departments in an effort to generate project specific assessments of the magnitude of drug crime, few claimed to have successful results in hand. Consequently, there was no satisfactory way to empirically demonstrate the scope and nature of drug use and drug crime in public housing. This meant that drug control policy had to be developed without the assistance that such information could provide.

This lack stimulated an interest in research to quantitatively investigate the public housing drug crime problem. This study is one of several developments that resulted.

RESEARCH DESIGN AND METHODOLOGY

Though it would unquestionably be desirable to address questions about public housing crime in a way that would allow general inferences to be made about all public housing in the United States, the size of the public housing system makes achieving such an objective an extremely daunting task. There are more than 3,000 public housing authorities in the country, most of them individual legal entities operating within a city governmental structure that they neither control nor fully belong to. These authorities are responsible for more than a million conventional public housing units, which have more than 3.5 million residents (Weisel 1990). To study these populations in a representative way would require a sample size far in excess of any that is possible under the funding levels that are commonly available for research of this kind.

Therefore, like most other research in this area, this study addresses crime for a very limited number of locations. As noted above, three cities were selected: Los Angeles, Phoenix, and Washington, D.C. Within those cities, researchers studied a total of 29 conventional housing

developments that house almost 35,000 residents — more than 50% of the entire public housing population within each city. This is a significant proportion. However, there is no basis for asserting that the population considered is representative of the total U.S. public housing stock or resident population. Consequently, any inferences to public housing at large should be drawn only with the greatest caution.

To accomplish the goals of the research, city police departments were asked to provide incident-based, machine-readable files of all offenses and arrests that occurred between 1986 and 1989 for the areas under study. The address information in each offense and arrest record was then used to match records to selected housing developments.

In order to compare offense rates in housing developments to rates in nearby areas of private housing, the address matching procedure was repeated for several census tracts in each of the three cities referred to as "nearby neighborhoods." These neighborhoods were selected using the following criteria: the absence of public housing developments; geographic proximity to the selected housing developments; the absence of major non-residential features such as sports stadiums or factories; and demographic similarity to the selected housing developments, insofar as possible given the other requirements. Thus, the nearby areas are neither a random sample of inner city neighborhoods nor a "control" group of private-housing neighborhoods identical in all other respects to public housing. In fact, no such "control" group could be chosen, since public housing developments are associated with certain characteristics — high poverty rates, skewed racial makeup, and high concentrations of the young and the elderly — unlikely to be shared by most other areas.

At the same time, the areas selected for comparison purposes and housing developments have several important similarities. As neighborhoods close to housing developments, comparison areas represent the urban context in which public housing is situated and where its residents live. Moreover, both types of areas have social and economic characteristics commonly associated with urban distress, although to different degrees. In this respect, the comparison areas represent a middle ground between the problems of the development on the one hand and citywide conditions on the other.

Finally, demographic information for housing developments and nearby neighborhoods, developed from housing authority and census data, was used to standardize offense and arrest counts by population. Comparable citywide statistics were also compiled to provide a broader context within which the housing development and other area results could be placed.

This process allows both intra-city and inter-city comparisons to be made in this study. Within each city, criminal activity that takes place inside housing development borders is contrasted with the activity that occurs in areas of private housing and in the city at large. In addition, variation

among housing developments in the same city can be examined, and comparisons among the various cities can be made along the same dimensions.

MAJOR FINDINGS

Public Housing Offense Rates Can Be Calculated for Many Cities Using Existing Records

Many cities maintain computerized information systems that describe offenses and arrests. Such systems may be used as the basis for calculating public housing offense and arrest rates. In order for this to be done, the recording system must be incident based and must record the location, offense type, and date of each offense and arrest. The city must also have the political willingness and the logistical and technical ability to provide the information. If these criteria are met, the location field in each incident record can be matched against information on the location of housing developments, producing a count of offenses and arrests for each development. Development totals can then be standardized on a *per capita* basis, using the data on the size of resident populations that housing authorities maintain in compliance with regulations of the U.S. Department of Housing and Urban Development.

This methodology can also be used to develop rates for any other arbitrarily defined area of the city; *per capita* rates can be calculated using data from the U.S. census. This allows housing development offense and arrest rates to be compared to those in nearby neighborhoods or in other areas of interest.

This methodology unavoidably introduces several types of error. Official police statistics offer an incomplete picture of crime and are affected by differential patterns of police deployment and citizen reporting. Demographic information maintained by housing authorities, like census data, is also known to be incomplete. However, these sources provide the only data available that are incident-based, consistently and constantly gathered across multiple areas (and, in the case of police data, for long periods) and include detailed location information. Although sources of error should not be ignored, the comprehensiveness and level of detail of these data provide advantages that far outweigh the problems associated with their use.

Public Housing Drug and Violent Offense Rates Are Very High Relative to Other Areas

This study clearly demonstrates that drug and violent offenses are severe problems in housing developments. The situation is illustrated by the data presented in Figures S.1 and S.2.

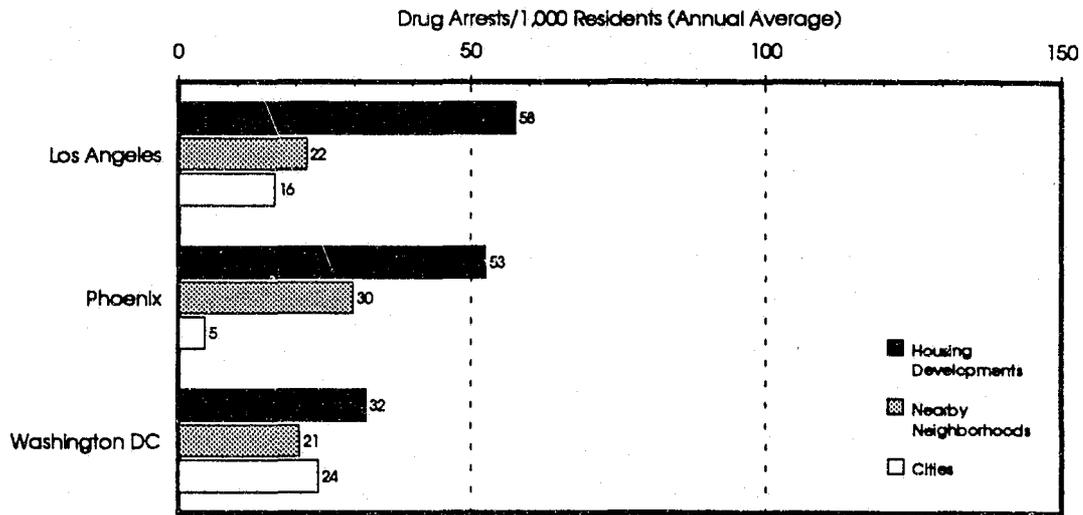


Fig. S.1—Rates of Drug Offenses in Housing Developments and Other Areas, 1986-1989

These show that from 1986 to 1989, average annual rates of drug offenses in housing developments were 33 per 1,000 residents in Washington, D.C., 53 per thousand in Phoenix, and 58 per 1,000 in Los Angeles.¹ Rates of violent offenses are even higher — 41, 54, and 67 per 1,000 in Washington, Phoenix, and Los Angeles respectively.

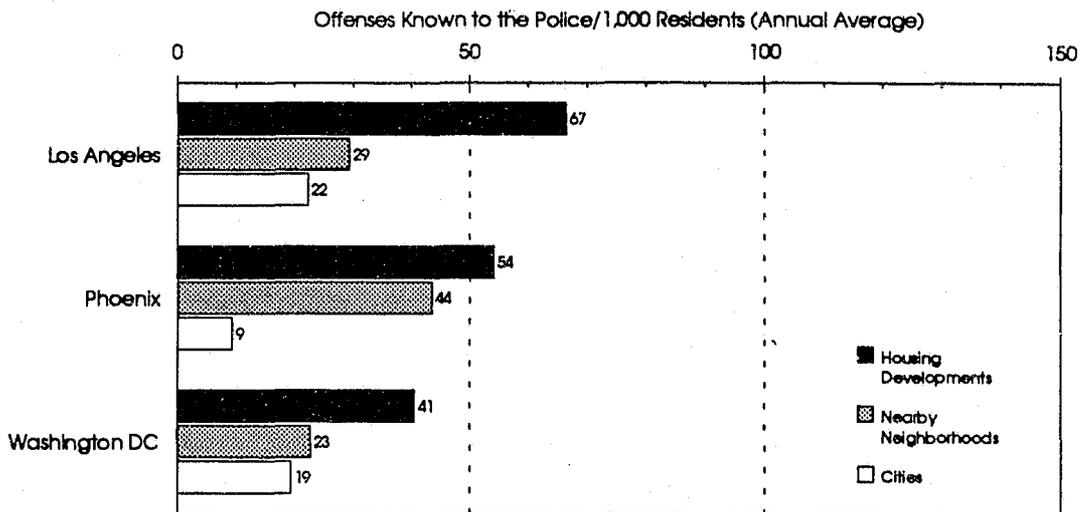


Fig. S.2—Rates of Violent Offenses in Housing Developments and Other Areas, 1986-1989

¹This study uses drug arrests as a proxy measure for drug offenses. The rationale for this approach is discussed in Chapter 2.

In all three cities, these rates are higher than citywide or nearby neighborhood rates for the same kinds of offenses and are substantially higher than citywide rates. Furthermore, development offense rates are much higher than what most large urban communities experience. In 1989, for example, only one of the 58 cities with populations greater than 250,000 had a violent offense rate comparable to these development rates. The vast majority of cities have rates that are much lower (Bureau of Justice Statistics 1991).

Reported Property Offense Rates Are Relatively Low in Housing Developments

Rates of serious property offenses — burglary, larceny, and motor vehicle theft — do not show the same pattern in public housing as drug and violent offense rates (Figure S.3). In Washington and Los Angeles, property offense rates in housing developments are considerably lower than citywide rates. In Phoenix, the property offense rate in housing developments exceeds the Phoenix city rate, but is considerably lower than the rate in nearby neighborhoods.

There are several plausible explanations for the relatively low rates of serious property offenses in public housing developments, although this research does not permit such explanations to be evaluated with any certainty. In general, low-value losses and uninsured losses are relatively unlikely to be reported to police. This means that a higher proportion of property offenses will be reported in wealthy areas than in poor ones. Public housing residents may also be less likely than their wealthier counterparts in other areas of the city to report property offenses regardless of the value of the loss, believing, accurately or inaccurately, that such reports will not lead to desirable results. Finally, it may simply be that property offense rates in particularly poor areas may be low

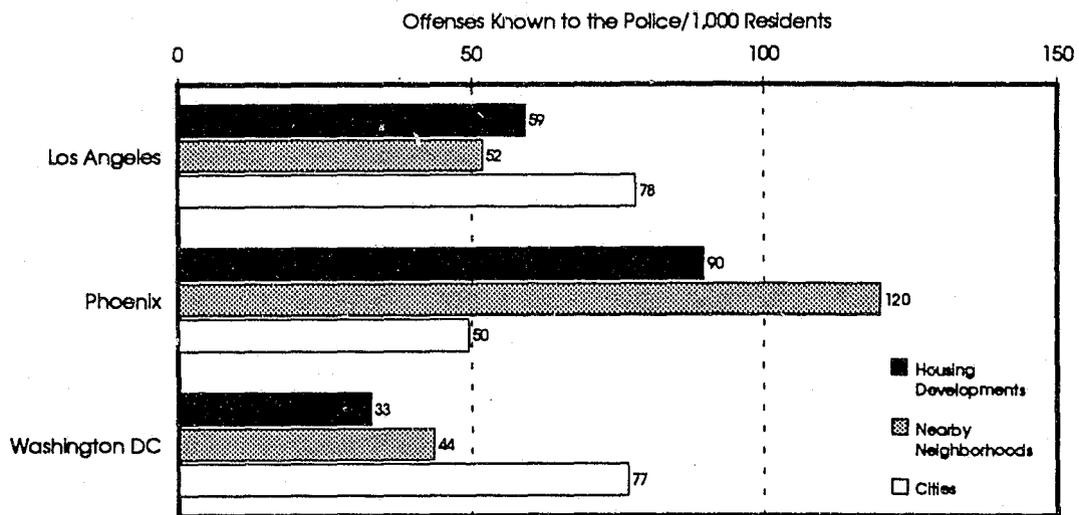


Fig. S.3—Rates of Reported Property Offenses in Housing Developments and Other Areas, 1986-1989

because there is relatively little of value to steal. These possibilities are obviously not mutually exclusive and so there may be a combined effect.

There Is Substantial Variation in Offense Rates Among Housing Developments

The study confirms the widespread perception that there exist "problem projects" — housing developments with crime problems much more severe than most public housing communities. Figure S.4, which lists each development's annual average rate of "serious offenses" — defined as the sum of violent, property, and drug offenses — shows that the aggregation of housing development data by city conceals very significant differences between developments within the cities. For example, Hacienda Village, L.A.'s most crime-ridden housing development, has a "serious offense" rate that is more than 15 times higher than Rose Hills, the L.A. development with the lowest rate. In Phoenix, the development with the highest rate has a rate 3.5 times higher than the development with the lowest. The equivalent comparison for the D.C. developments shows almost a tenfold difference. In between these extremes, there is smaller but nevertheless significant variation between many of the other developments in each city.

At the same time, some developments have quite low offense rates, relative not only to other developments but to the city at large. Development drug offense rates are *lower* than the corresponding city rates in six developments (Rose Hills Courts in the Hollenbeck area of Los Angeles and five developments in Washington), and development violent offense rates are lower than the citywide violence rates in five developments (all four developments in L.A. Hollenbeck and Barry Farms Dwellings in Washington). Given the fact that developments were selected for study in a way likely to identify relatively high-crime locations, it is probable that there are other developments in these cities, not included in this study, that have this characteristic as well.

In Phoenix and Washington, variation in offense rates among developments does not appear to depend on offense category. The developments with the highest rates of violent offenses in these cities also have the highest rates of drug and property offenses, and developments with low rates of one category of offense have low rates of the others. Los Angeles shares this pattern for violent and property offenses: developments with high rates of violence tend also to have high rates of property offenses. In L.A., however, high rates of violent or property offenses are *not* correlated with high rates of drug offenses. In fact, the developments with the highest drug offense rates in Southeast Los Angeles have the *lowest* violent and property offense rates of any developments in that area. Similarly, the Hollenbeck developments with the highest drug offense rates have low property offense rates relative to other developments in the area. Thus, high rates of drug offenses are not necessarily associated with high rates of violence or of property offenses.

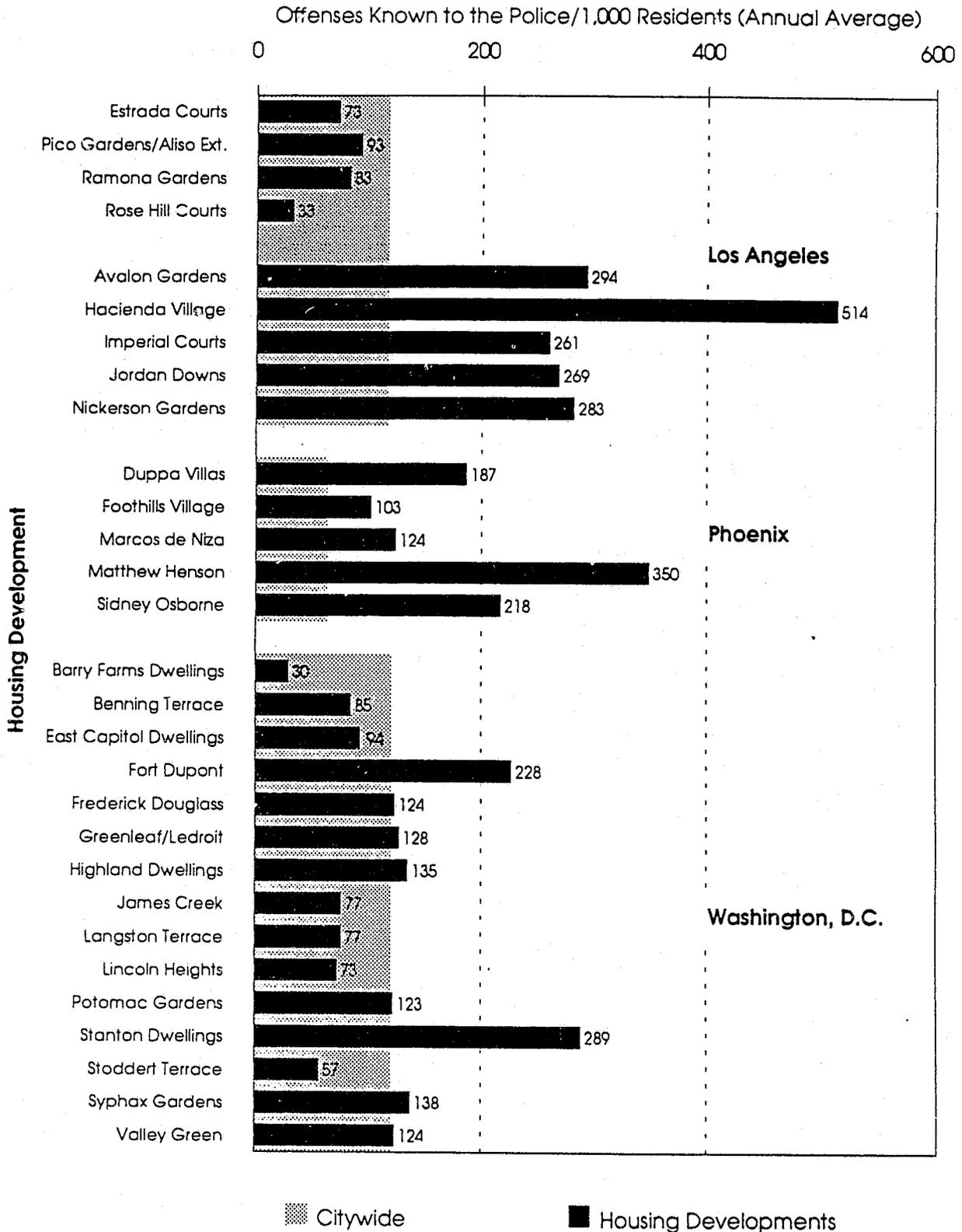


Fig. S.4—Total Serious Offense Rates (Drug, Violent, Property) in Individual Housing Developments, Annual Average, 1986-1989

Police Activity in Housing Developments Is Roughly Proportional to Public Housing Offense Rates

Police make at least as many arrests per report of serious violent or property offenses in public housing developments as in cities at large. On this measure, therefore, public housing developments do not appear to be underpoliced. For some offense categories and cities, police are considerably more active in public housing developments than they are citywide. However, a mixed pattern emerges when arrest rates in housing developments are compared to arrest rates in nearby urban neighborhoods. In Washington and the Hollenbeck area of Los Angeles, the rate of arrests per 100 offenses is greater in housing developments than in nearby neighborhoods. The opposite is true in Phoenix and Southeast Los Angeles. Thus, while police make at least as many arrests per offense in public housing as they do citywide in all three cities studied, the level of police attention that public housing receives relative to nearby urban neighborhoods seems to vary from city to city, at least on the basis of this measure.

As noted above, there is substantial variation in offense rates among housing developments within each city. It is reasonable to ask, therefore, whether police activity, as measured by arrests, is distributed proportionately to crime within the public housing system. This would not be the case, for example, if police routinely avoided the most violent developments in favor of safer ones.

In fact, as Figure S.5 shows, this does not appear to be the case: there appears to be a roughly linear relationship between a development's offense rate and its arrest rate. In other words, police appear to spread their effort across housing developments in rough proportion to differences in offense rates among them. This suggests that, at least to some extent, police are aware of the location of "hot spots" within the public housing system and direct their efforts accordingly. Moreover, it appears that this is largely true in each of the three cities studied.

IMPLICATIONS

Efforts to control crime in public housing developments continue to expand. Numerous police departments and housing authorities in major cities are now implementing public housing crime control programs. Many of these initiatives incorporate relatively traditional methods — e.g., patrol, enforcement, and efforts to secure entryways, corridors, and outdoor areas — that are quite similar to programs developed under the Urban Initiatives Programs in the late 1970's and early 1980's. More innovative programs are also being implemented: "sweeping" public housing developments for drug dealers and persons not listed on resident leases; restricting access to developments using electronic ID systems; establishing mini-precinct stations on development grounds; housing police officers in public housing units; improving tenant screening by incorporating

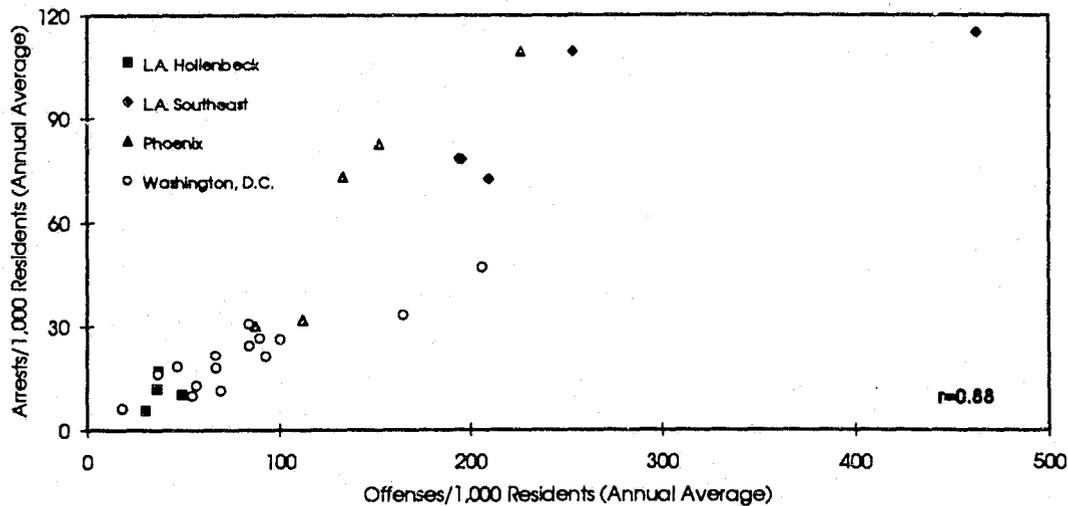


Fig. S.5—Part I Offense and Arrest Rates in Individual Housing Developments, 1986-1989

checks of criminal records into the screening process; adopting "community policing" approaches, including foot patrols and the appointment of resident/police liaisons; and streamlining eviction procedures. Many housing authorities have also implemented programs that provide social, vocational, drug prevention, and educational services to public housing residents, and that coordinate these activities with law enforcement efforts.

Most of these programs, especially the relatively new initiatives supported by federal grants, remain unevaluated. In part for this reason, housing authorities' efforts continue to be hampered by an incomplete understanding of drug and crime problems in public housing neighborhoods. At a 1993 conference on public housing security sponsored by the Council of Large Public Housing Authorities, housing authority officials bemoaned the paucity of data on public housing crime and drug problems much as they did in the 1989 survey of housing authorities conducted by HUD Secretary Kemp.

This study is primarily descriptive in orientation. It is intended to assess the nature and magnitude of a particular problem in particular cities rather than to directly speak to the issue of how that problem might be controlled. Nevertheless, the research does bear on several of the important questions now being confronted by housing authorities involved in crime control as well as by other agencies in the drug control, public housing policy, and law enforcement communities. In addition, the methodology presented in this study for analyzing public housing data suggests several promising avenues for additional research in public housing crime and crime control.

First, the finding that public housing developments have rates of drug and violent offenses that are well above the rates in other areas suggests that it is reasonable to devote a disproportionate share of drug and law enforcement resources to public housing developments, even

independently of government's special obligation to tenants for whom it is the landlord. In fact, the 1992 National Drug Control Strategy reflects such an approach. The strategy includes a grant program, the Public Housing Drug Elimination Program (PHDEP), which offers grants to housing authorities in an amount equivalent to \$47 per American public housing resident. This contrasts with the strategy's total state and local assistance budget, which has been funded at a rate equivalent to \$6 per citizen.

Second, the study also documents large differences among development offense rates, even for developments within the same city. Most generally, this suggests that crime control initiatives in public housing — such as those funded under PHDEP — need to be tightly focused on the problems of particular developments.

The dramatic offense rates in certain housing developments also have important implications for the development of methods to identify "problem" or "distressed" developments. Both federal and local policymakers use such identifications to target developments most affected by crime. But the most recent method for identifying distress, proposed by the National Commission on Severely Distressed Public Housing (National Commission 1992), fails to adequately distinguish among housing developments when it is applied to the findings of this study. It assigns the highest possible distress "score" to fully twenty of the twenty-nine housing developments examined.

This would not be a problem if, as the Commission recommends, Congress were to fund programs at a high enough level to alleviate distress in all public housing, regardless of the extent of that distress (National Commission 1992). But if — as is likely — funding at such a level is not made available, a method for identifying distress is needed that can inform, for example, the allocation of scarce resources among groups of high-crime urban developments, *all* of which are severely distressed.

Most importantly, such a definition must provide for developments that have crime rates that are multiples of city crime rates. The Commission's definition, which assigns any development with a crime rate 5% greater than that of the city a maximum possible distress "score," is clearly inadequate in such a context. At the same time, the findings demonstrate that the results of *any* method for identifying distress will depend heavily on its underlying assumptions. For example, since some developments with especially high rates of violent crime have relatively low rates of drug offenses, the decisions regarding which types of offenses will underlie the definition of distress will strongly affect the results.

Third, police departments can also benefit from access to specific data describing offense and arrest rates in developments. For example, the finding that property offense rates are lower in public housing than drug or violent offense rates may be relevant to police tactics or the allocation of scarce resources, to the extent that these decisions discriminate among the three types of offenses.

Local-level benefits can be maximized by close cooperation between police and housing authorities — cooperation that appears to be the exception rather than the norm. In particular, efforts to create and institutionalize the ability of these agencies to regularly produce, share, and act upon public housing crime data could considerably enhance drug control activities in their jurisdictions.

Finally, this research categorizes offenses and arrests based upon where they occur. In the future, data from police departments and housing authorities could be used in a variety of other ways that would refine overall understanding of crime in public housing communities. These include analyzing the residence of offenders and victims to determine whether particular types of public housing crime are due primarily to residents or non-residents; calculating clearance rates for public housing developments and comparing them to rates in other areas; standardizing arrest data based on information about police manpower; assessing the association, if any, of public housing and crime independent of other geographic and demographic variables; and using offense data as an outcome measure for experimental and other evaluations of particular drug control initiatives in public housing developments.

ACKNOWLEDGMENTS

This project could not have been successful without the cooperation and assistance of a wide variety of city officials. In particular, the researchers would like to thank the large number of individuals at the following agencies, who generously shared their information and time: the Los Angeles Police Department, the Housing Authority of the City of Los Angeles, the Phoenix Police Department, the City of Phoenix Neighborhood Improvement and Housing Department, the Phoenix City Office of Long Range Planning, the Metropolitan Police Department of the District of Columbia, and the Washington Department of Public and Assisted Housing. In addition, the researchers would like to thank the staff of the National Institute of Justice for their assistance throughout this research.

Particular thanks are due to colleagues at RAND: Allan Abrahamse, Gary Cordner, Barbara Genovese, Jack Greene, Peter Haynes, Nick Pace, Joan Petersilia, Peter Reuter, and Katheryn Russell for their valuable assistance in designing and implementing the research plan. The responsibility for any remaining errors is solely that of the researchers.

CONTENTS

PREFACE	i
SUMMARY	iii
ACKNOWLEDGMENTS	xv
FIGURES	xix
TABLES	xx
Section	
1. Objectives of this Report	1
Background to the Research	1
General Research Approach	2
Organization of the Report	4
2. Measuring Crime in Public Housing	5
Background: Drugs and Crime in Public Housing	5
Research Approach	10
Developing Information From Police Departments	11
Developing Non-Police Data on Public Housing and Other Areas	12
Defining Housing Developments to be Studied	12
Defining Non-Housing Areas to be Studied	13
Creation of the Geographic Database and Calculation of Offense Rates	14
Analyzing Geocoded Data by Offense Category	14
Creating Offense and Arrest Rates	16
Interpreting the Results	17
The Benefits and Limitations of Official Police Statistics	17
Limitations of Population Data	18
Assignment of Events to Housing Developments	19
3. Public Housing in the Three Cities	21
Overview of Study Cities and their Public Housing Systems	21
Selection of Housing Developments in Each City	24
Selection of Nearby Neighborhoods for Comparative Purposes	26
4. Offense Rates in Public Housing Developments, Nearby Neighborhoods, and Surrounding Cities	33
Introduction	33
Drug Offenses	34
Violent Offenses	36
Property Offenses	38
Summary	40
5. Variation in Offense Rates Among Housing Developments	41
Introduction	41
Offense Rates in Individual Housing Developments	42
Components of Offense Rates in Individual Housing Developments	45
Measuring Crime-Related Distress in Individual Housing Developments	46
The National Commission's Definition of Distress	46
A Modified Scoring System	50

6. A Note on Arrest Rates in Public Housing Developments	57
Introduction	57
Offenses and Arrests in Public Housing	58
The Law Enforcement Environment in Public Housing	60
7. Summary and Conclusions	63
Main Findings	63
Public Housing Offense Rates Can Be Calculated for Many Cities Using Existing Records	63
Public Housing Drug and Violent Offense Rates Are Very High Relative to Other Areas	64
Reported Property Offense Rates Are Relatively Low in Housing Developments ..	64
There Is Substantial Variation in Offense Rates Among Housing Developments ..	65
Police Activity in Housing Developments Is Roughly Proportional to Public Housing Offense Rates	65
Implications of the Results	66
Implications for the National Drug Control Strategy	66
Implications for the Identification of Distressed Public Housing Developments ...	67
Implications for Housing Authorities	67
Implications for Policing	68
Directions for Future Research	69
Creating Measurement and Analytic Capacity	70
Enhancing the Description of Crime in Public Housing	71
Using Multivariate Techniques for Spatial Analysis of Crime	72
Assessing Local Drug Markets and Crime "Hot Spots"	73
Evaluating the Impact of Public Housing Drug Control Policies and Initiatives ...	73
Appendix	
A. OFFENSE CATEGORY DEFINITIONS	75
B. GEOCODING POLICE RECORDS: TECHNICAL APPROACH	77
C. SUPPLEMENTARY DATA	85
BIBLIOGRAPHY	97

FIGURES

S.1. Rates of Drug Offenses in Housing Developments and Other Areas, 1986-1989	vii
S.2. Rates of Violent Offenses in Housing Developments and Other Areas, 1986-1989	vii
S.3. Rates of Reported Property Offenses in Housing Developments and Other Areas, 1986-1989	viii
S.4. Total Serious Offense Rates (Drug, Violent, and Property) in Individual Housing Developments, Annual Average, 1986-1989	x
S.5. Part I Offense and Arrest Rates in Individual Housing Developments, 1986-1989	xii
3.1. Conventional Public Housing in Los Angeles	21
3.2. Conventional Public Housing in Phoenix	22
3.3. Conventional Public Housing in the District of Columbia	22
4.1. Rates of Arrests for Drug Offenses in Housing Developments and Other Areas, 1986-1989	34
4.2. Rates of Violent Offenses in Housing Developments and Other Areas, 1986-1989	37
4.3. Rates of Reported Property Offenses in Housing Developments and Other Areas, 1986-1989	39
5.1. Total Serious Offense Rates (Drug, Violent, and Property) in Individual Housing Developments, Annual Average, 1986-1989	43
6.1. Arrests for Part I Offenses per 100 Reported Part I Offenses, Housing Developments and Other Areas, Annual Average, 1986-1989	59
6.2. Part I Offense and Arrest Rates in Individual Housing Developments, 1986-1989	61
B.1. Sample of Records from a Geocode File	81
B.2. Sample of Records from a Revised Geocode File	82
B.3. Algorithm for Matching Police Records in Standard Address Format to Housing Developments	83
C.1. Location of Housing Developments and Nearby Neighborhoods Selected for Study, Hollenbeck Area, Los Angeles	85
C.2. Location of Housing Developments and Nearby Neighborhoods Selected for Study, Southeast Area, Los Angeles	85
C.3. Location of Housing Developments and Nearby Neighborhoods Selected for Study, Phoenix	86
C.4. Location of Housing Developments and Nearby Neighborhoods Selected for Study, Washington, D.C.	86
C.5. Trends in Drug, Violent, and Property Offenses in Housing Developments, 1986-1989	89
C.6. Trends in Drug Offenses in Public Housing and Other Areas, 1986-1989	90
C.7. Trends Over Time in Rates of Drug Sale/Manufacture and Other Drug Arrests in Public Housing, 1986-1989	90
C.8. Trends in Violent Offenses in Housing Developments and Other Areas, 1986-1989	91
C.9. Trends in Rates of Specific Violent Offenses in Housing Developments, 1986-1989	91
C.10. Trends in Property Offenses in Housing Developments and Other Areas, 1986-1989	92
C.11. Trends in Rates of Specific Property Offenses in Housing Developments, 1986-1989	92
C.12. Part I Arrests in Housing Developments and Other Areas, 1986-1989	95
C.13. Part I Offense and Arrest Trends in Public Housing, 1986-1989	95

TABLES

3.1. Citywide Demographic Characteristics of Los Angeles, Phoenix, and Washington, D.C., 1990	22
3.2. Conventional Public Housing in Los Angeles, Phoenix, and Washington, D.C., 1990	23
3.3. Housing Developments Selected for Study	25
3.4. Phoenix Housing Developments and Associated Grid Identifiers	27
3.5. Characteristics of Housing Developments Selected for Analysis, Los Angeles, 1990	27
3.6. Characteristics of Housing Developments Selected for Analysis, Phoenix, 1990	28
3.7. Characteristics of Housing Developments Selected for Analysis, Washington, D.C., 1990	28
3.8. Characteristics of Nearby Neighborhoods	31
5.1. "Severe Distress" as Defined by the National Commission on Severely Distressed Public Housing: Crime Component	47
5.2. Distress Scores for Individual Housing Developments: Crime Component	49
5.3. Ranking of Developments on Alternative Schemes for Calculating Crime-Related Distress	52
A.1. Category Definitions Used for Offense Data Processing	76
C.1. Average Annual Number of Offenses Known to the Police in Public Housing Developments Selected For Study, 1986-1989	87
C.2. Average Annual Offenses Known to the Police per 1,000 Residents, by Region, Los Angeles, 1986-1989	87
C.3. Average Annual Aggregate Arrest Rates for Drug Offenses in Housing Developments and Other Areas, 1986-1989, by Offense Type	88
C.4. Average Annual Aggregate Violent Offense Rates for Housing Developments and Other Areas, 1986-1989, by Offense Type	88
C.5. Average Annual Aggregate Property Offense Rates for Housing Developments and Other Areas, 1986-1989, by Offense Type	89
C.6. Average Annual Aggregate Offense Rates, 1986-1989, by Offense Type and Housing Development	93
C.7. Average Annual Aggregate Violent Arrest Rates for Housing Developments and Other Areas, 1986-1989, by Offense Type	94
C.8. Average Annual Aggregate Property Arrest Rates for Housing Developments and Other Areas, 1986-1989, by Offense Type	94
C.9. Average Annual Aggregate Arrest Rates, 1986-1989, by Offense Type and Housing Development	96

1. OBJECTIVES OF THIS REPORT

BACKGROUND TO THE RESEARCH

This document presents an analysis of serious drug, violent, and property crime for selected public housing developments in three cities: Los Angeles, California; Phoenix, Arizona; and Washington, D.C. Offense and arrest rates are provided for the four years from 1986 to 1989.

Three major questions guide the research:

- How can crime problems in housing developments be quantified using existing records?
- What are the rates of drug and other serious offenses in conventional public housing developments, and how do these rates compare to rates citywide and in urban neighborhoods close to public housing?
- What is the extent of variation in offense rates among individual housing developments?

In addition, the report considers the extent of law enforcement activity, as represented by arrests in housing developments, and compares it to arrest levels in other areas.

The motivation for the research is illustrated by events that occurred in early 1989. Then-Secretary of Housing and Urban Development (HUD), Jack Kemp visited public housing developments in Baltimore and Philadelphia and personally observed "the public and open sale of drugs" (Mariano 1989). Subsequently, he instructed the directors of the more than 3,300 public housing authorities in the United States to report to him on the volume of drug trafficking occurring in the developments under their jurisdiction and to indicate what actions they planned to reduce and eventually eliminate drug problems. Roughly 1,100 directors responded, most of them made two points: first, that drug problems were severe and in need of urgent attention; and second, that data that would permit a reliable assessment of the size of the problems simply did not exist (U.S. Department of Housing and Urban Development [HUD] 1989).

The first component of the response reflected a general perception that still holds true today: that crime and vandalism, long endemic in public housing, have been significantly exacerbated by drug abuse, and particularly by the crack epidemic that swelled in the mid-1980's. Police have described the more notorious developments as "jungles" that they are reluctant even to enter (McInerney, 1988). Speaking of one of Los Angeles's most seriously affected developments during an interview with the authors, an L.A. Housing Authority police department official quipped, only half in jest: "We own it; they run it." "They," of course, are the drug dealers.

Given this level of concern about the drug and crime problem, it was clear that a response by legislators, HUD, housing authorities, and law enforcement agencies would be forthcoming. HUD

quickly implemented changes in eviction policy, authorized local authorities to use Comprehensive Improvement Assistance Program (CIAP) funds — normally reserved for capital improvements in housing developments — to meet drug-control goals, and reaffirmed its commitment to combating drug-related crime in public housing with whatever resources it could muster. In addition, HUD implemented the Public Housing Drug Elimination Program, established by Congress as part of the Anti-Drug Abuse Act of 1988 (P.L. 100-690). This legislation authorized HUD to make grants to individual housing authorities for drug control programs; these grants have totaled more than \$500 million since 1989.

However, none of this activity changed the fact, illustrated by the second component of the responses to the HUD 1989 survey, that nobody knew how big the problem actually was because no reliable data existed. There had even been some research suggesting that the crime problem might not be that much worse in public housing developments than in the surrounding city (Farley 1982). There was also no established methodology for developing the needed data. Though a number of housing authorities reported that they were working with local police departments in an effort to generate development specific assessments of the magnitude of drug offenses, few claimed to have successful results in hand.¹ Consequently, there was no satisfactory way to empirically demonstrate the scope and nature of drug use and drug markets in public housing. This meant that drug control policy had to be developed without the assistance that such information could provide.

This lack stimulated an interest in research to quantitatively investigate the drug crime in public housing. This study is one of several projects that resulted.

GENERAL RESEARCH APPROACH

Some of the public housing research that grew out of the concerns discussed above, including that reported in this document, was sponsored by the National Institute of Justice; other projects were funded by HUD and some by other agencies. The various projects focused on different aspects of the situation but virtually all shared a common premise — that sound empirical information was lacking and needed to be developed. Most also involved a case study approach of some kind. That is, a number of cities or individual housing developments were identified and information pertaining to those specific locations was sought. Due partly to the logistical complexities of this kind of research and partly to the fact that most of the necessary information

¹Among the few is the New York City Housing Authority, which has calculated the rate of index (Part I) crimes in the public housing system for each year since 1980 (New York City Housing Authority 1993).

either did not exist at all or had not been previously utilized for research, none of the research projects was able to include more than a handful of sites.²

The analysis of housing developments presented in this report has faced similar constraints. The most serious of these is the one just mentioned: that, though it would unquestionably be desirable to address questions about public housing crime in a way that would allow general inferences to be made about all public housing in the United States, the size of the public housing system makes achieving such an objective infeasible without an exorbitant commitment of funds and resources. There are more than 3,000 public housing authorities in the country, most of them individual legal entities operating within a city governmental structure that they neither control nor fully belong to. These authorities are responsible for more than a million conventional public housing units, which are home to more than 3.5 million residents (Weisel 1990). To study these populations in a representative way would require a sample size far in excess of any that is possible under the funding levels that are commonly available for research of this kind.

The consequence, for this particular study, is that the questions posed about the volume and type of crime occurring in public housing developments and how these compare to other areas in the same city can only be addressed for a very limited number of locations. As noted above, three cities were selected — Los Angeles, Phoenix, and Washington, D.C.³ Within those cities, the researchers studied a total of 29 conventional housing developments that house almost 35,000 residents — more than 50% of the public housing population within each city.⁴ However, there is no reason to believe that the population considered is representative of the total U.S. public housing stock or resident population; consequently, any inferences to public housing at large should be drawn only with the greatest caution.

To accomplish the goals of the research, city police departments were asked to provide incident-based, machine readable files of all offenses reported and arrests made between 1986 and 1989 for the areas under study. The address information in each offense and arrest record was then used to match records to selected housing developments. In order to permit comparisons between developments and nearby urban neighborhoods, the address matching procedure was repeated for

²A summary of the other studies is presented below in Chapter 2, along with a review of other research literature on this topic.

³Two other cities — Philadelphia, PA and Lexington, KY — also provided data to the study team. At the time of publication, several outstanding questions remain about these data and whether they can be processed in accordance with the research methodology. Therefore, data from these two cities are not included in this report. If these questions can be resolved, future work may incorporate results from Philadelphia and Lexington as well as the three other cities.

⁴Specifics on the public housing environment in Los Angeles, Phoenix, and Washington, D.C. are presented in Chapter 3.

several census tracts that were close to, but did not include, the selected housing developments. Finally, demographic information for housing developments and nearby neighborhoods, developed from housing authority and census data, was used to standardize the results. Comparable information for the entire city was also compiled to provide a broader context for more specific results.

This process allows both intra-city and inter-city comparisons to be made in this report. Within each city, offenses and arrests that take place inside housing development borders are contrasted with those that occur in nearby areas of private housing and in the city at large. Differences among offense categories are also considered. In addition, variation among housing developments in the same city can be examined. Comparisons among the various cities are also made along the same dimensions, and similarities and differences across cities are identified.

This report is primarily descriptive in orientation. While the report does relate its findings to current federal and local policy regarding drugs, crime, and public housing, it neither attempts to explain the causes of public housing crime nor to evaluate approaches that might control it. These kinds of inquiries are obviously desirable and should be conducted in the future. However, such studies require a different research approach and, especially, the development of data that, in most cities, do not currently exist. Moreover, the design and implementation of such studies would be enhanced by an understanding of the magnitude and character of the public housing crime problem. Providing such an understanding for Los Angeles, Phoenix, and Washington, D.C. is the purpose of this report.

ORGANIZATION OF THE REPORT

The remainder of the report is organized around the research questions listed above. Chapter 2 discusses a methodology for calculating public housing offense and arrest rates, the issues that surround the application of the methodology to particular public housing systems, and the interpretation of results. Chapter 3 then presents a description of the public housing systems in the three cities examined in this report.

Chapters 4-6 present the analytic results of the study. Chapters 4 and 5 discuss overall public housing offense rates and inter-development variation in offense rates, respectively. Chapter 6 is a brief discussion of arrest rates for violent and property offenses in public housing.

The report concludes with a summary of findings in Chapter 7.

2. MEASURING CRIME IN PUBLIC HOUSING

This chapter describes a methodology for describing criminal offenses and arrests in public housing, using data already routinely collected by most police departments and housing authorities. Though the initial implementation of the methodology is relatively time-consuming and resource-intensive, the cost of maintaining and updating the information-gathering systems that the methodology produces ought to be quite low.

The chapter has three sections. The first briefly reviews the literature regarding drug and crime problems in public housing. The next section presents the methodology and discusses several issues associated with its implementation. A final section discusses various constraints that the interpretation of the results must accommodate.

BACKGROUND: DRUGS AND CRIME IN PUBLIC HOUSING

The perception that crime and vandalism are among the leading social problems associated with public housing significantly predates today's concern over illegal drugs. Most of the literature analyzing public housing crime assumes that it is excessive.¹ In only a few cases, however, are measurements undertaken that substantiate this view.²

In the 1970's, serious scholarly interest focused on the factors associated with crime in public housing. This literature is dominated by two views: one that focuses on the physical characteristics of housing developments and a second that emphasizes the social characteristics of residents.

The first group of scholars, exemplified by Oscar Newman, stressed the relationship between crime and the physical layout of public housing complexes (Newman 1972, Brill 1973). Newman and his colleagues hypothesized that specific physical features of housing complexes can enhance residents' security by permitting them to conduct informal surveillance during the course of their everyday activities and to easily identify strangers who do not belong. These "defensible space" features — relatively small buildings, decentralized lawns and play areas, well-located windows, entryways and hallways that terminate in a small number of units, lighting, etc. — are rare in many older public housing developments.

¹Recent, thorough reviews of this literature include Keyes 1992 and Weisel 1990. For reviews of research on public housing crime conducted before illicit drug markets became phenomena of special concern, see Rouse and Rubenstein 1978, Huth 1981, and Ferglut 1981. Many of the other works cited in this section contain briefer literature reviews.

²Keyes 1992 cites Brill Associates 1977 as representative of several studies on the magnitude of public housing crime that were conducted in the 1970's. See also Farley 1982.

The concept of "defensible space" has been widely accepted; in particular, it led to a reduction in the incidence of high-rise buildings in developments constructed after the 1960's (Bratt 1986).³ Nevertheless, many public housing developments still incorporate relatively few "defensible" features (Annan and Skogan 1992). Moreover, the "indefensibility" of much public housing has been exacerbated by the rapid physical decline of many housing developments. Aging buildings, poor maintenance, and endemic vandalism have led to considerable deterioration in the nation's public housing stock, especially in Eastern cities. Newark and Philadelphia, for instance, have begun significant shut-downs of public housing units no longer habitable (DePalma 1990). Perhaps the most infamous example of public housing deterioration is St. Louis's Pruitt-Igoe development, razed in 1972 after vandals rendered it uninhabitable less than a decade after its construction (Pate 1984).⁴

Scholars have associated social, as well as architectural, features of public housing with crime (Huth 1981, Annan and Skogan 1992).⁵ Poverty, unemployment, the growth of single-parent families, and weak informal social controls have all been cited as factors that make criminal activity more likely in public housing than in other areas; at the same time, they make residents particularly attractive victims for criminals.⁶

These problems were first addressed in a comprehensive way by several federal programs of research and services launched throughout the 1970's. These culminated in the Urban Initiatives Program, created by Congress in 1978. The evaluators of Urban Initiatives describe the program as an ambitious failure (Kelling *et al.* 1986). According to the program's final evaluation report, "the programs in so many housing developments were so manifestly ineffectual that there was no basis for believing that they could have produced any significant impact" (Pate 1984).⁷ Nevertheless, many police departments and housing authorities still employ many of the specific enforcement techniques used by the program, such as target hardening, tenant involvement, increased use of police car and foot patrols, and improvements in police/community relations.

Many believe that the emergence in the mid-1980's of drugs and drug markets, particularly for crack cocaine, greatly exacerbated public housing's crime problems (Senate Committee on

³The "defensible space" approach is reviewed in Bottoms 1974.

⁴The state of many public housing units may in fact serve to increase vandalism, since residents have little incentive to maintain severely damaged property (Schnare 1990).

⁵Many proponents of the "defensible space" approach, including Newman, also note the importance of societal and demographic features.

⁶Of course, these societal features do not occur only in public housing. Poverty, unemployment, and similar problems are characteristic of the American inner city in general, and are often invoked to explain urban crime generally.

⁷Keyes 1992 suggests that much of the negative reputation of the Urban Initiatives effort is due to political factors surrounding the transition from the Carter to the Reagan administrations.

Banking, Housing, and Urban Affairs 1989). The presence of such illicit markets can be presumed to have had a variety of effects on public housing communities. Drug dealers may intimidate residents, violently and otherwise (Burton 1988), and some enlist local children to aid them in avoiding detection. In some areas, youth gangs have emerged as important market participants (Kotlowitz 1988). Flagrant drug markets also provide residents, especially youth, with powerful incentives to use and sell drugs. Since drug dealing is commonly believed to be lucrative, it may be especially attractive to poor public housing residents (Senate Committee on Banking 1989).⁸ Many researchers and public housing officials also believe that open drug markets, in addition to facilitating residents' drug activity, attract non-resident buyers and sellers (Frady 1990, Webster and Connors 1992). Public housing developments may thus become magnets for significant criminal activity imported from elsewhere.

In an environment of increasing concern about drug problems in general, in 1988 Congress authorized the Public Housing Drug Elimination Program (PHDEP), which awards drug control grants to housing authorities (P.L. 100-690). Several administrative changes, such as alterations in eviction procedures, were instituted by HUD Secretary Jack Kemp in the late 1980's (HUD 1989). In 1989, the Congress created the National Commission on Severely Distressed Public Housing, with the mandate of eradicating severely distressed public housing by the year 2000 (P.L. 101-235); the Commission released its final report and action plan in the summer of 1992 (National Commission on Severely Distressed Public Housing 1992).

At the local level, housing authorities and police departments have developed new approaches and adapted techniques developed under Urban Initiatives and similar programs, to meet the particular challenges posed by drugs. In the past several years, local housing authorities have initiated a wide variety of programs, using both PHDEP and local funding, to improve public housing security. These initiatives include, but are by no means limited to, the following types of programs:⁹

- Targeting drug-involved tenants for evictions and streamlining eviction procedures (Conner and Burns 1991);
- improving the screening of potential public housing residents (Wilkins 1989) and incorporating checks of criminal as well as credit history in screening procedures (Minneapolis Public Housing Authority 1993, New York City Housing Authority 1993);

⁸In fact, recent research suggests that regular inner-city drug dealers earn significant, but not dramatically large, incomes (Reuter *et al.* 1990).

⁹The initiatives listed here are generally restricted to those that have appeared in the literature or in housing authority publications. A considerably wider variety of programs have been undertaken.

- erecting fences and gates (Weisel 1990, Stewart 1989) and improving entries, lobbies, and outdoor areas (Housing Authority of the City of Newark 1993, Alexandria, Virginia Housing and Redevelopment Authority 1993);
- controlling access to developments, sometimes through the use of tenant identification cards (Webster and Connors 1992, Housing Authority of Baltimore City 1993);
- employing innovative approaches to police deployment, such as the creation of "mini-precinct stations" on development grounds (Armstrong 1989), the use of "walking beats" (Greensboro Housing Authority 1993), and the deployment of patrol officers on three-wheeled police scooters (Cuyahoga Metropolitan Police Authority 1993);
- increasing deployment of uniformed officers in and around developments for limited time periods (Wilkinson 1988, Wilkins 1989);
- conducting classical law enforcement activities, including undercover investigations to develop informants, "buy/bust," "reverse sting," and user accountability techniques (Annan and Skogan 1992);
- gathering narcotics intelligence in housing developments (Cuyahoga Metropolitan Housing Authority 1993).

At the same time, housing authorities have expanded their anti-drug activities to include social services as well as law enforcement and to emphasize police/tenant relations. Police/resident advisory councils have been created to improve communication and create non-adversarial relationships between the two groups; these sometimes incorporate drug "hot lines" and other mechanisms for information sharing with police (Conner and Burns 1991). Some housing authorities that have placed police mini-stations on development grounds also provide for on-site social service offices (Stewart 1989, Oklahoma City Housing Authority 1992); St. Paul, where public housing includes a large Asian-American population, provides for interpreters for police and social service personnel (Bradel *et al.* 1992). Housing authorities have also established relationships with local shelters and in-patient drug treatment facilities (Alexandria, Virginia Housing and Redevelopment Authority 1993, New York City Housing Authority 1993). And authorities have implemented a wide range of social service, educational, and recreational programs, some with explicit drug-control components, to discourage drug use and ameliorate social problems that lead to crime and to drug activity (Massing 1990, Portland, Maine Housing Authority 1993, Housing Authority of Baltimore City 1993).

Several handbooks and brochures describe these and other types of interventions in considerable detail and discuss issues associated with their implementation.¹⁰ However, because most of these initiatives are still in their infancy, a scholarly evaluation literature has only recently begun to appear. This research has focused on implementation rather than impact and is thus heavily qualitative.

For example, two recent studies use case studies and interviews with knowledgeable local individuals to develop their conclusions.¹¹ An evaluation sponsored by the National Institute of Justice reviews promising security and eviction programs undertaken in Alexandria, Virginia; Chicago, Illinois; Baltimore City, Maryland; and Orlando, Florida (Webster and Connors 1992). The report emphasizes cooperation between housing authorities, city police, and public officials in its description of the implementation of these strategies. In a more ambitious report published by the Urban Institute, Langley Keyes uses case studies in seven different communities to develop an "ideal strategy" for public housing crime control (Keyes 1992). Keyes emphasizes the need to develop a coordinated drug control strategy that embraces management, police, treatment, and social service initiatives, and emphasizes that the system cannot simply rely on the extraordinary dedication of rare individuals to produce results in spite of governmental obstacles.

To date, those studies that do incorporate quantitative measures of crime have relied on relatively narrow analyses provided by local police departments. In 1992, the Police Foundation published an evaluation of two police programs instituted in public housing in Denver and New Orleans. These programs fielded "Narcotics Enforcement in Public Housing Units" to focus exclusively on drug and other criminal activity in and around public housing developments. The evaluation found a mixed impact of the Denver initiative and disappointing results in New Orleans. Much of the evaluation is devoted to documenting problems experienced during program implementation.

The Police Foundation study used police data on drug arrests, violent offenses, and property offenses to help assess the impact of these initiatives, based on figures provided to the study by the Denver and New Orleans police departments. The only comparison between public housing and city rates shows that New Orleans public housing developments account for approximately 25% of all drug arrests in the city, while they contain only 10% of the population. (Though the report does not

¹⁰See, for example, Weisel 1990, intended for use by city police, and Conner and Burns 1991, a guide for community agencies and residents.

¹¹This approach is also being used by the state of Tennessee in an internal evaluation of its "Drug-Free Neighborhoods Program," a public housing intervention in Memphis, Knoxville, Nashville, and Chattanooga.

discuss the methods used to derive these figures, this result is consistent with the results described in Chapter 4 for the study cities in this report.)

Finally, HUD is evaluating the Public Housing Drug Elimination Program. The study's preliminary report relies entirely on citywide offense statistics and data presented by housing authorities in their grant applications to the program (Abt Associates 1992). While this report does not include any independent crime measurements for the developments under study, it does indicate that police statistics will play a role, along with other impact variables, in the final report. Some housing authorities have also initiated evaluations of their PHDEP programs, although only interim findings are available (Bradel *et al.* 1992).

In summary, despite the enormous amount of effort being devoted to public housing drug control, relatively little attention has been devoted to the problem of quantifying public housing crime. Although they were released three years apart, both HUD's 1989 eviction initiative (HUD 1989) and the final report of the National Commission on Severely Distressed Public Housing (1992) note that data describing public housing crime are largely unavailable. Those implementing and evaluating new crime control techniques have therefore been forced to rely on a strictly qualitative understanding of the problem that they are trying to solve. This study is designed as a partial response to the need for more precise information regarding the nature of public housing crime. The remainder of this chapter discusses the research design and methodology of this effort.

RESEARCH APPROACH

The methodology used in this study to develop estimates of offense and arrest rates in public housing developments uses existing data sources. This approach takes advantage of the fact that most police departments' offense and arrest records include data on the location of the incident. Consequently, individual offenses and arrests can, in principle, be linked to specific geographic areas, such as public housing developments. The resulting totals can then be standardized by development population, analyzed by offense category, aggregated for specific periods, compared to similar data for other areas, and so on.

This section contains a discussion of the methodology used to develop these data and the issues related to its implementation. It also highlights potential problems that would have to be overcome by similar studies in cities other than the three on which this report is based.

The following topics are covered: assessing whether the methodology can be successfully executed in a given city; defining housing developments and other areas to be studied; geocoding police records; creating counts of offenses and arrests from geocoded data; and standardizing offense and arrest counts to produce per capita annual rates. (The discussion of geocoding is supplemented by a more technical discussion in Appendix B.)

Developing Information From Police Departments

In order to develop public housing offense and arrest rates, local police departments must provide computerized data on all reported offenses and arrests for a particular period. These data must meet several requirements. First, the data must be complete; in particular, in cities with both public housing and city police forces, the data must include offenses reported and arrests made by each.¹² Second, the data must be incident-based, with one record for each reported offense or arrest. Finally, each record must contain information on the specific geographic location of the incident, the offense type, and the date.

Urban police departments often, but not always, maintain computerized information systems. Many cities have developed or are developing such systems in conjunction with their participation in the Uniform Crime Reporting (UCR) program administered by the Federal Bureau of Investigation.¹³ Conversely, a city's difficulties with UCR reporting may signal that the data needed for this type of analysis are either inadequate or not available.

If a city or police department does not have computerized data with the required characteristics, analysis of the kind we have conducted in this study may be impractical. Even if the data are available, three concerns must be met. These can be characterized as political, logistical, and technical, and they must be addressed sequentially. First, the city and the police department must be willing to provide data for the purpose of research. This cannot always be taken for granted, since counts of arrests and offenses can be politically sensitive. A formal agreement to share data, to limit the uses of the data to mutually agreeable purposes, and to guarantee the security and privacy of the data will generally be necessary. Negotiating these agreements can take a considerable amount of time.

Once the political willingness to provide data has been established, it must be determined whether the logistical capability to provide the needed data, within the required time frame of the research, exists within the police department. Then, once logistical questions have been resolved, one must ensure that the data to be provided meet the analytic specifications listed above: incident-based records that include variables for offense type, specific location, and date.

None of these concerns — political, logistical, or technical — can be taken for granted. Moreover, even if cities and police departments indicate that they are able to meet these concerns, internal and external factors may evolve that make successful development of analytically usable data

¹²Alternatively, data may be gathered from both city and housing development police separately and then aggregated. If this is done, care must be taken to avoid double-counting.

¹³For additional information on the Uniform Crime Reporting System, see the annual publication of the Federal Bureau of Investigation, *Crime in the United States*.

impossible. Because of this, and because of the hierarchical nature of the potential problems, difficulties may only become apparent after work has begun.

Developing Non-Police Data on Public Housing and Other Areas

In addition to police data, information describing the location and resident populations of housing developments must be obtained. These data are almost always available from housing authorities, since authorities are required by HUD to collect data on resident populations. Housing authorities also can often provide unit-by-unit lists of addresses within each development; if these are unavailable, they typically can provide street maps of the developments from which such lists can be developed.¹⁴ If non-development areas are also to be analyzed, similar information describing locations and population must be generated for them. Demographic and geographic data can be obtained from the Bureau of the Census; lists of addresses must be developed from commercial or census street maps.

Defining Housing Developments To Be Studied

Police departments generally use one of two methods to identify the location of an offense or arrest: street addresses or grid identifiers.¹⁵ Departments that use street addresses simply report the address at which the offense or arrest occurs. Grid identifier systems rely on the division of the city into areas, usually small, and which are sometimes identified with political districts or with the beats police use for administrative purposes. Offenses and arrests are then recorded with the grid identifier number for the area in which they occur.

In cities that use the street address method, housing developments can be defined precisely as the set of street addresses within the boundaries of a development. This study uses this approach in Washington and Los Angeles. Under this approach, offenses and arrests that occur across the street or on an adjacent block are *not* treated as housing development offenses (see below). Note that this definition *does* assign to developments those offenses and arrests that occur within development boundaries, even if they do not occur at the actual address of a housing unit. It

¹⁴Such maps should be obtained even when address listings are available, since maps show the layout of the entire development while listings typically include only mailing addresses and exclude streets behind buildings, side streets, alleys, and so on. The maps can then be used to supplement the address lists.

¹⁵Many departments use both methods simultaneously. Because of their greater precision, street addresses are preferable to grid identifiers when both are available. However, the use of grids is still satisfactory, particularly when the grids are relatively small, as they are in Phoenix (1/4 mile square).

captures, for example, offenses that occur in development parking lots or in cul-de-sacs that are completely contained in housing developments but that themselves have no actual housing units.

In cities that use the grid identifier method exclusively, such as Phoenix, developments must be identified with the grids in which they are located. It is relatively unlikely that a housing development will occupy exactly one or more grids. Consequently, the offenses that occur within development boundaries cannot be distinguished from those that occur outside the development but in the same grid. Therefore, one must calculate offense and arrest rates for the entire grid and use these rates as surrogates for the true development rates. Note that per capita rates in such cases must be calculated using the entire grid population rather than the development population.

The grid method, commonly used in ecological studies of crime (for example, Osborn *et al.* 1992, Bursik and Grasmick 1992), is less precise for this purpose than the street address approach. The level of imprecision is a function of the proportion of each grid actually occupied by the development. An assessment of this extent of this imprecision is provided for Phoenix in Chapter 3.

Defining Non-Housing Areas To Be Studied

To evaluate data on public housing, a basis for comparison must be established. One strategy is to compare crime in public housing to crime citywide. This type of information can be particularly useful in analyses that include data for more than one city because it places public housing crime in a similar context in each city. Such contextual information on citywide offenses and arrests is provided throughout this report.¹⁶

However, development-to-city comparisons compare two types of locations — housing developments and metropolitan areas — which are very different from one another not only in terms of size but of population density, land use, resident characteristics, income, and so on. Therefore, this document also provides data on offense rates in “nearby neighborhoods”: areas in close

¹⁶Citywide rates, of course, include those areas of the city that consist of public housing. The inclusion of public housing in citywide rates suggests another potential approach: to compare offense rates in housing developments to the rates in the *rest* of the city — i.e., rates for all parts of the city that do not include public housing. This would permit the comparison of offense rates for discrete areas.

The researchers did not adopt this approach for three reasons. First, as noted, this analysis describes only selected housing developments within each city. Thus, any residual rate the researchers could calculate would describe not the rate for non-public housing areas of the city, but the rate for the city not including whatever developments were selected. This is not a particularly useful measure. Second, citywide offense and arrest rates are commonly used in a wide range of research and policymaking contexts. The inclusion of this standard measure thus provides a more useful baseline with which to approach the public housing information. Finally, housing developments account for a small enough fraction of citywide crime that their inclusion in citywide rates has only a trivial impact on the magnitude of those rates.

geographic proximity to selected housing developments that do not themselves contain public housing.

The approach used to define the borders of housing developments is also used to define the borders of the nearby neighborhoods. In cities like Los Angeles and Washington where police records are address-based, the neighborhood can be defined as any arbitrary set of street addresses. In cities using the grid method, such as Phoenix, the neighborhoods must be defined as a particular grid location or set of grid locations. (The precise definition and selection of the nearby neighborhoods for this study is discussed in Chapter 3.)

Creation of the Geographic Database and Calculation of Offense Rates

Once all the necessary data have been gathered, each police record must be "geocoded" — that is, it must be associated with a housing development or nearby neighborhood based on the geographic information in the record. In "street address" cities, such as Los Angeles and Washington, housing authority records and city maps can be used to determine the range of street addresses that fall within the borders of developments and nearby neighborhoods; then street addresses in the database are matched to these ranges. In "grid" cities, such as Phoenix, records are associated with developments and nearby neighborhoods based on their grid identifiers.

In "street address" cities, geocoding requires extensive analysis of police location data, including parsing address records; accounting for misspellings and incomplete entries; and developing procedures for dealing with duplicate street names, identical street names with different designators (Lane, Drive, etc.), and streets with multiple directions (e.g., North Union and South Union Street within the same city). Parsing and other analytic issues are discussed in more detail in Appendix B.

Analyzing Geocoded Data by Offense Category

Once geocoding is complete, data for each development and nearby neighborhood can be analyzed by year and offense type. Offense types must be defined in a consistent way if results from different cities are to be compared. This study analyzes three categories of offenses: drug, violent, and property. For violent and property offenses, the researchers adopted the "Part I" definitions of the Federal Bureau of Investigation for serious offenses: murder, rape, robbery, aggravated assault, burglary, theft, and auto theft.¹⁷ Since each of the study's three cities participates in the FBI's

¹⁷Another Part I crime — arson — was not included in the analysis. This was because of the wide variation in the seriousness of fires that are included in the arson category, and the probable, but undetectable, differences among cities in the procedures for designating fires as arson.

UCR program, the offenses included in each of these categories were relatively consistent across sites, although each city uses a different scheme to code the type of offense.

Drug offenses were defined to include both felony and misdemeanor offenses against the drug laws. However, the meanings of these designations are not necessarily consistent from city to city. Because drug transactions are consensual and have no victims in the normal sense of the word, drug offenses are not reported to the police in the same way as other offenses. Generally, the reports that are made come from concerned citizens who observe trafficking but are not themselves involved in it. Police response to such calls, if any, may include immediate dispatch of a patrol car or undercover team, later increases in patrol activity, future undercover operations, or any combination of these and other actions. Moreover, police may undertake these actions in response to their own observations as well as citizen reports. The procedures for recording these events, and the manner in which they are reflected in the police offense and arrest records provided to us, vary significantly from city to city.

Therefore, this study used drug arrests as its exclusive measure of drug activity. Drug arrests are the best consistent approximation of drug offenses known to the police. It must be noted, however, that this implies that the underreporting of drug offenses as this research measures them is likely to be even more significant than the underreporting of Part I offenses (underreporting is discussed in more detail below). Nevertheless, drug arrests were the only consistent measure available.

Drug arrests are further broken down into "drug sales arrests" — which were defined as drug manufacture, trafficking, sale, and possession with intent to distribute — and "other drug arrests." Again, relative arrest rates for these two categories seem likely to reflect police activity as well as drug crime. Police departments differ in both their formal and informal policies regarding whether to actively pursue arrests for drug possession. They also may charge drug sellers with drug possession if they lack the evidence to make a charge of drug selling stick.

Finally, Part I and drug offenses do not encompass all of the crime problem in public housing. "Part II," or less serious, offenses include several that may have a significant impact on the quality of life in public housing: simple assault, vandalism, liquor law violations, and so on. However, although an analysis of non-drug Part II offenses would contribute to a full understanding of crime in public housing, they are excluded from this study for three major reasons. First, cities vary widely in their treatment of these offenses. Some record each incident in offense and arrest files; others do not. Second, citizen reporting of Part II offenses is almost certainly less comprehensive than reporting of Part I offenses. Finally, the level of police resources dedicated to their investigation and follow-up seems likely to vary from city to city, from neighborhood to neighborhood within a city, and over time.

The precise definitions of the offense categories used in this report are discussed in Appendix A.

Creating Offense and Arrest Rates

Once counts for the various offense types have been calculated, they must be standardized by population to produce per capita rates. In this study, which considered offenses and arrests from 1986 to 1989, the 1990 population of the areas was used to calculate offense rates. The 1990 populations for housing developments were obtained from housing authorities, and data for other areas were obtained from the 1990 census.

Of course, standardizing four-year offense rates by 1990 population is not as satisfactory as being able to use accurate year-by-year population figures. Vacancy rates in housing developments change continuously, and relatively large short- and middle-term shifts in resident populations may occur if, for example, units are removed from the rental rolls while they are being renovated. Population also fluctuates for the city as a whole and for nearby neighborhoods, and all three study cities underwent substantial demographic change in the 1980's. However, no precise year-to-year data on the size of resident populations were available, and procedures for estimating populations between periodic census tabulations are not appropriate for areas as small as public housing developments or nearby neighborhoods. In the absence of more precise data, therefore, 1990 population data were used as the denominators for offense and arrest rates for all four years. Thus, estimated rates may deviate from the true rates as a function of the deviation of actual 1986-1989 populations from the 1990 population.

Offense and arrest rates must also be standardized by time frame. Most of the offense and arrest rates presented in this report are annual rates that have been averaged over the four-year study period. The use of average rates calculated over a lengthy period has the advantage not only of providing additional observations but of mitigating the effects that short-term variations in the public housing environment can have on offense and arrest data. Examples of such variations range from the renovation of developments by the housing authority to the introduction of task-force patrols by the police department. Averaging rates over a period of several years helps to avoid the spikes caused by such events, which may range in duration from days (e.g., a weekend street "sweep") to months or years (e.g., a long-term renovation of housing stock).

Annual offense and arrest rates are presented in Appendix C for reference purposes. For the reasons described above, the researchers avoided basing any major substantive conclusions on these data. For the same reasons, annual data are only provided at the aggregate level; annual rates for individual housing developments are not provided. Time trends at levels finer than a year are not included, again for the reasons described above. Thus, this report does not address the question

of potential seasonal effects on public housing offense or arrest rates. Time-series analyses addressing this and other issues would be valuable, but are beyond the scope of this report.

INTERPRETING THE RESULTS

This study asked what crime is like in public housing and how it compares to crime in other areas. The researchers believe that the research method described above was the best possible way to address those questions. However, there are several interpretive issues that are associated with analyses of this type. This section discusses these issues, and elucidates some caveats that should be kept in mind when working with the study's results.

The Benefits and Limitations of Official Police Statistics

It is generally accepted that official crime statistics, generated by police, are an incomplete measure of the crime that actually occurs (Skogan 1977, MacKenzie *et al.* 1990). There are a number of reasons for this. First, though police learn of most criminal activity from citizens rather than through direct observation, not all offenses that citizens observe or experience are reported, whether because of fear, frustration, disinterest, or some other reason (Skogan 1974).

Second, police reports may not always reflect citizen reports. If police judge a citizen call to be unfounded, or if it is insufficiently detailed to allow investigation, they may file no report at all. Police may also record an offense different than the one called in. This may occur when police do not believe a citizen report, when post-call investigation reveals the call to be in error, or when police believe that they lack the evidence required to successfully file a particular charge.

These problems, frequently cited as limitations on using police statistics in general, are intensified when drug- and drug-related offenses are considered. Since all participants in drug transactions — distributing, retail selling, and buying — have an interest in keeping their activity hidden from the authorities, there are no "victims" to report (or underreport) to the police.¹⁸ Similarly, dealers may intimidate or otherwise convince bystanders who observe drug transactions not to involve the authorities.

"Drug-related" offenses, unlike illicit sale and purchase, do have victims in the traditional sense. However, although case files are likely to contain documentation of the fact that drugs were involved in the commission of an offense, computerized records usually do not. Often, these records reflect only the most serious charge, which is used to classify the case. Thus, for example, a murder

¹⁸Even when a drug offense is accompanied by another offense, such as the robbery of one party by another, the victim may remain unwilling to contact police. This may be due both to the unwillingness of the victim to reveal his own involvement in drug activity and because some suppliers and competitors may use the threat of retaliatory violence to discourage police reporting.

in the course of a drug sale is recorded as a murder, an assault committed under the influence of cocaine is an assault, and a theft to get the money to buy drugs is a theft. Official statistics thus make it impossible to distinguish between serious offenses that are drug related and those that are not.

Therefore, official police statistics must be understood to reflect patterns of citizen reporting and police deployment as well as crime itself. Moreover, both of these factors vary locally. Two neighborhoods with similar crime problems may appear quite different in the recordbooks if there is a relative reluctance to call police in one or a preponderance of drug "sweeps" and other police activity in the other.

These limitations notwithstanding, official statistics are a vital source of information. They are the only data that meet several crucial criteria. First, police data are incident based. Each record contains a date, time, location, and description of the offense as well as other information. As noted, this structure allows the analyst to assign each incident to a housing development or other area. Moreover, the same variables are provided for every serious offense across the entire jurisdiction. This makes it possible to compare developments to one another and to nearby neighborhoods. Similarly, coverage and variable definitions are relatively consistent over time, allowing data over a long time period to be analyzed.

No other feasible method of data collection can provide these advantages. On-site observation cannot be conducted in enough locations for a long enough period. Victimization surveys, which are used to estimate levels of non-reported crime (Skogan 1977), cannot provide the needed level of detail on time, offense category, and particularly location. Moreover, targeting surveys to a low-income population like public housing residents would be fraught with methodological problems of its own (Garafalo 1990).

Therefore, although it is clear that official statistics should not be viewed as complete descriptions of criminal or drug-related activity, the comprehensiveness and level of detail of these data provide advantages that far outweigh the problems associated with their use.

Limitations of Population Data

The use of official statistics on population to calculate per capita offense rates also introduces some error into the analysis. For example, census data for large cities are widely thought to undercount the homeless, illegal immigrants, and the poor. This is a particular problem in areas where these populations may be large, which include many neighborhoods close to public housing.

The use of housing authority data to measure housing development populations also has difficulties. Such data account only for the *official* residents of developments. They exclude not only the homeless in the area and illegal immigrants but all family members not on the lease, boyfriends,

"visitors," etc. In some developments, these populations are thought to be very high. In general, this error is in the opposite direction from the error introduced by incomplete crime reporting; it means that per capita housing development offense rates are likely to be overestimates relative to per capita rates for other urban neighborhoods and, *ceteris paribus*, that both sets of rates overstate the true offense rate. Moreover, the extent of population undercounts may vary significantly from one development to another; this adds an element of uncertainty to comparisons among development offense rates.

It is difficult to estimate either the overall size of the undercounting problem or the variation in undercounting from development to development. Comparisons of housing authority and census data are not fruitful because housing development boundaries often do not match those of census blocks or tracts; and, in any event, illicit residents of public housing are nearly as unlikely to be known to census takers as they are to housing authorities. Techniques for imputation of missing persons, such as those used by the census, do not apply for such small geographic areas.

For these reasons, this study relies on official population statistics for the calculation of per capita offense and arrest rates. Much like police data, though they are not without problems, they are the best source of information available.

Assignment of Events to Housing Developments

This study defines housing development offenses and arrests as those that occur within the borders of housing developments. This definition has several implications for the interpretation of the results.

First, this is not an analysis of all offenses known to involve housing development residents. Offenses that occur outside of the development, but that are committed by or against public housing residents, are not identifiable and so are not counted. Similarly, offenses that involve only non-residents, but that occur on development grounds, cannot be distinguished from incidents involving residents; therefore, both are included.¹⁹

More broadly, the data do not necessarily describe all offenses and arrests "due" to public housing. For example, if a major intersection, close to but not within a housing development, has developed an open-air drug market, the drug offenses associated with that market are not identifiable as development offenses from the researchers' records, even if the viability or characteristics of the market depend on the proximity of the nearby housing development. (Such a

¹⁹Variables for the residence address of victims, residence address of offenders, and the locations of offenses leading to particular arrests were not available.

circumstance might in fact reduce the offense figures for the development by shifting offenses from the development to the market.)

Finally, in this study, data on offenses and arrests in a given geographic area cannot be used to calculate the area's "clearance rate" — the fraction of reported offenses committed within an area that lead to an arrest or other disposition. This is because, as noted previously, the data provided do not permit offenses that occur within an area to be linked to arrests outside it, or arrests within the area to be linked to offenses committed elsewhere. The implications of this issue are discussed in more detail in Chapter 6.

3. PUBLIC HOUSING IN THE THREE CITIES

The balance of this report applies the methodology described in Chapter 2 to public housing developments in three cities: Los Angeles, California; Phoenix, Arizona; and the District of Columbia. This chapter describes public housing developments in each of these cities.

The chapter consists of three sections. An overview of the cities' public housing systems is followed by a more detailed description of the particular housing developments selected for study in each city. The chapter concludes with a brief description of the selection of "nearby neighborhoods" — areas of private housing close to public housing developments that do not themselves contain public housing. Offense and arrest information for these neighborhoods can be used to provide additional context for the analysis of the developments.

OVERVIEW OF STUDY CITIES AND THEIR PUBLIC HOUSING SYSTEMS

This section provides a brief overview of conventional public housing in the three study cities. Table 3.1 provides citywide demographics for each of the three cities, while Table 3.2

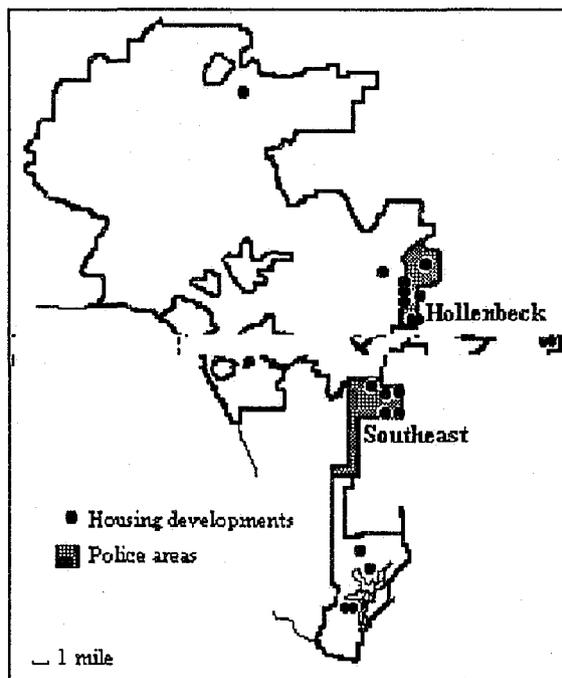


Fig 3.1—Conventional Public Housing in Los Angeles

describes each city's conventional public housing system and the demographics of public housing residents. Three maps (Figures 3.1–3.3) show the location of housing developments within each city.

Eleven of the 21 developments are within the borders of two police areas: the Hollenbeck area in the east and the Southeast area. The borders of these two areas are shown in Figure 3.1 in gray.

The City of Los Angeles manages 21 conventional public housing developments (Figure 3.1). Although the L.A. public housing system is the largest of any of the three cities by population, with more than 28,000 residents, fewer than 1% of L.A. residents live in conventional public housing. Nearly all of the Los Angeles developments are clustered in three areas of the city: the harbor area in the south, the city's southeastern section, and in and around East Los Angeles.

Phoenix, by contrast, has the smallest public housing system of the three cities, both in terms of the resident population and the number of individual developments. The city administers

Table 3.1
 Citywide Demographic Characteristics of Los Angeles, Phoenix, and Washington, D.C.,
 1990

	Los Angeles	Phoenix	Washington
Population	3,353,000	983,403	606,898
Population ranking, U.S. cities (1988)	2	5	17
% population Black	14.0	5.2	65.8
% population Hispanic	39.9	20.1	5.4
% population under 18	24.8	27.2	19.3
% population over 65	10.0	9.7	12.8
% population poor	18.9	14.0	16.9
% households, annual income \leq \$10,000	15.6	13.8	16.5
% female-headed families (a)	21.0	17.7	39.2
% civilian unemployment	8.4	6.7	7.2

NOTE: (a) Families with minor children younger than eighteen years of age, no father present

SOURCE: 1990 census

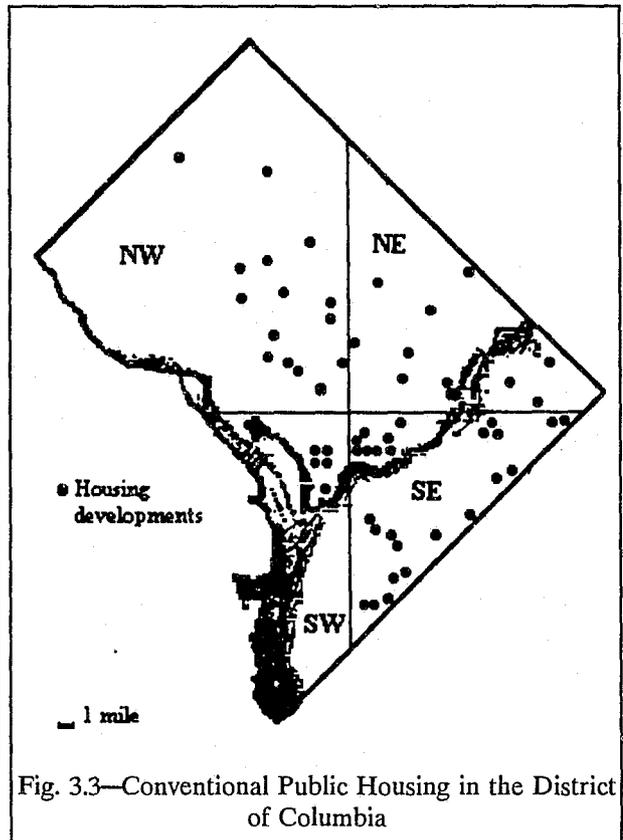
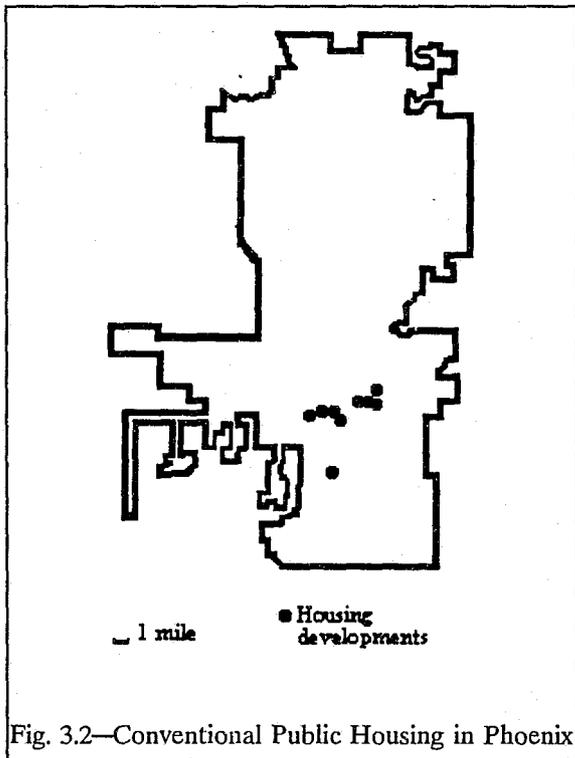


Table 3.2
Conventional Public Housing in Los Angeles, Phoenix, and Washington, D.C., 1990

	Los Angeles	Phoenix	Washington
Number of developments	21	12	56
Type of units	Low-rise	Low-rise	Mixed
Resident population	28,366	4,765	23,210
% city population in public housing	0.85	0.52	3.82
Number of units	6,268	1,776	16,784
% residents Black	31.3	30.3	99.7(a)
% residents Hispanic	N/A	54.9	0.1(a)
% residents under 18	53.6	54.9	43.1
% residents elderly	4.2	n/a	15.1
% households receiving AFDC	25.4	42.0	n/a
% employment	23.5 (b)	11.9 (c)	n/a
% households headed by women	n/a	76.2	n/a
% households, annual income ≤ \$10,000	59.3%	n/a	74.4%

NOTE: (a) 1992 data for households (b) percentage of adults employed, including full-time students (c) percentage of households with employment income

SOURCE: Los Angeles, Phoenix, and Washington, D.C. Housing Authorities

1,776 units in eight conventional housing developments, all of which are located in the south central area of the city (Figure 3.2). An additional development within city limits is administered by Maricopa County; this development is not included in this analysis. All but one of the developments are located in an area of about six square miles.

The District of Columbia (Figure 3.3) has more than twice as many individual public housing units and almost three times as many individual developments as Los Angeles. While the District has fewer public housing residents than Los Angeles, almost 4% of its population lives in the 56 city-administered public housing developments. The large number of D.C. developments reflects differences in both family size and construction practices in the two cities.

All Los Angeles and Phoenix public housing developments are collections of lowrise buildings. In Washington, about one-third of the developments are composed of a small number, usually one, of highrise structures.

Finally, the demographics of public housing residents differs widely from city to city. The Washington public housing population has a higher proportion of elderly residents than the population in the other two cities. Many of the District's elderly live in one of the city's 11 "elderly housing"

developments. District of Columbia development residents are also virtually 100% African American, unlike the populations in Los Angeles and Phoenix, which have large Hispanic populations.¹ In Los Angeles, there are also clear regional differences in the ethnic and/or racial makeup of resident populations among regions of the city. Most developments in the south of the city are populated predominantly by African Americans, while developments in East Los Angeles are almost exclusively Hispanic (see below).

Housing authorities collect only spotty data relating to residents' income and family structure. Moreover, the data that they do collect are rarely comparable to citywide data. This made it virtually impossible for the researchers to investigate in this study the theoretical connections scholars have drawn between these factors and public housing crime (Chapter 2). However, the data that were available, combined with qualitative information from housing authorities, support the conventional wisdom that developments in all three cities have high rates of poverty, of unemployment, and of families with young children headed by single mothers.

SELECTION OF HOUSING DEVELOPMENTS IN EACH CITY

Both methodological and resource constraints made the analysis of all housing developments in the three study cities impractical. Instead, a number of housing developments in each city were selected for examination using information provided by the particular housing authorities and police departments who collaborated with the researchers. A primary objective was to include at least 50% of each city's total public housing population.

The developments selected for study are listed in Table 3.3. Generally, the city's largest developments and those that had experienced significant crime problems were chosen. Small developments and developments with large elderly populations were excluded. Local considerations also played a role. For example, in Los Angeles, the researchers selected all of the developments in two regional clusters: those in the Hollenbeck area in east Los Angeles and those in the city's Southeast area, which includes Watts (Figure 3.1). In Phoenix, where there are relatively few developments, all except the city's smallest were included. In Washington, 21 developments were selected, largely on the basis of size. Most developments were in the Southeast section of the city, but one development from each of the Northeast and Southwest quadrants were chosen. Maps showing the location of selected developments are provided in Appendix C (Figures C.1-C.4).

As noted in Chapter 2, the definition of housing developments in a given city depends on the

¹Although the Housing Authority of the City of Los Angeles does not maintain data on residents by Hispanic origin, it is clear that many developments have high Hispanic populations.

Table 3.3
Housing Developments Selected for Study

Los Angeles	Phoenix	Washington
Aliso Village	A.L. Krohn Homes	Barry Farms Dwell.
Aliso Extension	Frank Luke Addtn.	Benning Terrace
Avalon Gardens	Frank Luke Homes	E. Capitol Dwell.
Estrada Courts	Marcos de Niza	Fort Dupont
Estrada Extension	M. de Niza Addtn.	Fort Dupont Addtn.
Hacienda Village	M. Henson Homes	Frederick Douglass
Imperial Courts	M. Henson Addtn.	Greenleaf Gardens
Jordan Downs	S. Osborn Homes	Greenleaf Addition
Nickerson Gardens		Greenleaf Extn.
Pico Gardens		Highland Dwellings
Ramona Gardens		Highland Addition
Rose Hills Courts		
		James Creek
		Langston Terrace
		Langston Addition
		Ledroit Apts.
		Lincoln Heights
		Potomac Gardens
		Stanton Dwellings
		Stoddert Terrace
		Syphax Gardens
		Valley Green

method of recordkeeping used by the police department in that city. Los Angeles and Washington, D.C., police use street addresses to record the location of crimes and arrests. In these cities, therefore, a crime or arrest was associated with a development if it occurred anywhere within development borders.² By contrast, the Phoenix police use a system of ¼-square mile grids to record locations. Therefore, all crimes that occur within a grid containing a housing development are defined as housing development crimes. Thus, the figures presented for Phoenix are somewhat less precise than those for the other cities.³ The extent of this imprecision is described in Table 3.4.

In addition, in several cases, immediately adjacent housing developments were treated as single "developments." In most cases, this meant aggregating developments with "extensions" and "additions" constructed at a later date.⁴ These aggregations are used throughout the analysis.

Tables 3.5-3.7 describe the housing developments selected for study in Los Angeles, Phoenix, and Washington, respectively.⁵ In the tables, summary lines containing aggregate data are in boldface. The first line in each table repeats the data in Table 3.2, which describes all city public housing. The

²This is discussed in more detail in Chapter 2.

³Figure C.3 illustrates the grid and development boundaries.

⁴In Phoenix, the aggregation was complicated by the fact that several developments bearing the same name are in fact two non-adjacent sets of buildings. At the same time, such "half-developments" would be adjacent to a development of a different name. The researchers chose to aggregate adjacent developments and assign them to particular names. The details of this aggregation are provided in Table 3.6.

⁵Maps showing the locations of individual developments are provided in Figures C.1-C.4.

second line is an aggregate description of the housing developments selected for study. Note that in Los Angeles, where selected developments are from two distinct areas, aggregate data for each area are also presented.

The data on race and age shown in the tables demonstrate that although the developments studied are not a random sample of public housing developments in their respective cities, the characteristics of their resident populations are very similar to public housing residents citywide, with two exceptions: African Americans are overrepresented in the selected Los Angeles developments, due to the inclusion of all developments in the Southeast area, and the elderly are underrepresented in the Washington, D.C., data, due to the deliberate omission from the study of "elderly housing" developments, of which Washington has 11.

Consistent data on income and family structure in public housing are not available for individual developments. The housing authorities in the three cities do not collect a great deal of data in these areas on a development-by-development basis, and the data that are collected differ from city to city. Nor can such data be extracted from the 1990 census; tract-level data are not helpful since most tracts are much larger than most housing developments, and block-level data fail to match the borders of many of the selected housing developments, especially in Washington, where the developments are relatively small.⁶ At the same time, data on the public housing system as a whole (Table 3.2) show high rates of poverty, unemployment, and single-parent households. There is no reason to expect that these phenomena in selected developments differ significantly from the rates in the rest of the public housing system.

SELECTION OF NEARBY NEIGHBORHOODS FOR COMPARATIVE PURPOSES

As noted previously, it is difficult to assess public housing offense rates unless these rates are placed in context. Therefore, this study calculates offense and arrest rates citywide for Los Angeles, Phoenix, and Washington. It also calculates these rates for selected "nearby neighborhoods": areas in close proximity to public housing that do not themselves contain public housing developments. The inclusion of nearby neighborhood data provides some insight into the differences between public housing crime and crime in developments' immediate surroundings.

The universe of potential nearby neighborhoods was defined as 1990 census tracts, to facilitate the process of obtaining descriptive and demographic information for the areas. Candidate census tracts were required to meet the following three criteria:

⁶1990 Block level data for Phoenix were also unavailable at the time of printing.

Table 3.4
Phoenix Housing Developments and Associated Grid Identifiers

	Development Population	Associated Grid Population	% of Grid Pop. Resident in Housing Development
Duppa Villas	1,300	1,639	79.3
Sidney Osborn	567	1,374	41.2
Foothills Village	678	848	10.0
Marcos De Niza	859	1,993	43.1
Matthew Henson	944	1,378	68.5

NOTE: Population Data is for 1990

SOURCE: Phoenix Housing Authority, Phoenix Office of Long-Range Planning

Table 3.5
Characteristics of Housing Developments Selected for Analysis, Los Angeles, 1990

	Popula- tion	% Res. Black	% Res. Hispanic	% Res. Under 18	% Res. Elderly
All Developments	28,366	31.3	n/a	53.6	4.2
Selected Developments	16,134	42.2	n/a	53.7	4.1
Hollenbeck Area	8,335	5.1	n/a	50.4	5.1
Estrada Courts/Ext. (a)	1,372	2.3	n/a	47.3	7.5
Pico/Aliso (a)	4,578	9.1	n/a	50.3	4.9
Ramona Gardens	2,079	1.4	n/a	53.7	3.2
Rose Hills Courts	306	4.2	n/a	43.1	9.5
Southeast Area	7,799	81.0	n/a	57.4	3.1
Avalon Gardens	400	97.3	n/a	45.0	10.3
Hacienda Village	444	85.6	n/a	46.8	12.4
Imperial Courts	1,393	87.2	n/a	58.9	1.9
Jordan Downs	2,311	85.6	n/a	59.2	2.1
Nickerson Gardens	3,251	72.6	n/a	58.5	2.2

NOTE: (a) Aggregation of adjacent developments

SOURCE: Housing Authority of the City of Los Angeles

Table 3.6
 Characteristics of Housing Developments Selected for Analysis, Phoenix, 1990

	Popula- tion	% Res. Black	% Res. Hispanic	% Res. Under 18	% Res. Elderly
All Development	4,765	30.3	54.9	54.9	n/a
Selected Developments	4,348	30.3	55.5	53.9	n/a
Duppa Villas (a)	1,300	29.8	52.2	49.8	n/a
Foothills Village	678	27.3	61.1	62.8	n/a
Marcos De Niza (b)	859	24.6	63.2	48.4	n/a
Matthew Henson Homes (c)	944	35.6	47.8	49.9	n/a
Sidney Osborn (d)	567	34.7	57.5	67.4	n/a

NOTES: (a) Defined as Frank Luke Homes, Frank Luke Addition, and A.L. Krohn Homes West; (b) defined as Marcos de Niza and Marcos de Niza Addition; (c) defined as M. Henson Homes and Addition, and Sidney Osborn Homes West; (d) defined as Sidney Osborn Homes East.

SOURCE: Phoenix City Housing Authority

Table 3.7
 Characteristics of Housing Developments Selected for Analysis Washington, D.C., 1990

	Popula- tion	% Res. Black (b)	% Res. Hispanic (b)	% Res. Under 18	% Res. Elderly
All Developments	23,210	99.7	0.1	43.1	15.1
Selected Developments	13,889	99.9	0.0	48.2	8.4
Barry Farms Dwellings	1,509	100.0	0.0	54.5	4.7
Benning Terrace	1,106	100.0	0.0	55.3	3.6
East Capitol Dwellings	1,934	100.0	0.0	49.5	6.4
Fort Dupont (a)	518	99.3	0.0	43.2	6.7
Frederick Douglass	774	99.6	0.0	45.4	6.7
Greenleaf/Ledroit (a)	1,074	99.8	0.0	31.9	27.2
Highland Dwellings (a)	1,110	100.0	0.0	51.3	4.1
James Creek	603	99.6	0.0	37.2	12.7
Langston Terr./Adtn. (a)	575	100.0	0.0	51.3	4.1
Lincoln Heights	1,268	99.8	0.0	49.9	3.4
Potomac Gardens	802	n/a	n/a	45.3	18.5
Stanton Dwellings	540	99.6	0.0	59.6	3.9
Stoddert Terrace	818	100.0	0.6	51.1	4.6
Syphax Gardens	479	100.0	0.0	51.2	3.2
Valley Green	779	100.0	0.0	49.9	2.3

NOTE: (a) Aggregation of Adjacent Developments (b) Development figures are for 1992, by household

SOURCE: Washington, D.C. Department of Public and Assisted Housing

1. The absence of public housing developments;
2. Geographical proximity to the selected public housing developments;
3. The absence of major non-residential geographical features, such as sports stadiums, industrial areas, etc.

Of the tracts that met all of these criteria, the four or five whose demographic characteristics most closely approximated those of the selected housing developments were then chosen for study.

It must be emphasized that demographic similarities between public housing developments and the nearby neighborhoods are only partial. There are two reasons for this. First, the criteria enumerated above provide only a limited number of areas from which to choose. In Washington, for example, most census tracts in the Southeast quadrant contain public housing developments and were thus disqualified from consideration.

Second, public housing developments have characteristics that are difficult to replicate in private housing. Most importantly, public housing developments have unusually high concentrations of poor families. Federal regulations do make it possible for people who are not poor to become public housing residents — residents may have incomes up to 80% of the median for that area — and families who escape poverty after being admitted to public housing do not automatically lose their public housing units as their incomes increase. But while it is technically possible for people who are not poor to live in public housing, in reality, very few nonpoor families do so (Weisel 1990).⁷ Moreover, since the early 1980's, public housing has admitted more and more residents who are the "poorest of the poor," with incomes less than 10% of the local median (National Commission on Severely Distressed Public Housing 1992).

Thus, the nearby neighborhoods studied in this report are neither a random sample of inner-city areas nor a "control" group of neighborhoods identical in all respects except for the ownership of housing. In fact, no such "control" group could be chosen, since there are no areas of private housing that are comparable to public housing developments in all significant respects except for the identity of the landlord.

Because idiosyncratic features of neighborhoods can affect offense rates, multiple neighborhoods in each city were selected, and the results for analysis were aggregated. The locations of the nearby neighborhoods selected are shown on the maps in Appendix C (Figures C.1-C.4). In Los Angeles, four or five nearby neighborhoods were selected in both Hollenbeck and Southeast. In Phoenix, the researchers designated the nearby neighborhoods to be the census tracts containing the housing

⁷Moreover, the concentration of poor people in public housing is intensified by a host of governmental mandates, including court orders mandating racial balance, and federal preferences for the homeless, requirements and incentives for housing the mentally ill, and other local requirements (Weisel 1990).

developments, *excluding* the grids within the tract that contained developments. This was done because there were few other census tracts that are both geographically close and demographically similar to public housing.⁸ In Washington, four census tracts in the Southeast quadrant of the city were selected.

Table 3.8 contains an aggregate description of the nearby neighborhoods that were selected and compares this information to data describing public housing developments. A comparison of Tables 3.1 and 3.8 shows that rates of poverty, unemployment, and female-headed households in the nearby neighborhoods are significantly higher than citywide rates. At the same time, a comparison of Tables 3.2 and 3.8 shows that these problems are less grave in the nearby neighborhoods than in public housing. Again, this is unavoidable, since public housing developments tend to serve that part of the population that suffers most from these problems.

Racial and age measures for nearby neighborhoods also correspond imperfectly with those of public housing developments. Table 3.8 shows a similar pattern in each of the three cities: public housing developments contain a higher proportion of children and of African Americans than the nearby neighborhoods. Conversely, the Hispanic population share is greater in the nearby neighborhoods than in the developments. This is particularly noteworthy in Los Angeles's Southeast area, where Hispanics have recently begun to live in larger numbers, although the area's housing developments remain quite segregated.

These observations indicate that the nearby neighborhoods are like housing developments in several significant ways, but are dissimilar in others. Most important, as areas geographically close to housing developments, the nearby neighborhoods represent the urban context in which public housing is situated and in which public housing residents live. Moreover, both types of areas have many of the social and economic characteristics commonly associated with urban distress, although to different degrees. In this respect, the nearby neighborhoods represent a middle ground between the problems of the development on the one hand and citywide conditions on the other.

⁸This approach was possible in Phoenix because the boundaries of census tracts and Phoenix police grids coincide.

Table 3.8

Characteristics of Nearby Neighborhoods

	Los Angeles Hollenbeck Area		Los Angeles Southeast Area		Phoenix		Washington	
	Selected Dvlpmnts.	Nearby Neighbrhds.	Selected Dvlpmnts.	Nearby Neighbrhds.	Selected Dvlpmnts.	Nearby Neighbrhds. (a)	Selected Dvlpmnts.	Nearby Neighbrhds.
Population	8,335	23,561	7,799	17,477	4,348	17,032	13,889	14,701
% Residents Black	5.9	0.7	81.0	53.5	30.3	18.1	99.9 (b)	98.4
% Residents Hispanic	n/a	95.3	n/a	47.4	55.5	66.5	0.0 (b)	0.7
% Residents under 18	50.4	34.0	50.4	39.6	53.9	46.8	48.2	33.7
% Residents elderly	5.1	8.8	5.1	6.2	n/a	8.8	8.4	5.7
% Residents poor	n/a	26.4	n/a	41.1	n/a	(c)	n/a	30.1
% Households w/ income ≤ \$10,000	88.1	21.1	91.8	36.8	n/a	(c)	n/a	32.2
Civilian Unemployment Rate	n/a	13.4	n/a	28.2	n/a	(c)	n/a	12.0
% female-headed families	n/a	25.1	n/a	42.6	n/a	45.0	n/a	62.8

NOTE: (a) Data for Phoenix nearby neighborhoods are for entire census tracts.

(b) Racial data for Washington developments are 1992 data for households.

(c) Tract-level employment and income data for Phoenix had not been released at the time of printing.

(d) Families with minor children younger than eighteen years of age, no father present

4. OFFENSE RATES IN PUBLIC HOUSING DEVELOPMENTS, NEARBY NEIGHBORHOODS, AND SURROUNDING CITIES

INTRODUCTION

The Anti-Drug Abuse Act of 1988, the legislative centerpiece of the national drug control strategy enacted in the closing days of the Reagan administration, created the Public Housing Drug Elimination Program (PHDEP) for the purpose of controlling drug crime and related problems in public housing developments (P.L. 100-690). The program, administered by the U.S. Department of Housing and Urban Development, made an estimated \$165 million in grants to housing authorities in 1992 (ONDCP 1992). The magnitude of this commitment to controlling drugs in public housing is clearly indicated by comparison with other grant programs established by the act. In FY 92, for instance, an estimated \$1.5 billion was distributed to states and localities as part of the federal grants-in-aid process for drug education, prevention, treatment, and enforcement programs (ONDCP 1992). This translates to a per capita expenditure of approximately \$6 per citizen. The same calculation for the PHDEP budget and the public housing population — roughly 3.5 million — represents an additional federal investment of approximately \$47 per public housing resident.

Several reasons have been advanced to justify the dedication of disproportionate resources to public housing. First, the government functions as landlord, as well as the general community protector, in public housing communities. This gives it additional responsibility to insure residents' security. A second reason derives from the poverty and vulnerability of many public housing residents. These residents lack a critical choice available to many other citizens when confronted with crime and violence — moving to a less risky neighborhood.

Perhaps more important than either of these concerns, however, has been the widespread perception that crime, and drug crime in particular, is rampant in public housing. This chapter evaluates this assertion through an examination of aggregate offense rates in public housing, nearby neighborhoods, and the cities at large in Los Angeles, Phoenix, and Washington, D.C. The chapter also briefly describes rates of particular offenses and changes in offense rates over time.¹

¹The offense rates described in this chapter are based on offense counts and population data shown in Table C.1. The table shows that all rates reported are based on a substantial number of incidents. Other tables and figures in Appendix C present detailed breakdowns of the data described in this chapter by offense type and by area.

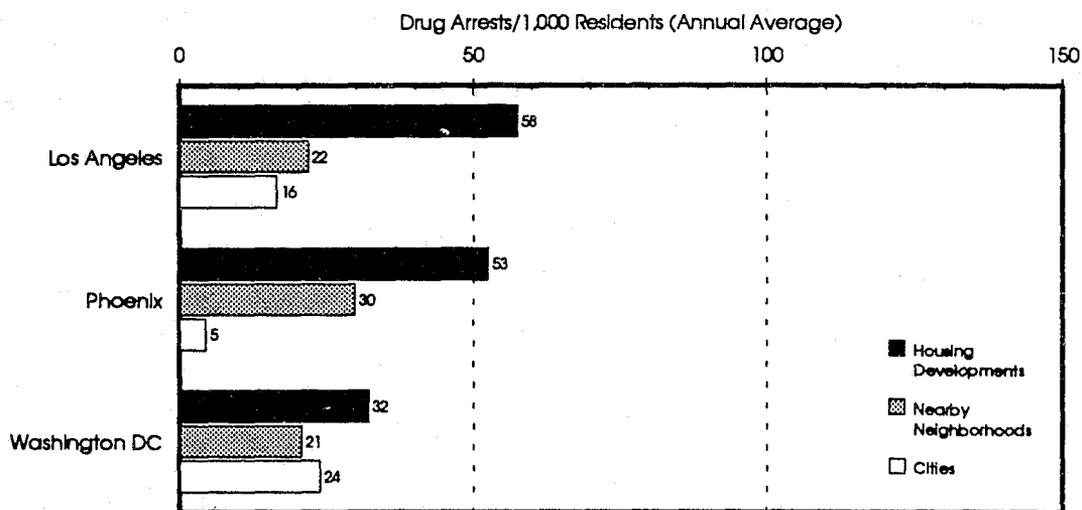


Fig. 4.1—Rates of Arrests for Drug Offenses in Housing Developments and Other Areas, 1986-1989

The chapter has four sections. The first three sections analyze, respectively, rates of drug, violent, and property offenses. Each type of offense is discussed for housing developments, nearby neighborhoods, and cities. The final section reviews the findings of the first three sections and briefly discusses their implications.

DRUG OFFENSES

As noted in Chapter 2, drug arrests are the best available measure of drug offenses that can be obtained from the police data used. Figure 4.1 depicts, for each of the three study cities, rates for drug offenses in public housing developments, nearby neighborhoods, and the city as a whole. Housing developments and nearby neighborhoods are aggregated in each city. Rates are calculated as the average annual number of drug offenses per 1,000 residents, for the four years 1986-1989. Thus, there was a citywide average of 16 drug offenses per 1,000 residents for drug offenses in Los Angeles, an average of 5 per 1,000 in Phoenix, and an average of 24 per 1,000 in Washington, D.C.

Figure 4.1 shows that in all three cities, drug offenses occur at a significantly higher rate in public housing than either the surrounding cities or the nearby neighborhoods. In Los Angeles, the housing development offense rate is roughly 3.5 times larger than the citywide rate; in Phoenix, it is 11.5 times larger; and in Washington, D.C., it is 1.4 times larger. Rates of drug offenses in public housing developments are also larger than rates in nearby neighborhoods, though by smaller amounts.

These data substantiate, at least for the study cities, the hypothesis that drug crime is a more severe problem in public housing developments than elsewhere. The finding that

developments have higher drug offense rates than surrounding cities is not unexpected, since public housing is generally located in high-crime areas. The nearby neighborhood finding, however, illustrates that public housing developments have drug offense rates that are also significantly greater than those of nearby areas.

The development/city patterns seen for all drug offenses also apply to rates of arrests specifically for drug sale/manufacture and to other drug arrests when the two categories are considered separately.² That is, differences on both measures between cities and the developments they contain are very substantial in Phoenix, more moderate in Los Angeles, and smaller but still positive in Washington. This is true despite substantial intercity differences in the relative contribution that the two types of drug arrests make to each city's total drug offense rate.³

It is also interesting to note that the magnitude of public housing drug offense rates does not vary across cities in the same way that citywide rates do. As Figure 4.1 shows, the rank order of the three cities according to citywide drug offense rates (Washington, Los Angeles, Phoenix) is different than the order for housing development rates (Los Angeles, Phoenix, Washington).⁴ This suggests that there is no linear association between city and development drug offense rates, although such a conclusion remains extremely tentative in the absence of data on additional cities. Similarly, an analysis of annual drug offense rates shows that, within a given city, development and citywide trends differ not only in shape but also often in direction (Figure C.6).

These data clearly demonstrate that public housing developments, in the aggregate, have drug crime problems that are substantially worse than those of other areas. At the same time,

²Other drug offenses are predominantly drug possession offenses. Full definitions of all offense categories are given in Appendix A.

³Offense-specific data are presented in Table C.3. It is important that these differences not be taken to represent the proportion of all drug offenses *per se*, which is due to sales and manufacture. High rates of sale/manufacture arrests relative to other drug arrests may say more about the enforcement and recordkeeping practices of the police than the actual but unobservable rates of the two types of crime. For example, two cities with identical drug problems could have very different rates of drug sale/manufacture arrests, if police in one city target street-level drug use, arresting large numbers of users, while police in the other target mostly dealers. Similarly, police tend to arrest dealers for drug possession if they believe that sales charges cannot be successfully prosecuted. The frequency of such goal-oriented marking-down, relative to "true" drug possession arrests, depends as much on the policies of the police force and prosecutor's office as on the nature of drug crime. These concerns are relevant both to intercity comparisons, since different police forces may have different priorities, and to intracity analyses, since a given police force may enforce the drug laws differently in different areas. These methodological and conceptual issues are discussed in more detail in Chapter 2.

⁴Both rankings are also different from those for nearby neighborhoods (Phoenix, Los Angeles, Washington).

intercity comparisons and time trend data both fail to demonstrate consistent relationships between development drug offense rates and the rates in surrounding cities.

VIOLENT OFFENSES

Figure 4.2 shows patterns of violent offenses that are similar in many ways to those noted for drug offenses. Like drug offenses, rates of violent offenses in public housing developments are very high compared to citywide violence rates, although the magnitude of the differences is slightly smaller in the case of violence than in the case of drugs. In Washington, the public housing violent offense rate is more than twice that of the city; in Los Angeles, it is more than three times that of the city; and in Phoenix, it is six times that of the city. These rates are much higher than those that most large urban communities experience. In 1989, for example, only one of the 58 cities with populations greater than 250,000 had a rate of violent offenses comparable to these housing development rates.⁵ The vast majority of cities have rates that are much lower (Bureau of Justice Statistics 1991).

Similarly, public housing violent offense rates are greater than rates in nearby neighborhoods, though, again like drug offenses, the differences between developments and nearby neighborhoods are smaller than those between developments and cities.

The three groups of public housing also exhibit the same relative relationships for violence as for drugs: the rate is highest in Los Angeles, next highest in Phoenix, and lowest in Washington. Again, this ranking is different than that associated with the citywide rates. Interestingly, however, annual *trends* in violent offenses over the study period are very similar for housing developments and the cities in which they are located (Figure C.8). This suggests that the factors that contribute to changes in violent offense rates may operate similarly in public housing and citywide, even though the two rates are different. This does not appear to be true for drug offense rate trends (Figure C.6).

With the exception of the trend comparisons, public housing developments' drug crime problem is paralleled very closely by their violent crime problem. It is impossible to determine, using these data, whether drugs and violence are somehow causally related in the study cities. Clearly, however, both types of offenses occur at much greater rates in housing developments than elsewhere.

⁵Atlanta, Georgia, had a 1989 violent crime rate of 39.5 offenses per 1,000 residents. Two other cities had violent crime rates greater than 30 offenses per 1,000: Newark, New Jersey (33.0) and St. Louis, Missouri (31.2) (Bureau of Justice Statistics 1991, Table 3.114).

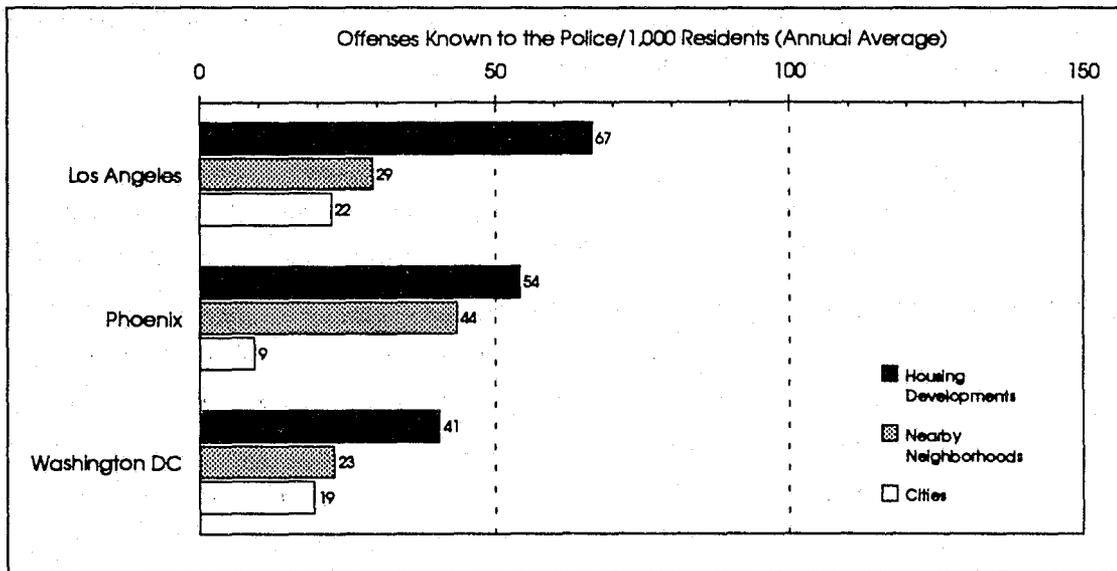


Fig. 4.2—Rates of Violent Offenses in Housing Developments and Other Areas, 1986-1989

An analysis of each of the four major types of violent offenses — murder, rape, robbery, and aggravated assault — shows that housing developments have considerably higher rates than cities for each offense type (Table C.4). The differences between development and city rates are particularly large for murder and assault. In each of the three cities, development murder and assault rates are at least three times those of the cities. Smaller differences are observed for rape and robbery in Los Angeles and Washington, while differences in Phoenix are very high for all four offense types.⁶

Rates of robbery and assault in housing developments are higher than rates in Phoenix, which are in turn higher than the rates in Washington. Murder rates, however, show a different pattern: approximately one murder per 1,000 persons per year in housing developments in Phoenix and Los Angeles, and 1.75 murders per year in developments in Washington, D.C. (Table C.4). This finding is consistent with the mounting overall murder rate in Washington, which is also higher than in the other two cities. However, even though the Phoenix and Los Angeles murder rates are lower than the Washington rate, both in housing developments and citywide, the *ratio* of the rate of murder between developments and the surrounding city is the least in Washington.

⁶The data in this study shed relatively little light on the problem of rape in public housing developments. This is because, of all major offenses, rape is the most underreported. It is reasonable to assume that the police reports upon which these data are based vastly underrepresent the prevalence of rape, both in housing developments and in the three cities (Koss 1992). Moreover, the extent of underreporting may vary from city to city, city to development, and from development to development.

In summary, drug and violent offense rates provide a very similar picture of crime in public housing in all three cities. Housing developments in each city have offense rates significantly higher than the city at large and also higher than the nearby neighborhoods. Los Angeles housing developments have the highest rate of drug and violent offenses, and Washington developments have the lowest.

PROPERTY OFFENSES

Serious property offenses are defined as the sum of burglary, larceny, and auto theft offenses. Data on the reported rates of property offenses are presented in Figure 4.3. There are some dramatic contrasts between this figure and the two previous figures that described drug and violent offenses.

In each of the three cities, rates of reported property offenses citywide are much higher than the rates for either drug or violent offenses. In the city of Los Angeles, for instance, there were 16 drug offenses per 1,000 residents per year citywide (Figure 4.1) and 22 violent offenses (Figure 4.2). But there were 78 reported property offenses (Figure 4.3). The same kind of relationship holds true in the other two cities. In general, then, property offenses are much more prevalent than drug or violent offenses when the city as a whole is considered. If the housing development/city relationship observed earlier for drug and violent offenses were mirrored for property offenses, then one would expect to see property offense rates in housing developments at some whole multiple of the city rates.

In fact, in Los Angeles and Washington, D.C., the opposite is true. In these cities, property offense rates in public housing are *lower* than the city rates. In Phoenix, although the development rate is almost twice the city rate, the difference does not approach the magnitude by which rates of drug and violent offenses in public housing developments exceed the city rates.

In addition, housing development property offense rates are much closer to property offense rates in nearby neighborhoods than housing development drug or violent offense rates are to their corresponding nearby neighborhood rates. In all three cities, housing development property offense rates are within 33% of the nearby neighborhood rates. This suggests that public housing is more similar to nearby private housing with respect to property offenses than with respect to drug or violent offenses.

An analysis of annual rates of reported property offenses in housing developments and citywide shows that development and citywide trends parallel one another very strongly within each city, despite differences in magnitude (Figure C.10). However, this similarity masks the variations in the relationships between development and citywide trends for the individual offenses of larceny, burglary, and auto theft. For example, Los Angeles housing developments report burglaries at rates

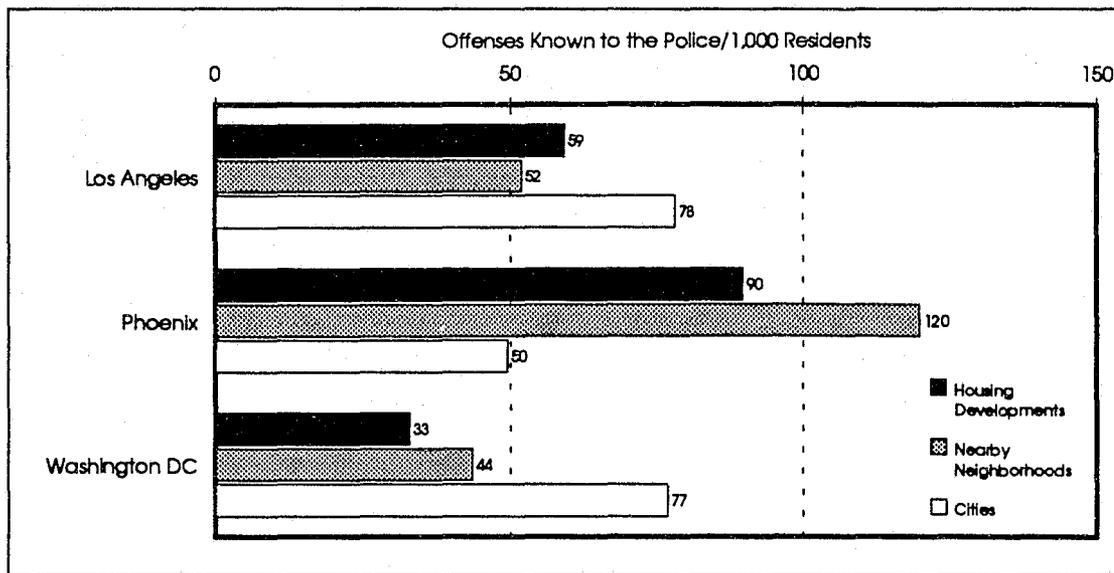


Fig. 4.3—Rates of Reported Property Offenses in Housing Developments and Other Areas, 1986-1989

that exceed city rates, while reporting larcenies at rates far lower than those of the city. Relationships among the categories also differ for the developments in the various cities: Washington developments report more larcenies per capita than burglaries, while the opposite is true in Los Angeles and Phoenix developments (Table C.5).

What accounts for the relatively low rates of serious property offenses in both public housing developments and the Los Angeles and Washington nearby neighborhoods? There are several possible explanations. In general, low value losses and uninsured losses are relatively unlikely to be reported to police. This means that a higher proportion of property offenses will be reported in wealthy areas than in poor ones. It also may be that the relatively poor, urban residents of public housing and nearby neighborhoods are less likely than their wealthier counterparts in other areas of the city to report property offenses when they occur regardless of the value of the loss. Both predisposition and experience may lead these individuals to believe that filing offense reports will not lead to useful results. This may in fact be the case: reports of property offenses from public housing residents may be more difficult to confirm upon investigation or may be considered less credible by the police and so may have a smaller chance of becoming a part of official police statistics, especially since stolen items may often be of low value. Finally, it may simply be that property offense rates in particularly poor areas may be low because there is relatively little of value to steal.

These possibilities are obviously not mutually exclusive and so there may be a combined effect.⁷ However plausible, these theories must remain at the level of speculation, since the available data are not rich enough to allow such a determination to be made.

SUMMARY

For the study cities, rates of drug and violent offenses in public housing are very high, relative both to citywide rates and to rates in nearby areas. This is especially true in Los Angeles and Phoenix, where the public housing rates are more than twice as large as the citywide rates. This phenomenon also holds for individual categories of drug and violent offenses: drug manufacture/sale, drug possession, murder, rape, robbery, and assault.

At the same time, property offenses are not reported in public housing developments at significantly higher rates than they are in other areas. In fact, public housing rates of property offenses are lower than the citywide rate in Los Angeles and Washington; and even though the public housing rate is higher than citywide rates in Phoenix, it is much lower than the corresponding nearby neighborhood rate.

Thus, to the extent to which this holds true in other cities, the analysis of this chapter confirms the perception that public housing developments have significantly more serious problems with drug and violent crime than do other areas. This suggests that it is at least reasonable to invest crime control resources in public housing that are significantly larger, on a per capita basis, of the investment made nationwide. At the same time, the results suggest that, all things equal, these funds should be used to focus on drug and violent rather than on property offenses.

⁷These factors could also be invoked to explain the differences between public housing developments and nearby neighborhoods, if one posits that there is a relatively lesser or greater reluctance to report crime on the part of public housing residents, or that there are relatively fewer opportunities for profitable theft in public housing developments than in other neighborhoods. However, because the differential between the two types of areas is in different directions in different cities, such an explanation would suggest that there is no consistent pattern to these variations from city to city. This may well be the case.

5. VARIATION IN OFFENSE RATES AMONG HOUSING DEVELOPMENTS

INTRODUCTION

For over two decades, analysts and agencies involved with public housing have acknowledged the existence of "problem projects." Such housing developments, also referred to as "troubled" or "distressed," are believed to have problems considerably worse than those of most public housing developments and have come to symbolize all that is wrong with the nation's public housing system. This chapter illustrates how quantitative offense data can be used to advance our understanding of "problem projects."

As Langley Keyes has noted, until the 1980's, distress was defined almost entirely in terms of the physical environment of public housing: deterioration of the physical plant, "indefensibility" of space, and so on (Keyes 1992). More recently, the concept has been broadened to embrace other problems, including crime. The 1992 final report of the National Commission on Severely Distressed Public Housing defines distress in terms of four factors: resident characteristics, offense rates, management problems, and the physical deterioration of buildings (National Commission on Seriously Distressed Public Housing 1992).¹ However, the Commission acknowledged the difficulty of effectively operationalizing this definition, because of what it refers to as "a serious lack of data on many indicators of distress," including crime (National Commission 1992).

The lack of data has also made it difficult for local housing authorities to empirically substantiate (or refute) qualitative perceptions about which housing developments are most in need of support. Recently, this issue has become more significant because of the need to allocate support received from the Public Housing Drug Elimination Program (PHDEP). Authorities that wish to direct funds only to those developments with the most serious need currently identify such developments using their own, largely qualitative criteria. It is possible that these local decisions could be improved if comparative, quantitative data that described individual developments were available.² The difficulty housing authorities face in making these determinations is suggested by the fact that, in the most recent grant cycle of the Public Housing Drug Elimination Program, over 50% of grantee housing authorities elected to spread funds across all the developments within their

¹ Future citations to this report refer to it as "National Commission 1992."

² This is not to suggest that housing authorities should base their selection of sites for intervention on offense data alone. The 1990 Los Angeles PHDEP application, for example, discusses development size, the level of interest on the part of resident councils, perimeter security, and gang activity as well as offense rates. Rather, individual development offense rates can supplement the knowledge of housing authorities, police, and residents regarding the circumstances of local communities and their drug and crime problems.

systems rather than concentrating funds in a small number of "problem" developments (Abt Associates 1992).

This chapter has three sections. First, total offense rates are presented for individual developments and the variation in those rates is discussed. The second section reviews interdevelopment variation in drug, violent, and property offenses. A final section discusses ways in which data like these can be used to operationalize definitions of crime-related distress of the kind proposed by the National Commission on Severely Distressed Public Housing.

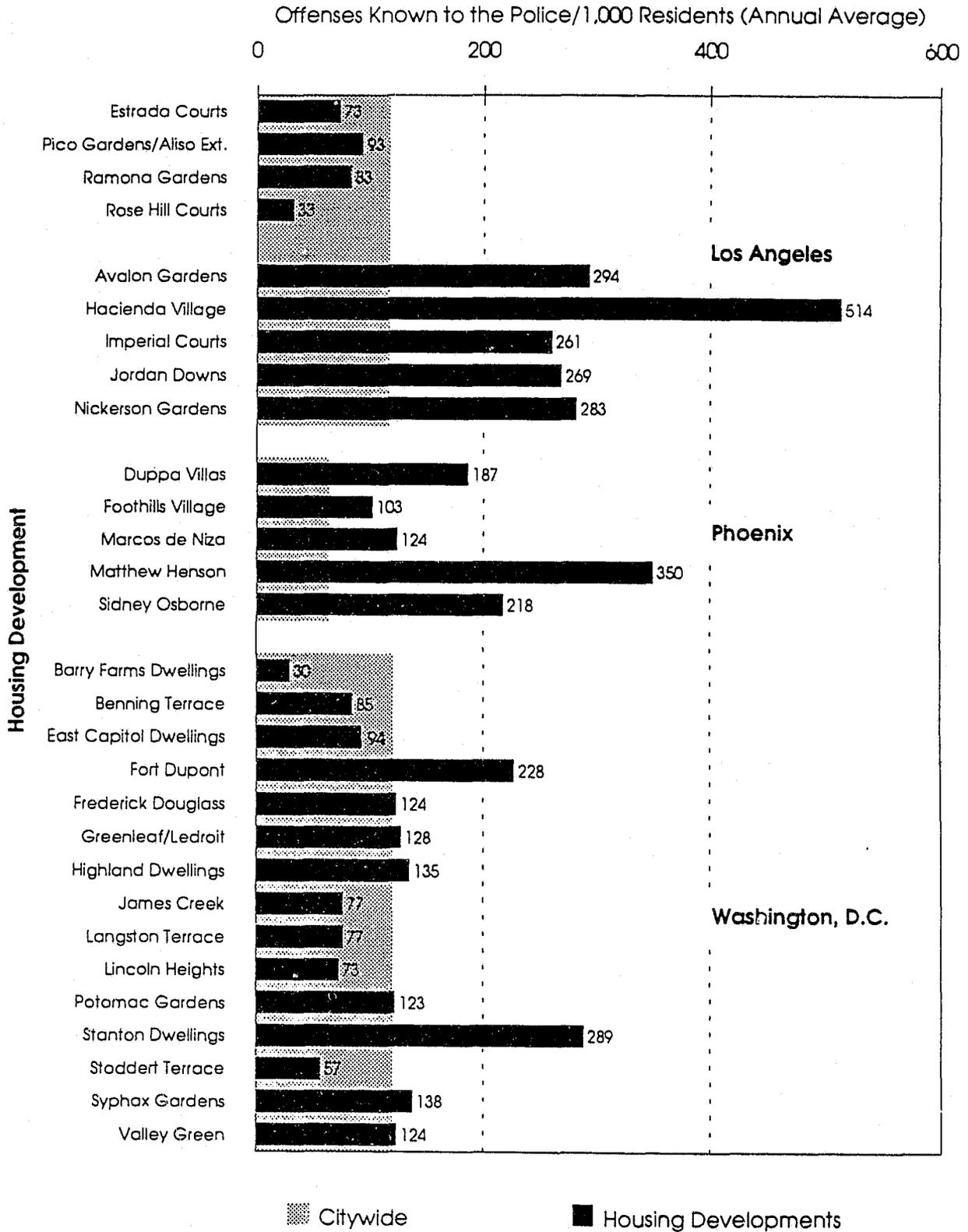
OFFENSE RATES IN INDIVIDUAL HOUSING DEVELOPMENTS

The previous chapter documented considerable variation in offense rates for public housing developments, nearby neighborhoods, and cities. However, the analysis in that chapter aggregated the data for all developments in each city. In this section, offense data for individual housing developments are presented. In order to convey a sense of the total level of serious offenses to which developments are subject, drug, violent and property offenses are summed, and composite rates are calculated for each development. Figure 5.1 presents the results. Total offense rates for each individual development are shown in black; the corresponding citywide total offense rates are shown in gray.

These data must be interpreted with caution. As noted in Chapter 2, offense rates have several potential sources of error. Levels of police effort, resident reporting patterns, and shifts in resident populations may all occur over time and/or vary from development to development. Several of these problems are intensified when considering development-specific data. For example, the population figure used to standardize offense counts for a particular development may not accurately reflect the average population during the study period.³ To the extent that any such inaccuracies are canceled out when multiple developments are considered, development-specific data must be treated with more caution than aggregate data.

³The issue of standardization by population is discussed in Chapter 2. Again, it is impossible to determine the effect of this problem on any particular data point. The relatively low offense rates presented below for the Barry Farms development in Washington, D.C., for example, may be due in part to changes in the size of its resident population during renovations in the late 1980's.

Fig. 5.1—Total Serious Offense Rates (Drug, Violent, and Property) in Individual Housing Developments, Annual Average, 1986-1989



Even given these caveats, it is immediately apparent from the figure that the aggregation of housing development data by city conceals very significant differences between developments within the same city. In Los Angeles, for example, Hacienda Village, by this measure L.A.'s most crime-ridden housing development, has a serious offense rate that is more than 15 times higher than Rose Hills, the development with the lowest rate. In Phoenix, the development with the biggest problem has a rate 3.5 times higher than the development with the lowest. The equivalent comparison for the Washington, D.C., developments shows almost a tenfold difference. In between these extremes, there is smaller but nevertheless significant variation between many of the other developments in each city.

These data also show that, although developments have higher aggregated rates of drug and violent offenses than the cities that surround them, the same finding does not apply to all housing developments when they are considered individually. For example, development drug offense rates are *lower* than the corresponding city rates in six developments (Rose Hills Courts in the Hollenbeck area of Los Angeles and five developments in Washington), and development violent offense rates are lower than the citywide violence rates in five developments (all four developments in L.A. Hollenbeck and Barry Farms Dwellings in Washington). When all serious offenses — property offenses as well as violent drug offenses — are considered, as in Figure 5.1, this result is even more striking. Eleven of the 29 developments studied have total offense rates that are less than the corresponding rate for the cities that surround them. Moreover, given the fact that developments were selected for study in a way likely to identify relatively high-crime locations, it is probable that there are other developments in these cities, not included in this study, that have this characteristic as well.

Figure 5.1 also highlights the differences in offense rates between developments in the Hollenbeck area of Los Angeles (the first four developments shown for Los Angeles) and in the Southeast area (the second five developments).⁴ The geographic clustering of L.A. developments discussed in Chapter 3 is paralleled by variation in offense rates. In fact, the variation between the two areas is so great that, for the balance of this report, the two areas will be treated separately.⁵

In summary, then, within each of the three cities, there are extensive differences in offense rates among public housing developments. This substantiates the widely held belief in "problem

⁴As noted in Chapter 3, developments in each area are demographically similar as well as geographically clustered.

⁵Table C.1 provides aggregate data for public housing developments and nearby neighborhoods in the two areas. In Phoenix and Washington, the geographic distribution of selected developments does not allow the researchers to discern any similar "clustering" effects that might be present. See Figures 3.1-3.3 and C.1-C.4 for maps showing the location of selected developments.

projects." Somewhat more surprising, however, is the fact that while aggregate public housing offense rates are much higher than citywide rates, some individual developments have rates substantially lower than the aggregate city rates.

This diversity of development offense rates suggests that law enforcement and housing authority policy about crime control should be diverse as well. Dealing with 514 serious offenses per 1,000 residents per year (Hacienda Village) is a qualitatively as well as quantitatively different matter than dealing with 33 serious offenses per 1,000 residents per year (Rose Hills), and different approaches to the problem seem called for. This issue is discussed below.

COMPONENTS OF OFFENSE RATES IN INDIVIDUAL HOUSING DEVELOPMENTS

Dramatic variation among developments exists not only for the total serious offense rate but for rates of drug, violent, and property offenses considered separately.⁶ This raises questions of whether the pattern of variation in offense rates among the various developments is similar for all three offense categories or whether some developments that have especially high rates of one type of offense have low or average rates of another.

In Phoenix and Washington, interdevelopment variation does not appear to depend on offense category. The developments with the highest rates of violent offenses in these cities also have the highest rates of drug and property offenses, and developments with low rates of one category of offense have low rates of the others. Los Angeles shares this pattern for violent and property offenses: developments with high rates of violence tend also to have high rates of property offenses. In L.A., however, high rates of violent or property offenses are *not* correlated with high rates of drug offenses. In fact, the developments with the highest drug offense rates in Southeast Los Angeles have the *lowest* violent and property offense rates of any developments in that area. Similarly, the Hollenbeck developments with the highest drug offense rates have low property offense rates relative to other developments in the area.

Thus, high rates of drug offenses are not always associated with high rates of violence or of property offenses. Of course, as noted in Chapter 2, this phenomenon may be due to different patterns of reporting and enforcement as well as different levels of crime. Even if this is the case, however, the phenomenon has important implications for the identification of "distressed" developments. In Phoenix and Washington, police data on rates of violent, property, and drug offenses all suggest similar conclusions regarding which developments are the most distressed. In cities like Los Angeles, however, the determination of crime-related distress rests heavily on one's view of the relative importance of the components of the offense rate. Those who view drug

⁶These rates are listed in Table C.6.

offenses as particularly distressing would be likely to view a different group of developments as distressed than those who chose to emphasize violent or property offenses.

In fact, this is only one way in which the particulars of a definition of crime-related distress can have an impact on the determination of which developments have the greatest problems. The more general issues associated with the measurement of distress will now be discussed.

MEASURING CRIME-RELATED DISTRESS IN INDIVIDUAL HOUSING DEVELOPMENTS

As noted, an important problem at both local and national levels is how to characterize the overall "distress" of a particular housing development. The balance of this chapter uses the data presented in previous sections to assess some of the issues surrounding the question of characterizing the "distress" associated with crime.

The National Commission's Definition of Distress

The National Commission on Severely Distressed Public Housing has been the focus of efforts at the federal level to develop a quantitatively based definition of distress that permits the comparison of developments in terms of their relative distress levels. Its final report proposes a 230-point scoring system for rating the distress of individual housing developments. The distress score is the sum of scores that rate distress in four areas:

1. Families living in distress, a function of drop-out rates, unemployment rates, and poverty among residents (60 points maximum);
2. Rates of serious crimes (45 points maximum);
3. Barriers to managing the environment, a function of the rates of vacancy, turnover, rent collection, and rejection of units by applicants (45 points maximum);
4. Physical deterioration of buildings (80 points maximum).

Any development that scores 80 or more points is considered to be "severely distressed" (National Commission 1992).

This section focuses on the crime component of the Commission's definition of distress. Table 5.1 contains the Commission's scoring system in this area. The total for any given development is the sum of four terms. Terms A-C describe, respectively, the percent by which total, drug, and violent offense rates in individual developments exceed the citywide rate for the same category of offenses. Term D focuses on access to the development. For terms A-C, the number of points assigned to any development is determined by the extent to which the development's offense rate for the specified category of offenses exceeds the corresponding citywide rate for the same

Table 5.1
 "Severe Distress" as Defined by the National Commission on Severely Distressed Public Housing: Crime Component

Criteria	Max. Points	Points Based on Score		
A. % by which the development's total offense rate exceeds the citywide total offense rate	10	1.5-2% 6 pts	2-2.5% 8 pts	2.5%+ 10 pts
B. % by which the development's drug offense rate exceeds the citywide drug offense rate	20	5-10% 12 pts	10%-15% 16 pts	15%+ 20 pts
C. % by which the development's violent offense rate exceeds the citywide violent offense rate	10	1.5-2% 6 pts	2-3% 8 pts	3%+ 10 pts
D. Access to building controlled by security (fences, gates, etc.)	5	Yes 0 pts	No 5 pts	

SOURCE: National Commission on Severely Distressed Public Housing 1992, Appendix B. Note that the table has been annotated to clarify the description of the criteria and the scoring system.

offenses. The fourth term is dichotomized according to whether or not access to the development is in some way under secure control.

As noted, the maximum score under this rubric is 45 points. The actual crime score is then added to the scores on the other three non-crime criteria to come up with a development's overall distress score. A combined total of 80 or more points results in a classification of "severe distress" for that development.

The Commission incorporates two provisions that override the system set out in Table 5.1. First, if the total offense rate (Term A) exceeds the citywide rate by more than 5%, that development is automatically given a crime score of 40 points, irrespective of its drug and violent offense rates. The scores on Terms B and C are then ignored, but the score on Term D, if any, is added to the 40 points, thus holding to the maximum possible score of 45 points for crime-related distress. Second, if the development rate for any individual criterion (Terms A, B, or C) is more than double the corresponding citywide rate, the development is automatically designated "severely distressed," irrespective not only of the other categories of crime but also of the resident, management, and physical criteria that make up the balance of the commission's definition.

The actual scores for Terms A-C are determined by "step functions" — i.e., all developments whose offense rates exceed citywide rates within a particular range receive a given number of points. The range is indicated by the percentage entries in each cell of Table 5.1, and the associated point score by the second (numeric) entry. Thus, for example, if a development's total

offense rate (row A) exceeds the citywide rate by 2.5% or more, it receives 10 points; if it exceeds the citywide rate by 2% or more but less than 2.5%, it receives 8 points; and if it exceeds the citywide rate by 1.5% or more but less than 2%, it receives 6 points. Note that each of the three components of the score has a maximum possible value and that the ranges and the maximum scores differ for each offense category.

It is important to note that the Commission developed its scoring system without access to any development-specific offense statistics. Consequently, the Commission could not know the results that its scoring system would produce when applied to actual data. This is explicitly acknowledged in the Commission's report and, in fact, leads to a recommendation that Congress authorize HUD to begin a research program to develop valid empirical measures for the indicators that are incorporated into the definition of distress, particularly those that focus upon crime.

However, the information about offense levels and rates that have been developed in this report for Los Angeles, Phoenix, and Washington do allow an application of the Commission's formulation to these three cities. The results are presented in Column A of Table 5.2.⁷

As Table 5.2 shows, the Commission's definition automatically designates 20 of the 29 developments included in this study as "severely distressed."⁸ That is, the 20 developments with asterisks in Column A would be categorized as severely distressed on the basis of offense scores alone, without regard to the other three non-crime indicators by which distress is to be measured.

Given the criteria by which developments were selected for the study and the offense rates that have been documented, the researchers can grant that all 20 of these developments are indeed troubled communities. In this sense, the Commission's definition succeeds in highlighting developments with particularly bad crime problems. However, by automatically classifying a very large proportion of public housing developments in the three study cities (and, the researchers suspect, elsewhere) as "severely distressed," the current definition of the Commission's system makes it impossible for policymakers to differentiate among these developments when making decisions about the best allocation of scarce resources. Moreover, it is very plausible to imagine — although data that speak to this question are not available — that the remaining nine developments might receive scores on the three non-crime indicators that would also push them into the severely distressed category.

⁷This study did not develop data on the presence or absence of security features in the selected housing developments. Thus, the distress score calculations presented below do not account for the 5 points awarded in this category (line D of Table 5.1).

⁸Part II offense data were not developed for this study, for reasons described in Chapter 2. Therefore, we have defined "total offenses" as all Part I offenses for the purpose of developing distress scores.

Table 5.2
Distress Scores for Individual Housing Developments: Crime Component

Development	A Commission Score	B Modified Score	Development	A Commission Score	B Modi- fied Score
LA Hollenbeck			Washington		
Estrada	20	2.4	Barry Farms	0	1.0
Pico/Aliso	(*)	4.5	Benning Terrace	10	2.3
Ramona	(*)	3.8	East Capitol	(*)	3.1
Rose Hills	0	0.6	Fort Dupont	(*)	6.8
LA Southeast			F. Douglass	(*)	3.6
Avalon	(*)	9.0		30	3.8
Hacienda	(*)	11.9	Greenleaf/Ledroit		
Imperial	(*)	9.2	Highland	(*)	4.6
Jordan	(*)	9.4	James Creek	10	2.0
Nickerson	(*)	9.6	Langston	(*)	2.6
Phoenix			Lincoln Heights	10	2.4
Duppa Villas	(*)	13.8	Potomac Gardens	(*)	4.3
Foothills	10	6.6	Stanton	(*)	9.6
Marcos de Niza	(*)	6.3	Dwellings		
Matthew Henson	(*)	40.0	Stoddert Terrace	10	2.0
Sidney Osborne	(*)	26.0	Syphax Gardens	(*)	4.2
			Valley Green	(*)	4.2

NOTE: (*) Automatically designated as "severely distressed."

Even with the Commission's "automatic distress" provisions absent, the offense rate data for the three cities suggest that the maximum cutoffs of 3% (for violent offenses) and 15% (for drug offenses) in excess of citywide rates (Table 5.1) are far too low to permit interdevelopment distinctions to be made in communities where aggregate public housing offense rates that are several times as great as the corresponding city rates are the norm.

This might not be a problem if, as the Commission recommends, Congress were to fund programs at a level high enough to attack distress in *all* public housing, regardless of the extent of that distress (National Commission 1992).⁹ But if — as seems certain — funding at such a level is

⁹This begs the vexing question of what such a funding level would have to be. It is not even known what approaches to the problem of distress might actually work, particularly in the area of crime prevention and control, so it is virtually impossible to accurately estimate their cost. The final report of the National Commission proposes a 10-year appropriation of \$7.5 billion to address the physical deterioration of public housing stock and an additional \$250 million appropriation for other public housing programs.

not made available, a method for identifying distress is needed that can, for example, assist in decisionmaking about the allocation of scarce resources among groups of high-crime urban developments, *all* of which are severely distressed. In the next section, alternatives to the Commission's framework are explored, and the probable effect that they would have on assessments of distress for the developments examined in this study is illustrated.

A Modified Scoring System

Continuous Scoring. The Commission's scoring system uses step functions to assign distress scores to developments. This has the effect of assigning identical scores to all developments with offense rates that fall within the same range. This feature of the Commission's system makes it difficult to distinguish between developments, especially between high-crime developments, all of which are automatically designated as "severely distressed."

This problem could be avoided by defining distress as a continuous, rather than a step, function. Then, instead of awarding the same score to any development with an offense rate in a certain range, scores would vary continuously, as offense rates do. Rather than imposing different maximum scores in various offense categories, such a system might assign weights to different offense categories. For example, rather than assigning drug offenses a maximum score twice that of violent offenses, as the Commission does, the percentage by which the development drug offense rate exceeds that of the city could simply be multiplied by two when calculating the score.¹⁰

Column B of Table 5.2 shows the scores that study developments would receive under such a "continuous" modification of the Commission's definition.¹¹ Such a scoring system produces clear differentiation among developments in a way that the Commission's original approach does not. For example, the scores in Column B make clear that offense rates in Phoenix developments exceed city rates much more dramatically than developments in the other two cities. This cannot be detected from the scores in Column A. Similarly, while Column A shows "automatic distress" for

¹⁰Such continuous systems, which have no maximum scores, can still be integrated into the Commission's framework by normalizing scores — i.e., the highest score is set to 40 (or some other figure), and the remaining scores are expressed as ratios of the highest score. This allows the scores to be used in conjunction with the Commission's existing schemes for calculating social, management, and physical distress. The concept of "automatic distress" can also be preserved by designating the developments with the *n* highest scores as "automatically distressed."

¹¹In this example, the percentage by which development drug offense rates exceed the city rates is assigned a weight of 2. The percentage by which the development violent offense rate exceeds the city rate is assigned a weight of 1.5, since violent crime is included in the Commission's "total crime" category as well as in a separate category of its own. In order to facilitate comparisons to the original Commission system shown in Column A, the highest score is set equal to 40 points, and remaining scores are normalized across the 0-40 range.

many Southeast L.A. and Washington, D.C., developments, the scores in Column B show that, in fact, the Southeast L.A. developments exceed citywide rates much more than Washington developments do.

Despite these improvements, however, it is important to recognize that this revised system still reflects several assumptions inherent in the Commission's definition of distress. These assumptions are of two types: that some types of offenses cause more distress than others and that distress should be measured according to the extent to which development offense rates exceed offense rates citywide. In the remainder of this section, these assumptions are discussed and their effects on distress scores are analyzed.

Assigning Weights to Offense Categories. The simplest way to measure crime-related distress is to consider the total offense rate in a housing development. As the National Commission notes, however, this ignores the fact that different types of offenses may not contribute equally to distress. Therefore, the Commission's definition weights drug offenses more heavily than other types of offenses and violent offenses more heavily than other types of non-drug offenses.

Of course, different weights can be assigned to various offense categories. This is illustrated in Table 5.3. Column A of Table 5.3 ranks developments by the "continuous" distress scores shown in Table 5.2, which embodies assumptions similar to those embraced by the Commission: drug offenses are given the most weight, followed by violent offenses. Column B of Table 5.3 shows the ranking that results if violent offenses are weighted at a level four times that assigned to drug and property offenses.

While the two rankings are roughly similar, some important differences emerge. These differences are consistent with the finding (see above) that high rates of drug offenses are not necessarily associated with high levels of violent and property violations. In Phoenix and Washington, where rates of drug and violent offenses have a positive correlation, the rankings are similar: developments in each of the two cities appear in roughly the same order in Columns A and B. For Southeast Los Angeles developments, however, the two types of offenses have a *negative* correlation; therefore, the two schemes produce more dissimilar rankings for developments in Southeast.¹²

Clearly, Columns A and B do not represent the only possible schemes. Other weights could be assigned, or particular offense categories, such as murder, could be weighted separately. What is important to note is that the schemes described in Columns A and B are both logical

¹²The disproportionately high property offense rate in Hacienda Dwellings maintains its high ranking under this scheme, even though other Southeast developments have higher violent offense rates.

Table 5.3
 Ranking of Developments on Alternative Schemes for Calculating Crime-Related Distress

Column	A	B	C	D
Type	"Continuous" Modification of Commission Scheme	"Violent- Intensive" Scheme	Neighborhood Baseline Scheme	No Baseline Scheme
Baseline	City	City	Neighborhood	None
Offense Category Weights	2 * Drug 1.5 * Violent 1 * Property	1 * Drug 4 * Violent 1 * Property	2 * Drug 1.5 * Violent 1 * Property	2 * Drug 1.5 * Violent 1 * Property
Matthew Henson (P)	1	1	4	1
Sidney Osborne (P)	2	2	12	8
Duppa Villas (P)	3	5	21	15
Hacienda (SE)	4	3	2	2
Nickerson (SE)	5	7	5	4
Stanton Dwellings (DC)	6	6	1	3
Jordan Downs (SE)	7	9	6	5
Imperial (SE)	8	8	7	6
Avalon (SE)	9	4	8	7
Fort Dupont (DC)	10	10	2	9
Foothills (P)	11	11	26	26
Marcos de Niza (P)	12	12	27	27
Highland (DC)	13	13	9	11
Pico/Aliso (H)	14	23	11	14
Potomac Gardens (DC)	15	17	10	10
Valley Green (DC)	16	14	14	12
Syphax Gardens (DC)	17	15	13	13
Greenleaf/Ledroit (DC)	18	18	15	16
Ramona (H)	19	25	16	18
F. Douglass (DC)	20	16	17	17
East Capitol (DC)	21	19	18	19
Langston (DC)	22	22	20	20
Estrada (H)	23	27	19	22
Lincoln Heights (DC)	24	20	23	21
Benning Terrace (DC)	25	21	22	23
Stoddert Terrace (DC)	26	24	25	24
James Creek (DC)	27	26	24	25
Barry Farms (DC)	28	28	28	28
Rose Hills (H)	29	29	29	29

NOTE: H - Hollenbeck, Los Angeles; SE - Southeast Los Angeles; P - Phoenix; DC - Washington.

operationalizations of "distress" that yield different results. One views violence as particularly distressing, while the other places high value on the damage and disruption associated with drugs. Thus, reasonable variation in the definition of distress can have a significant impact on the results of distress scoring. Consequently, the amount and type of support that might be provided to a particular development could easily become a function of which definition of distress was adopted.

Assigning Baselines. Distressed public housing developments are those in which conditions are especially grievous. Thus, distress is a comparative characteristic; a distressed development has not just a high offense rate, but an *especially* high rate. To make such a determination, public housing offense rates must be compared to some baseline.

The National Commission definition uses a city baseline. It compares development offense rates to offense rates citywide. Using such a local baseline defines a development's crime problems in the context of crime in surrounding areas. Such a procedure gives implicit weight to community standards about what constitutes unacceptable levels of criminality. For instance, a development with a given level of violence will be classified as much more distressed if it is located in a small midwestern town where offense rates are generally low than if it is in a high-crime metropolis.

However, a city baseline is by no means required. For example, development offense rates could be compared to neighborhood rather than citywide rates. Developments might, for example, have offense rates well above the city average but similar to their immediate surroundings. Using neighborhoods, rather than cities, as a basis for comparison makes it possible to distinguish between crime problems that are associated with public housing *per se* and those associated with more generalized pockets of local distress.

The results of one such system are described in Column C of Table 5.3. The system assigns the same weights to the various offense categories as the modified Commission system (Column A). However, rather than basing the score on the ratio of development rates to city rates, the scores are based on the ratio of development rates to the aggregate local nearby neighborhood rate.¹³

A comparison of Columns A and C reveals that this scheme results in substantial change to the distress rankings, especially in scores assigned to Phoenix developments. In Los Angeles and Washington, citywide and nearby neighborhood rates are quite similar. In Phoenix, however, citywide offense rates are much lower than rates in the developments, while nearby neighborhood rates fall between the two. Therefore, Phoenix's very low citywide offense rates raise developments' distress scores under a city baseline (Column A); a neighborhood baseline lowers those scores (Column C). Similar results would be likely for any city with low overall crime where public housing is located in a more criminally active urban center.

¹³In Los Angeles, Hollenbeck developments are compared to Hollenbeck nearby neighborhoods, and Southeast developments are compared to Southeast nearby neighborhoods.

An opposite approach to the question of baseline is to eliminate the baseline entirely.¹⁴ One might argue, for example, that just as a hole in the roof lets the same amount of rain into a residence, regardless of the number of other roofs with holes in the surrounding community, a given rate of offenses per capita imposes a particular level of crime-related distress, regardless of the neighborhood or citywide rate.¹⁵ This argument suggests that two developments with the same offense rate should be classified as equally distressed, regardless of whether one is located in a city with a higher offense rate than the other.

Such an approach, which is presented in Column D of Table 5.3, leads to results very different from those reached using city or neighborhood baselines. Most developments in Phoenix receive rankings considerably lower than they receive under the modified commission system, while developments in Southeast Los Angeles receive higher rankings. These rankings reflect the actual offense rates in the two groups of developments (Figure 5.1). The different results in Column A, where a city baseline is used, occur not because of differences between the two groups of developments as much as because citywide offense rates in Phoenix are dramatically lower than those in Los Angeles.

All of these approaches — city baselines, neighborhood baselines, and direct comparisons — introduce value-driven rates into the scoring system. None is perfect. On the one hand, a purely local system can result in quite safe developments in very safe cities receiving distress ratings greater than those of very unsafe developments in extremely unsafe cities. On the other hand, a nationwide system could result in spending almost all resources in an effort to make only the most unsafe developments safer than the cities that surround them — a task that might neither be sensible nor achievable. A nationwide system could also lead to extreme regional inequities and would thus create a high potential for negative social and political reactions.

Consequently, a system that combines the two approaches — by calculating scores using more than one baseline and then weighing them according to a predetermined rubric — will probably be the most useful.

This discussion has illustrated the extent to which decisions about weighing offense categories and selecting baselines determine developments' relative distress scores. It has also shown the value that can be played by empirical measures in illuminating the effects of such decisions. Furthermore, it has demonstrated that, although scoring systems like those of the National Commission and those developed in this chapter are "objective" in that they rely on

¹⁴This approach can also be thought of as a national baseline — i.e., all developments are compared to the same national offense rate.

¹⁵A similar argument could be made for many of the measures the Commission uses for other components of the distress score — resident unemployment rates, reconstruction costs, and so on.

objectively generated data rather than opinion, they are subjective in that they are based on a particular set of decisions about what constitutes the real problem in public housing with regard to crime. Therefore, it is crucial to elucidate the subjective considerations that lie behind these decisions before they are imposed on the resource allocation decisions that federal and local public housing agencies must make. This is especially true if a consistent, national scoring system is to be used to inform decisions about the allocation of drug and crime control resources to particular housing developments.

Finally, it is important to bear in mind that the empirical foundation used in this chapter to elucidate the Commission's approach and to illustrate alternatives is limited to only three cities. Data from other cities might show variation in the impact of different weighting schemes.

6. A NOTE ON ARREST RATES IN PUBLIC HOUSING DEVELOPMENTS

INTRODUCTION

Police response to crime in public housing is a complex and often tense issue. In their 1986 review of the Urban Initiatives Program, Kelling and his colleagues describe the politics of providing service to public housing this way:

One of the most striking impressions about public housing authorities is that relative to other city agencies, they were relatively uninfluential. For all practical purposes, the clients they serve were without significant political or economic influence.... Operating in a complex demand structure as they do, governmental agencies often allocate services to various communities on the basis of the "clout" developed by those who demand services. (Kelling 1986)

This problem is as relevant to policing as it is to other government services. If, as Kelling and his colleagues suggest, agencies provide services to communities based on clout rather than need, one would expect to find that public housing developments are underpoliced relative to the size of their crime problems.

Some circumstantial evidence suggests that underpolicing of public housing developments does occur, at least in some areas. Clearly, in many communities, police-resident relations are tense, and there is distrust on both sides (Webster and Connors 1992, Weisel 1990). Journalistic accounts of housing developments into which police refuse even to enter (McInerney 1988) also contribute to a picture of police neglect of public housing.

The question of policing in public housing is difficult to assess objectively. The concept of "police responsiveness" is in fact an amalgamation of a variety of factors: the frequency of patrol, response time, effectiveness of police tactics, and so on. It also incorporates several qualitative phenomena: sensitivity, concern, and cooperativeness.

A complete assessment of police responsiveness in public housing would require an analysis of all of these issues. This is beyond the scope of this study. Instead, this chapter focuses on only one aspect of the question: the relationship between rates of arrests for violent and property offenses and the rates at which these offenses are reported. While this measure is by no means a complete description of residents' experience of law enforcement, it does provide some initial data which can form a basis for future investigations of police behavior in public housing.

OFFENSES AND ARRESTS IN PUBLIC HOUSING

This section considers two questions:

- How does the ratio of arrests to reported offenses differ for public housing developments, nearby neighborhoods, and cities as a whole?
- To what extent do arrest rates reflect differences in offense rates among individual housing developments?

The first question addresses the issue of underpolicing; the second speaks to the question of whether there is substantial variation in residents' experience of law enforcement within a city's public housing system.

Arrest-per-offense data are most salient to a description of crime when particular arrests can be linked to offenses that occur in particular places. This allows the calculation of clearance rates — that is, the proportion of reported offenses in a given category that result in an arrest. However, data that would allow one to link particular arrests to particular offenses were not available to this study. Thus, though the data presented below resemble clearance rates, they are *not* in fact clearance rates. This lack leaves arrest-per-offenses rates open to the following kinds of problems.

First, there may be multiple arrests for a single offense and single arrests that clear multiple offenses. These cannot be identified in this analysis and the result is a distortion of the arrest per offense rates.¹ However, this problem seems likely to affect different geographic areas in a similar way and so is relatively tolerable when comparisons between areas are being made.

More serious is the fact that arrests made in one location may result from offenses that occurred in another. Thus, a murder in a housing development may lead to an arrest elsewhere. In such a case, the offense is included in our data as a housing development offense, but the resulting arrest is not observed as a housing development arrest. In fact, it may not be included anywhere in our data (except in overall city figures). The reverse situation — a murder that occurs outside of a housing development but which results in an arrest within the development — will affect the arrest-per-offense figure in the opposite direction.

In general, the smaller the geographic area for which rates are being calculated, the greater the probable divergence of the arrest per offense rate from the clearance rate due to this problem. For relatively large areas, like cities, it is reasonable to assume that the two rates are virtually

¹A comparison of the data in Tables C.4 and C.7 clearly illustrates the effects of multiple arrests for single offenses. In both Hollenbeck and Southeast Los Angeles, there were more murder arrests (Table C.7) than reports of murder (Table C.4). This suggests that arrests of groups involved in single murders are relatively common. This type of arrest is consistent with the relatively high rates of gang activity in Los Angeles.

identical. In areas like a single city block the divergence would probably be substantial. Areas of the size dealt with in this report are likely to fall between these two extremes.

Despite these caveats, per-offense arrest rates are the best available surrogate for clearance rates, and they do shed light directly on levels of police activity. Thus, the remainder of this section proceeds under the assumption that, in the absence of actual clearance rates, arrest-per-offense rates are the next best thing, and it is more useful to use them than to ignore them.

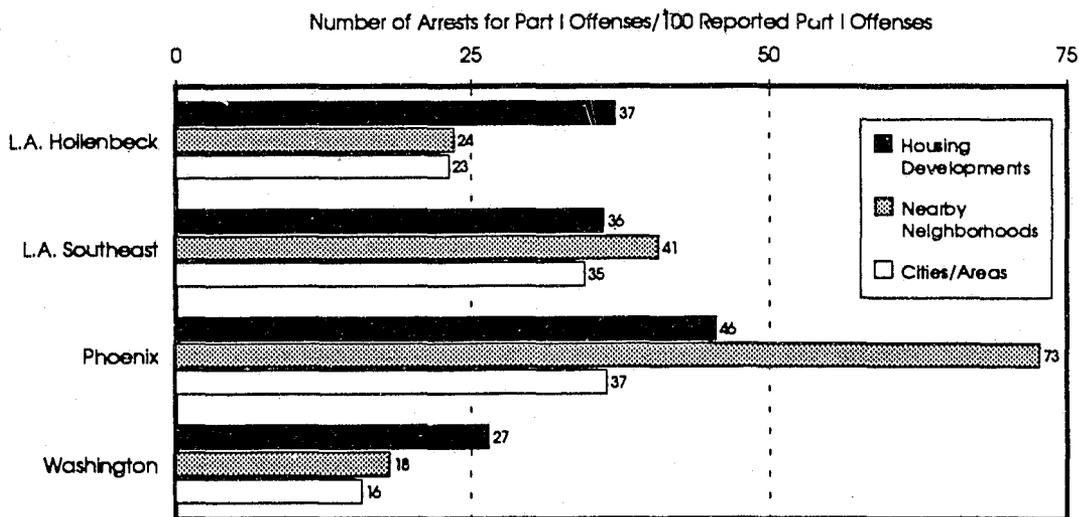


Fig. 6.1—Arrests for Part I Offenses per 100 Reported Part I Offenses, Housing Developments and Other Areas, Annual Average, 1986-1989

Figure 6.1 presents the number of arrests per 100 Part I offenses reported for housing developments, nearby neighborhoods, and cities (areas in the case of Los Angeles). Thus, for example, the entry for Hollenbeck housing developments shows that there were 37 arrests for Part I offenses in Hollenbeck developments for every 100 Part I offenses reported in Hollenbeck developments. Figures are annual averages based on arrest and offense reports from 1986-1989.²

The figure shows that public housing arrest rates are higher than citywide rates in all three cities. Except for Phoenix, they are also either higher or very close to the rates in nearby neighborhoods. This does not support the view that public housing in these cities, at the aggregate level, is underpoliced. Police in these cities make arrests in at least the same proportion to local crime conditions in public housing developments as in nearby neighborhoods and in the entire city. If anything, the overall arrest rates imply that developments are getting disproportionately higher levels of enforcement effort than other areas.

Figure 6.1 compares aggregated arrests in public housing to aggregated arrests in other areas. As shown in Chapter 5, however, there is also substantial variation in offense rates among

²Rates of arrests per 1,000 residents by offense category are presented in Tables C.7 and C.8.

housing developments. It is reasonable to ask, therefore, whether police activity, as measured by arrests, is distributed proportionately to offenses within the public housing system. This would not be the case, for example, if police routinely avoided the most violent developments in favor of safer ones.

In fact, as Figure 6.2 shows, this does not appear to be the case. The figure plots offense and arrest rates for Part I offenses for each housing development under study. The Part I offense rate is plotted on the x-axis, while the arrest rate for Part I offenses is plotted on the y-axis. All rates are annual averages for the period 1986-1989.

Figure 6.2 suggests that there is a roughly linear relationship between a development's offense rate and its arrest rate. In other words, police appear to spread their effort across housing developments in rough proportion to differences in offense rates among them. This suggests that, at least to some extent, police are aware of the location of "hot spots" within the public housing system and direct their efforts accordingly. Moreover, it appears that this is largely true in each of the three cities studied.

THE LAW ENFORCEMENT ENVIRONMENT IN PUBLIC HOUSING

As noted, arrests are not an ideal measure either of crime or of police activity. Given this caveat, however, arrest data appear to indicate that public housing developments get at least as much police attention as other areas in the cities in which they are located. In most cases, they even receive more attention than nearby urban neighborhoods. This is true regardless of whether arrests are standardized by population or by offense rate. Moreover, within a given public housing system, arrest rates in individual developments are roughly proportional to offense rates, although the proportions differ for each of the three cities.

Chapter 4 noted that, in the light of public housing offense rates, it was reasonable for crime control resources to target public housing. While these data cannot address the question of the adequacy or efficacy of police presence in public housing, they do provide *prima facie* evidence that police are in fact active in public housing developments in rough proportion to their crime problems.

At the same time, this rough proportionality appears to occur without particularly close cooperation between police and either public housing residents or housing authorities. For example, the Los Angeles application for FY 91 support under the Public Housing Drug Elimination Program lists several reasons for not involving the Los Angeles Police Department in the PHDEP effort beyond the scope of a formal cooperation agreement between the two agencies. These reasons include concern that the LAPD would funnel funds into police overtime over the objections of the

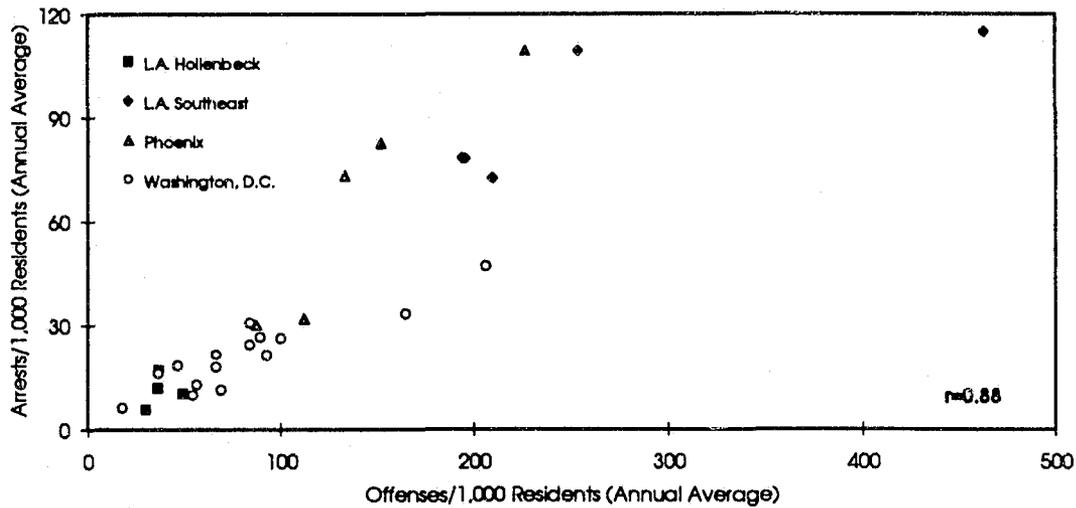


Fig. 6.2—Part I Offense and Arrest Rates in Individual Housing Developments, 1986-1989

housing authority, which viewed overtime as a low-priority item. The authority also cites "sporadic" cooperation from the LAPD for previous drug control efforts.³

Our preliminary investigation of sites for this study suggests that, in many communities, collaboration between housing authorities and law enforcement agencies has not produced the level of information about public housing crime that even current information-gathering techniques would support. Realizing the potential to develop and use development-specific data to improve both housing authorities' and police departments' drug control activities depends on the creation of effective working relationships between the two types of agencies. Such cooperation would also be likely to lead to broader improvements in police responsiveness, the design of drug control initiatives by the housing authority, and the security of residents and their property. This issue is discussed in more detail in the next chapter.

³In the summer of 1993, however, HACLA and LAPD officials both indicated to the researchers that cooperation has significantly improved.

7. SUMMARY AND CONCLUSIONS

This chapter is divided into three sections. The first two sections review the report's major findings and their implications for federal and local policymakers. The chapter concludes with a discussion of potential directions in which the research strategy described here might be extended and ways that it might be applied to other questions about crime and security in public housing communities.

MAIN FINDINGS

Public Housing Offense Rates Can Be Calculated for Many Cities Using Existing Records

Many cities maintain computerized information systems that describe offenses and arrests. Such systems may be used as the basis for calculating public housing offense and arrest rates. In order for this to be done, the recording system must be incident based — i.e., it must have one record for each offense and arrest — and each record must specify the location, offense type, and date of the incident. The city must also have the political willingness and the logistical and technical ability to provide the information. If these criteria are met, the location field in each incident record can be matched against information on the location of housing developments, producing a count of offenses and arrests for each development. Development totals can then be standardized on a *per capita* basis, using the data on the size of resident populations that housing authorities maintain in compliance with regulations of the U.S. Department of Housing and Urban Development.

This methodology can also be used to develop rates for any other arbitrarily defined area of the city; *per capita* rates can be calculated using data from the U.S. census. This allows housing development offense and arrest rates to be compared to those in nearby neighborhoods or in other areas of interest.

This methodology unavoidably introduces several types of error. Official police statistics offer an incomplete picture of crime and are affected by differential patterns of police deployment and citizen reporting. Demographic information maintained by housing authorities, like census data, are also known to be incomplete. However, these sources provide the only data available that are incident-based, that are consistently and constantly gathered for multiple areas (and, in the case of police data, for long periods), and that include detailed location information. Although sources of error should not be ignored, the comprehensiveness and level of detail of these data provide advantages that far outweigh the problems associated with their use.

Public Housing Drug and Violent Offense Rates Are Very High Relative to Other Areas

This study clearly demonstrates that drug and violent crime are severe problems in housing developments. From 1986 to 1989, average annual rates of drug offenses in housing developments were 33 per 1,000 residents in Washington, D.C., 53 per thousand in Phoenix, and 58 per 1,000 in Los Angeles.¹ Rates of violent offenses are even higher — 41, 54, and 67 per 1,000 in Washington, D.C., Phoenix, and Los Angeles, respectively.

In all three cities, these rates are higher than citywide or nearby neighborhood rates for the same kinds of offenses and are substantially higher than citywide rates. Furthermore, development offense rates are much higher than those experienced by most large urban communities. In 1989, for example, only one of the 58 cities with populations greater than 250,000 had a violent offense rate comparable to these development rates. The vast majority of cities have rates that are much lower (Bureau of Justice Statistics 1991).

Reported Property Offense Rates Are Relatively Low in Housing Developments

Rates of serious property offenses — burglary, larceny, and motor vehicle theft — do not show the same pattern in public housing as drug and violent offense rates. In Washington and Los Angeles, property offense rates in housing developments are considerably lower than citywide rates. In Phoenix, the property offense rate in housing developments exceeds the Phoenix city rate but is considerably lower than the rate in nearby neighborhoods.

There are several plausible explanations for the relatively low rates of serious property offenses in public housing developments, although this research does not permit such explanations to be evaluated with any certainty. In general, low value losses and uninsured losses are relatively unlikely to be reported to police. This means that a higher proportion of property offenses will be reported in wealthy areas than in poor ones. Public housing residents may also be less likely than their wealthier counterparts in other areas of the city to report property offenses regardless of the value of the loss, believing, accurately or inaccurately, that such reports will not lead to effective action on the part of authorities. Finally, it may simply be that property offense rates in particularly poor areas may be low because there is relatively little of value to steal. These possibilities are obviously not mutually exclusive and so there may be a combined effect.

¹These rates use drug arrests as a proxy measure of drug offenses. For an explanation of this approach, see Chapter 2.

There Is Substantial Variation in Offense Rates Among Housing Developments

These results clearly confirm the widespread perception that some "problem projects" have crime problems much more severe than those typical of public housing communities. This becomes clear from comparisons that take the sum of violent, property, and drug offense rates as a proxy for the total serious offense rate. For example, Hacienda Village, L.A.'s most crime-ridden housing development, has a "serious offense" rate that is more than 15 times higher than Rose Hills, the L.A. development with the lowest rate. In Phoenix, the development with the highest rate has a rate 3.5 times higher than the development with the lowest. The equivalent comparison for the Washington, D.C., developments shows almost a tenfold difference. Between these extremes, there is smaller but nevertheless significant variation among many of the other developments in each city.

In addition, some developments have quite low offense rates, relative not only to other developments but to the city at large. Development drug offense rates are *lower* than the corresponding city rates in six developments (Rose Hills Courts in the Hollenbeck area of Los Angeles and five developments in Washington), and development violent offense rates are lower than the citywide violence rates in five developments (all four developments in L.A. Hollenbeck and Barry Farms Dwellings in Washington). Given the fact that developments were selected for study in a way likely to identify relatively high-crime locations, it is probable that there are other developments in these cities, not included in this study, that have this characteristic as well.

In Phoenix and Washington, variation in offense rates among developments does not appear to depend on offense category. The developments with the highest rates of violent offenses in these cities also have the highest rates of drug and property offenses, and developments with low rates of one category of offense have low rates of the others. Los Angeles shares this pattern for violent and property offenses: developments with high rates of violence tend also to have high rates of property offenses. In L.A., however, high rates of violent or property offenses are *not* correlated with high rates of drug offenses. In fact, the developments with the highest drug offense rates in Southeast Los Angeles have the *lowest* violent and property offense rates of any developments in that area. Similarly, the Hollenbeck developments with the highest drug offense rates have low property offense rates relative to other developments in the area. Thus, high rates of drug offenses are not necessarily associated with high rates of violent or property offenses.

Police Activity in Housing Developments Is Roughly Proportional to Public Housing Offense Rates

Police make at least as many arrests per reported serious violent or property offense in public housing developments as in cities at large. On this measure, therefore, public housing developments do not appear to be underpoliced. For some offense categories and cities, police are considerably more active in public housing developments than they are citywide. However, a mixed

pattern emerges when arrest rates in housing developments are compared to arrest rates in nearby urban neighborhoods. In Washington and the Hollenbeck area of Los Angeles, the rate of arrests per 100 offenses is greater in housing developments than in nearby neighborhoods. The opposite is true in Phoenix and Southeast Los Angeles. Thus, while police make at least as many arrests per offense in public housing as they do citywide in all three cities studied, the level of police attention that public housing receives relative to some nearby urban neighborhoods seems to vary from city to city, at least on the basis of this measure.

As noted above, there is substantial variation in offense rates among housing developments within each city. It is reasonable to ask, therefore, whether police activity, as measured by arrests, is distributed proportionately to crime within the public housing system. This would not be the case, for example, if police routinely avoided the most violent developments in favor of safer ones.

In fact, this does not appear to be the case: there appears to be a roughly linear relationship between a development's offense rate and its arrest rate. In other words, police appear to spread their effort across housing developments in rough proportion to differences in offense rates among them. This suggests that, at least to some extent, police are aware of the location of "hot spots" within the public housing system, and direct their efforts accordingly. Moreover, it appears that this is largely true in each of the three cities studied.

IMPLICATIONS OF THE RESULTS

Implications for the National Drug Control Strategy

In 1992, the Public Housing Drug Elimination Program (PHDEP), administered by the Department of Housing and Urban Development, made an estimated \$165 million in grants to housing authorities for controlling drug crime and related problems in public housing developments (ONDCP 1992). This represents a drug control investment of about \$47 per public housing resident, compared to \$6 per citizen budgeted for local drug control measures nationwide (ONDCP 1992).

The results of this research suggest that while the investment of PHDEP and other programs is disproportionate on a *per capita* basis, it is at least roughly justified on a per offense basis. The extraordinarily high rates of drug offenses in public housing commend extraordinary investment in intervention, even independently of other arguments for government intervention in public housing (e.g., the government's role as landlord, the poverty of residents, and the like).

Implications for the Identification of Distressed Public Housing Developments

In 1989, Congress created the National Commission on Severely Distressed Public Housing, with the mission of identifying public housing developments that were particularly "distressed," assessing ways to ameliorate that distress, and producing a strategy to eliminate these problems by the turn of the millennium (P.L. 101-235). As the Commission and others have noted, serious crime is an important dimension of "distress" in public housing communities. In 1992, the Commission proposed a scheme for quantifying the distress imposed by crime on public housing developments that would be based on offense rates in those developments.

The dramatic offense rates documented in this study demonstrate that the method for identifying crime-related distress proposed by the National Commission fails to adequately distinguish among housing developments most affected by crime problems. The Commission's system assigns the highest possible distress "score" to fully 20 of the 29 housing developments examined in this research.

This would not be a problem if, as the Commission recommends, Congress were to fund programs at a high enough level to alleviate distress in all public housing, regardless of the extent of that distress (National Commission 1992). But if — as is likely — funding at such a level is not made available, a method for identifying distress is needed that can inform, for example, the allocation of scarce resources among groups of high-crime urban developments, *all* of which are severely distressed.

Such a definition must also provide for developments that have offense rates that exceed city offense rates not by small percentages but by factors of two, three, or five. The Commission's definition, which assigns any development with a total offense rate 5% greater than that of the surrounding city a maximum possible distress "score," seems inadequate in such a context.

More broadly, our findings demonstrate that the results of *any* method for identifying distress will depend heavily on its underlying assumptions. For example, since some developments with especially high rates of violent offenses have relatively low rates of drug offenses, the decisions regarding which types of offenses will underlie the definition of distress will strongly affect the results.

Implications for Housing Authorities

The need to identify "problem projects" is not restricted to the National Commission on Severely Distressed Public Housing. Local housing authorities frequently face the problem of selecting particular housing developments for special drug or crime control initiatives. In recent years, this problem has become a routine dilemma, as the PHDEP grant application process gives

housing authorities the option of selecting one or a few developments as recipients of development dollars.

The difficulty housing authorities face in making these determinations is suggested by the fact that in the most recent grant cycle of the Public Housing Drug Elimination Program, over 50% of grantee housing authorities elected to spread funds across all the developments within their systems rather than concentrating funds in a small number of "problem" developments (Abt Associates 1992). Those housing authorities that do focus funds on particular developments make such selections based almost entirely on qualitative criteria. Typically, housing authority officials say, they know that the situation in a given development is bad; what they do not know is how bad the situation is or how it compares to the situation in other developments. Data such as those developed in this study might enhance this decisionmaking process.

More broadly, interdevelopment variation in offense rates suggests that successful drug or crime control programs must be tailored specifically to individual housing developments or to groups of similar developments. Initiatives that treat all developments equally are likely to be unsuccessful. Moreover, physical proximity of developments — even within very small distances — appears to be no indication of interdevelopment similarities in crime problems. It is highly desirable for PHDEP or other programs to be designed based on a development-specific basis.

While the fact that drug and crime problems vary widely from development to development has important implications, it also serves to limit the extent to which the specific findings of this study can be used by housing authorities nationwide. The extent of city, regional, and individual variation suggests that housing authorities outside of Phoenix, Washington, and Los Angeles cannot make effective inferences about their own developments from the data presented here. This suggests that it is particularly important to make this type of information routinely available to additional housing authorities. This issue is discussed in the final section.

Implications for Policing

Housing authorities, which must determine which of several housing developments will receive resources and attention, face the question of how to judge the relative severity of drug and crime problems among housing developments. For local police, who must determine which communities should receive marginal resources, the central problem is slightly different: how to weigh the severity of drug and crime problems in public housing developments relative to other areas of the city. Our finding that public housing offense rates are higher than those in nearby neighborhoods and cities suggests public housing developments do merit disproportionate (on a *per capita* measure) attention from police, just as it suggests that public housing merits disproportionate assistance from the federal government.

In addition, this research suggests that, for the most part, police departments do in fact allocate disproportionate (on a *per capita* measure) resources to law enforcement in public housing communities. In each of the three study cities, aggregate per capita arrest rates for Part I offenses are significantly greater in public housing developments than in the city as a whole. And this differential is not explained by the high offense rates in public housing. Arrest rates in developments are either higher or at least comparable to those in surrounding areas when expressed in per offense, as well as per capita, terms.

Police also appear to allocate their resources among individual developments within a city roughly proportionately to offense rates in those developments. At the same time, the availability of such offense and arrest rates for public housing developments and other areas in a given jurisdiction could allow police to target high-crime developments more precisely. The ability of police to operationalize this finding, of course, depends on timely and regular access to housing development offense data. This issue is discussed in the next section.

The research may have other implications for policing as well. For example, property offenses appear to be a less serious problem in public housing than violent and drug offenses. This may be relevant to police decisions regarding tactics or the allocation of scarce resources, to the extent that these decisions discriminate among the three types of offenses. For example, a police department that wants to engage each type of offense proportionally to its presence in a community might patrol officers and other resources away from property offenses and into drug task forces or violent crime enforcement.

DIRECTIONS FOR FUTURE RESEARCH

Efforts to control crime in public housing developments continue to expand. Numerous police departments and housing authorities in major cities are now implementing public housing crime control programs, using both local funds and federal Public Housing Drug Elimination Program grants. Many of these initiatives incorporate relatively traditional methods — e.g., patrol, enforcement, and efforts to secure entryways, corridors, and outdoor areas — that are quite similar to programs developed under the Urban Initiatives Programs in the late 1970's and early 1980's. More innovative programs are also being implemented: "sweeping" public housing developments for drug dealers and persons not listed on resident leases; restricting access to developments using electronic ID systems; establishing mini-precinct stations on development grounds; housing police officers in public housing units; improving tenant screening by incorporating checks of criminal records into the screening process; adopting "community policing" approaches, including foot patrols and the appointment of resident/police liaisons; and streamlining eviction procedures. Many housing authorities have also implemented programs that provide social, vocational, drug prevention,

and educational services to public housing residents and that coordinate these activities with law enforcement efforts.

Most of these programs, especially the relatively new initiatives supported by federal grants, remain unevaluated. In part for this reason, housing authorities' efforts continue to be hampered by an incomplete understanding of drug and crime problems in public housing neighborhoods. At a January 1993 conference on public housing security sponsored by the Council of Large Public Housing Authorities, housing authority officials bemoaned the paucity of data on public housing crime and drug problems much as they did in the 1989 survey of housing authorities conducted by HUD Secretary Kemp. This study, by proposing a methodology for developing public housing offense data and applying that methodology in three cities, represents an important though incomplete step toward remedying this deficiency. Clearly, however, much remains to be done. In this section, several possible directions for additional research in this area are presented.

Creating Measurement and Analytic Capacity

The Final Report of the National Commission on Severely Distressed Public Housing contains a number of recommendations. One of these, Recommendation 8.1, advocates within the Department of Housing and Urban Development the establishment of a research program to develop national indicators of distress in public housing, particularly in the area of crime (National Commission 1992). The potential contribution of such indicators to both national and local policy formulation is great, and the researchers wholeheartedly support the recommendation.

At the national level, difficult decisions must be made in the near future by Congress and HUD about the amount and type of resources that should be dedicated to attacking crime and other factors that are destructive of life in public housing. The problems that residents face seem to be getting worse, not better. Yet, we are still largely operating in an informational vacuum. As long as this is so, making strategic policy decisions inevitably involves a high degree of guesswork. Better indicators of the size and nature of the problem would surely lead to better-focused policies.

And, at the local level, detailed information on offense rates in individual housing developments can be of enormous value to housing authorities and to local police. Thus, it would be extremely valuable to create systems that provide housing development-based offense and arrest data to these agencies on a regular basis.

One of the most promising ways that this could be done is by integrating information on housing developments into the pilot Drug Market Analysis (DMA) systems that the National Institute of Justice has helped to establish in five cities (National Institute of Justice 1992). The principal objective of the DMA program is to provide previously unavailable opportunities to comprehensively analyze street drug markets and the effects that enforcement operations have on

them. DMA systems use computer mapping technology to geocode police data that describe calls for service, crime, arrest, patrol, and other activities. DMA systems can be used to examine both the frequency and types of offenses in arbitrarily defined geographic areas (National Institute of Justice 1992).

This analysis suggests that the borders of public housing developments would be valuable additions to the DMA geographic database. Since the bulk of the time and expense of calculating public housing offense rates is associated with the problems of gathering and geocoding police data, the cost of producing regular public housing offense and arrest data would be very low for a city in which DMA was already operational. These data could then be routinely provided to housing authorities and local police divisions.²

Enhancing the Description of Crime in Public Housing

This research describes offenses and arrests based on where they occur; i.e., whether they occur within the boundaries of public housing developments. Offense and arrest data could be analyzed in several other ways that would refine our overall understanding of crime in public housing communities.

First, future analyses could incorporate *data on the residence of arrestees and victims*. This information could be used to address the extent of resident versus non-resident participation in public housing crime. This analysis would be especially interesting for drug offenses, since conventional wisdom suggest that outsiders enter housing developments to buy and sell drugs and then depart. Residence data describing the victims of violent and property offenses could supplement this analysis by providing insight into the residence status of victims as well as offenders.

Second, offense and arrest data could be obtained to permit analysis of *clearance rates for housing development offenses*. This analysis would allow a more sophisticated understanding of policing in public housing developments than analysis of rates of arrests that occur in public housing as presented in this research. In addition to allowing one to compare clearance rates for developments and other areas, such an analysis would, for example, allow a determination of whether most policing in public housing is in response to public housing offenses or is due to offenses committed elsewhere.

An understanding of public housing policing would also be enhanced by the analysis of *police manpower data* in association with offense and arrest data, allowing the calculation of rates of arrest per unit of police effort. This would be especially informative regarding drug offenses, since it

²In Pittsburgh, one of the initial DMA sites, plans are going forward to provide the housing authority with regular access to DMA data.

would allow the development of comparative data on drug arrests that are standardized for level of enforcement.

Using Multivariate Techniques for Spatial Analysis of Crime

One important question that this research does not address is whether public housing has offense rates that are higher than would be expected given other characteristics of public housing developments, such as the age and income of residents or the nature of the housing stock. Put another way, this study does not ask how, if at all, the public nature of public housing contributes to offense rates. This question is not addressed, except in a speculative way, by the finding that development violent and drug offense rates exceed those of nearby neighborhoods, since the nearby neighborhoods are not control sites.

One approach to this issue would be to calculate offense rates in a set of adjacent, relatively small areas, some of which contain conventional public housing developments and others of which do not. A multivariate model could then be developed that analyzed offenses in each area as a function of a set of variables that would include, for example, the number of public housing residents. Other variables could include geographical and spatial descriptors (e.g., population density, residential vs. commercial land use, access by freeways and other means) as well as sociodemographic information on area residents (unemployment rates, single family homes, family size, income, and racial characteristics). Variables could also be introduced to control for trends over time in offense rates and intercity differences in offense rates. The model could then assess whether the presence of public housing, in itself, contributes to offense rates, over and above the influence of these other variables.

Such an analysis would face two primary obstacles. First, offense and arrest rates would have to be calculated in a suitable set of areas. Census tracts suggest themselves because of the availability of tract-level descriptive information. However, calculating rates in a large number of tracts involves an extensive geocoding process too complex to be compatible with the manual geocoding algorithms used for this study. Thus, this approach would depend on automated geocoding of records in conjunction with computerized census files. These files have only recently (1993) become available.

Alternatively, automated geocoding could be avoided by analyzing a city with an operational DMA program, or a city such as Washington, D.C., which recently began to include census tracts in each police record. But this latter approach has important shortcomings: the researchers observed that police records containing geographical designations such as census tracts are often in error. An analysis of the nature of that error would be needed before any analysis based on this approach could proceed.

A more basic difficulty is the fact that the presence of public housing developments is not independent of the other variables listed. Developments are likely to be associated with specific geographic and spatial features, such as relatively high population density. More importantly, public housing developments have the effect of creating concentrations of households that have certain characteristics: poverty, single-parent families, unemployment, etc. Thus, any association between public housing and offense rates might be expressed in one of two ways. First, public housing might be associated with high offense rates independently of other factors. Second, public housing might be associated with various geographic and demographic features that are, in turn, associated with high offense rates.

Despite these difficulties, it is clear that multivariate analysis of public housing crime should be undertaken.

Assessing Local Drug Markets and Crime "Hot Spots"

A great deal of research is currently being conducted in an effort to understand the structure and dynamics of street drug markets and other crime "hot spots." The DMA program, described above, and an exploratory RAND study of drug markets in Washington, D.C., are two such efforts. Since public housing developments appear to have high rates of drug offenses, it is likely that this research will speak to the question of public housing drug markets.

These results are likely to be of great interest to practitioners concerned with public housing. The questions of the role of residents and non-residents in markets, of ways markets change over time, and of the displacement of drug activity by enforcement programs are all relevant to the administration of public housing and the design of public housing drug control measures.

Evaluating the Impact of Public Housing Drug Control Policies and Initiatives

Finally, the techniques described in this report can be used as a tool for evaluating the impact of drug control initiatives in public housing. For example, trends over time in public housing and nearby neighborhood offense rates (Appendix C) are consistent with the introduction of a walking beat program in Phoenix developments in late 1985. A suitably designed evaluation could assess the extent to which the walking beat program was actually responsible for these changes. Information developed by such an evaluation regarding the displacement of offenses to surrounding areas would also be helpful in interpreting the differentials between public housing and nearby neighborhood offense rates in Phoenix.

There is no shortage of interventions that are candidates for this type of evaluation, especially given the availability of PHDEP funding. The size and structure of the PHDEP program provides a particular opportunity for the use of experimental design to evaluate the effectiveness of

specific drug control strategies in public housing. On one hand, the large number of PHDEP grants means that there are numerous candidate sites for analysis. At the same time, most individual PHDEP awards are small enough that housing authorities restrict PHDEP activity to one or several developments. This makes it likely that control, as well as experimental, sites can be found in the public housing system.

Offense rates, and to a lesser extent arrest rates, are a crucial outcome measure for any such experimental design. Of course, they are not the only important measure: information on residents' perception of the openness and flagrant nature of drug dealing must come from residents themselves, and data on the effects of social service programs must be gathered. At the same time, offense data measure the crucial phenomena of drug dealing, violence, and property violations. Moreover, the nature of police data are well suited to the experimental approach. They provide a detailed picture of baseline conditions, are collected throughout the development period, and are collected using similar techniques in both the experimental and control sites. These elements are crucial for the success of experimental approaches.

Just as this research provides an objective foundation for describing the extent of the drug and crime problem in public housing, experimental assessments of drug control initiatives will provide an empirical base from which to assess the effectiveness of efforts to control these problems. Taken together, these results will be an important tool in the effort to ensure the safety and security of public housing residents.

Appendix A
OFFENSE CATEGORY DEFINITIONS

This Appendix describes the definitions used in this analysis to assign offense and arrest records to specific offense categories. Three broad categories of offenses were analyzed: drug, violent, and property.

Drug offenses are defined as all offenses against the laws governing illegal drugs. Violations of laws relating to legal drugs — liquor laws, laws governing cigarettes and other tobacco products, and laws relating to licit pharmaceuticals — are not included. Drug offenses are divided into two categories. *Drug sale/manufacture* offenses are defined as drug offenses that involve drug manufacture, trafficking, distribution, or sale. Drug possession with "intent to distribute" is also included in the sale/manufacture category. All other drug offenses, including simple possession, possession of drug paraphernalia, and so on, are defined as *other drug offenses*.

Violent offenses consist of murders, rapes, robberies, and aggravated assaults; *property offenses* consist of burglaries, larcenies, and motor vehicle thefts. These offenses are defined in accordance with Part I of the Federal Bureau of Investigation's Uniform Crime Reporting program. Thus, for example, both successful and unsuccessful offense attempts are counted together in each category, except for attempted murder, which is counted as aggravated assault. Rapes include forcible but not statutory rapes. Full definitions of each offense category are published in the FBI's annual report, *Crime in the United States*.

Individual police records of offenses and arrests were assigned to one of these categories based on an offense code that police assign to each record. Each police department provided a dictionary of offense code definitions that was used to categorized offenses. Because each of the cities uses a different coding scheme, the code assignments were city-specific.

Table A.1 lists the codes matching the Part I and drug offense category definitions. In Phoenix and Washington, D.C., these codes are used for both offense and arrest records. In Los Angeles, the codes shown apply to offense data only. Los Angeles arrest reports use the California penal code to describe the type of offense. The designations, too numerous to present here, can be found grouped by category in *Crime and Delinquency in California 1990* (California Department of Criminal Justice 1990).

Table A.1
Category Definitions Used for Offense Data Processing

Category	Los Angeles	Phoenix (a)	Washington
Murder	110	10000, 10100	100-103
Rape	121, 122	10200	200, 202, 203
Robbery	210, 220	10300	300, 301, 310, 315-317
Aggravated Assault	230, 231, 235, 236, 250, 251	10400	400-414, 822-823, 2040
Burglary	310, 320	10500	501, 502, 531, 532
Larceny	330, 331, 341, 343, 345, 350, 351-353, 410, 420, 421, 430, 431, 440-445, 450-452, 470-475, 480, 485-487, 492	10600	600-699
Auto theft	510, 520, 521	10800	700-799
Drug sales/ trafficking	(b)	21810, 21820, 21830, 21840	1800-1819
Other drug offenses	(b)	21850, 21860, 21870, 21880	1820-1890

NOTES: (a) In Phoenix, the final two zeroes may vary for violent and property offenses

(b) California penal codes were used to identify drug arrests.

Appendix B

GEOCODING POLICE RECORDS: TECHNICAL APPROACH

This analysis is based on the "geocoding" of police offense and arrest records — i.e., the assignment of these records to particular housing developments and nearby neighborhoods. In Los Angeles and Washington, D.C., each record was assigned to a particular housing development or nearby neighborhood based on the record variable that describes the address where it occurred.¹ This Appendix discusses the procedure by which this assignment was accomplished.²

In broad terms, the methodology for address matching is quite simple. For each street that enters a development, some range of addresses on that street are within a given housing development. Thus, each housing development can be described by a list of streets and address ranges. Then, each offense is checked against each housing development list. If (a) the offense address is on a street that enters the development, and (b) the street address is within the range associated with that street, then that offense should be assigned to that development. If not, the next development is checked.

In practice, however, several factors may complicate this procedure. First, the geography of the city itself can present difficulties; e.g., more than one street with the same name or streets with noncontiguous address sequences. Second, it can be difficult to determine exactly what streets and address ranges are contained within a given development. Most importantly, police databases do not necessarily provide address information in usable form. Data may be unparsed, incomplete, misspelled, or recorded in multiple formats.

The geocoding methodology the researchers adopted incorporates six basic steps:

1. Create a subset of the police database that will be used as input for the matching process.
2. Determine both standard and nonstandard formats used by the police to record address information.

¹As noted in Chapter 3, Phoenix offense records contain grid identifiers (in 1/4-mile increments) rather than specific street addresses. Therefore, records were assigned to housing developments and nearby neighborhoods on the basis of the police grid identifier system. Consequently, the methodology for address matching described in this appendix was not needed in Phoenix and would not be relevant to similar research conducted in any city that has a grid number rather than a street address in police records.

²For the rest of this Appendix, we describe the geocoding procedure in terms of "offenses" and "housing developments." The reader should note that the procedure applies equally to crime and offense records and equally to housing developments and nearby neighborhoods.

3. If necessary, extract variables from the address information in the police data by parsing the address field.
4. Create an initial geocode file that lists each street and address range within each housing development
5. Revise the geocode file created in step 1 to include incomplete addresses, misspellings, and alternate spellings that appear in the police data.
6. Match each record in the police data to the revised geocode files.

The remainder of this discussion describes each of these steps in detail.

1. Subset Police Data

The first step in the matching process is to create a subset of police data for analysis. This is done in two ways. First, variables not needed for the analysis can be dropped. By assigning a sequence number to each record prior to subsetting, the address matching information can be reattached to the complete record at a later time. Second, most police data contain a variable describing the region of the arrests. By selecting only the regions containing housing developments to be matched, one can eliminate a majority of records from consideration before the matching process begins. The actual region chosen depends on the geography of the city and the nature of the data. In Los Angeles, only data from the Hollenbeck and Southeast areas were analyzed. In Washington, since none of the housing developments selected for study were in the city's Northwest quadrant, only data from the remaining three quadrants were analyzed. Dropping Northwest reduced the number of records substantially, since Northwest is the largest of the four quadrants (Figure C.4).

In addition to easing the manipulation of data files by making them smaller, this procedure has the advantage of reducing the range of misspellings and, especially, the number of multiple streets with the same name in the data. While a city as large as Los Angeles has several streets of the same name, both occurrences of a single street name tend not to be in the same area.

Note that it is important to use a large, non-arbitrary area to subset data for matching. In Los Angeles, for example, each area is divided into "reporting districts" several blocks on a side. While analyzing only those data within reporting districts that contain public housing would have considerably eased data processing, analysis revealed high rates of erroneous assignment of areas to reporting districts. This error is easily explained: since there is little incentive for police to memorize where reporting district boundaries lie, and no easy method for matching addresses to areas for a given offense, police may just guess. This is not a problem, however, for larger areas with independent importance. The area designation, for example, is the basis of the Los Angeles

Police Department's command structure. Officers assigned to particular areas are likely to be aware of what area they are in, since the area designates their administrative home. Similarly, city quadrant is a basic fact of Washington, D.C., geography, and is difficult to mistake.

2. Determine Police Data Address Formats

Addresses have four important components: street number; street name; street direction (North, South, etc.); and street type (Lane, Drive, etc.). Police records that are restricted to these four items of information, even if one or more item is missing, are in "standard" format.

Most police address records conform to standard format. However, other formats may be used. In Washington, for example, a significant minority of arrests were recorded as cross streets — e.g., "13th Street and N Street" — rather than as standard addresses. Other addresses were recorded as blocks — e.g., "13th Street 100 Block."

Nonstandard address formats that appear regularly should be noted prior to the analysis. For parsed data, this can be done by a visual examination of a random sample of addresses, which will reveal most of the nonstandard formats that appear with any frequency.

3. Parse Police Data

Police may provide location data in one of two formats: *unparsed* or *parsed*. Unparsed data describe addresses with a single string variable, which contains street number as well as other information (e.g., "120 North Main Street"). Parsed data are recorded with separate variables for street number, street name, street direction, and street type (e.g., "120," "North," "Main," and "Street" would appear as different variables). Other police departments parse their data only partially. An example of partial parsing is the system where there is a numeric variable for street number and a string variable that describes direction, street name, and street type.

Unparsed data must be converted to parsed data prior to the analysis. Standard parsing techniques can be applied relatively straightforwardly to address parsing. A typical parsing routine starts from the left, breaks the address string immediately prior to the first character (street number), and breaks it again if there is an *N*, *S*, *E*, or *W* surrounded by spaces or periods (street direction). It then reads from the right for street type, matching the string against a standard list of street types and abbreviations. (It is helpful to assign each street type a standard abbreviation as part of the parsing process.) The remainder of the string is assigned to street name.

The particular details of the parsing routine depend on the nature of the data. In Washington, for example, the parsing routine also looked for the keywords "and" and "at" to parse addresses in cross street format, "block" to parse addresses in block format, and "SE," "SW," "NE," and "NW" to parse quadrant information. Moreover, parsing is an iterative

process that can be repeated with modifications until all (or nearly all) addresses have been parsed successfully.

If police data are partially parsed, it may or may not be necessary to parse them further. In most cases, it is necessary to have separate variables that describe street number and street name. However, it is possible to adapt the methodology described below to treat street direction, name, and type as a single character variable.

4. Create Geocode Files

The purpose of this step is to define the space occupied by housing developments in such a way as to allow addresses in the police data to be matched with police data. This is done by creating *geocode files* for the developments.

The geocode file is based on a list of every street that intersects or borders each housing development and the address ranges on that street which are within the development. To gather that information, housing authorities should be asked to provide two items for each housing development to be studied: a list of all addresses in the development and a site map. The site map is necessary because some streets that are geographically within developments may nevertheless not be included in lists of housing unit mailing addresses. For example, if all units in a given development face on east-west streets, north-south streets that run through the development will not appear on housing unit mailing address lists. Nevertheless, offenses may occur on these streets. They therefore must be included in the set of housing development addresses.

For this reason, site maps must be analyzed in conjunction with a detailed city street map that lists street addresses. For nearby neighborhoods, this is even more important, since census tract maps typically show only border streets and do not list address numbers.

Border streets require special treatment because they have public housing addresses on one side but not the other, and police data will contain records with street numbers on both sides. For this report, the researchers considered the development boundary to be in the center of bordering streets. Police reports with addresses on the housing development side of the street were assigned to the development. Reports with addresses on the other side of the street were not.

Once lists of streets and ranges have been developed for each development, they can be integrated into a geocode file. Figure B.1 shows several records from a sample geocode file. While the physical layout of the file can be changed at will, it is important that each record contain three types of information: a housing development identifier, range information, and street information.

In Figure B.1, each record begins with a *development identification number* in the first column. There are records for two developments, numbers 100 and 101. It is usually most convenient to use numbers that are assigned to developments by the local housing authority.

100	3	1000	1119	E STANFORD	AVE
100	3	1000	1119	JUNIPER	AVE
100	1	500	599	N HARTFORD	ST
101	2	1500	1599	JUNIPER	AVE
101	1	700	799	BEECH	ST
101	3	800	899	BEECH	ST
:					

Fig. B.1—Sample of Records from a Geocode File

The next three variables describe the *address range* for the record. The first variable describes *side of the street*. This variable is necessary to describe streets that are on the border of housing developments. For such streets, as noted above, even-numbered addresses may be in the development, while odd-numbered addresses are not, or vice versa. This situation is described by the side of the street variable. The value 1 indicates that only odd values within the range are within the development; 2 indicates that only even values are within the development; and 3 indicates that all values are within the range.

The next two variables describe the address range itself. In conjunction with the side of the street variable, the low and high address variables completely specify the address range that should be matched for the street in question.

Each record in the geocode file is an independent unit. Thus, if a single street intersects more than one development, the geocode file should contain two records, one for each range. For example, in Figure B.1, Juniper Avenue is in the first development from 1000 to 1119 (both sides of the street), while it is in the second development from 1500 to 1599 (even addresses only). Similarly, since many developments are ell-shaped, a single street may be on the development's border for one range, and completely within the development for another range. Again, this circumstance is accounted for by creating two records, one for each range. The two records in Figure B.1 for Beech Street are an example of such a situation. Only the odd side of the 700 block of Beech are within the development, while both sides of the 800 block are within development borders.

5. Revise Geocode Files To Include Alternate Spellings and Errors

Since police records are typically keypunched from written forms, errors and omissions are possible. Therefore, once the geocode file has been developed, it must be revised to incorporate alternate spellings, omissions, and errors in the police data. This is done to ensure that the geocode file will match all development addresses, not only those that are spelled correctly.

To revise the geocode file, a list of all *unique street designations* in the police file should be created. A unique street designation is a street direction, name, and type. This list is then reviewed to determine whether streets in the geocode file appear in more than one way. For each alternate appearance of a given street, a new record must be inserted in the geocode file.

Incomplete and misspelled street designations are best found by a visual examination of the unique street list. Sorting the list alphabetically groups most misspellings around the correct spelling, making them easily found. Only a few types of alternate spellings, such as multiple spellings for streets with numeric names ("Eighth Street" vs. "8th Street"), are not grouped by alphabetic sorting and must therefore be checked separately.

100	3	1000	1119	E STANFORD	AVE
100	3	1000	1119	E STAMFORD	AVE
100	3	1000	1119	STANFORD	
100	3	1000	1119	JUNIPER	AVE
100	3	1000	1119	JUPINER	AVE
100	1	500	599	N HARTFORD	ST
101	2	1500	1599	JUNIPER	AVE
101	2	1500	1599	JUPINER	AVE
101	1	700	799	BEECH	ST
101	3	800	899	BEECH	ST
:					
.					

Fig. B.2—Sample of Records from a Revised Geocode File

Figure B.2 is a sample revision of the geocode file from Figure B.1. The first record, for E. Stanford Ave., has been supplemented by two new records. The second record, for "E. Stamford Avenue," reflects a misspelling of "Stanford" found on the unique street list. The third record reflects an incomplete entry, also found on the unique street list, in which direction and street type are missing. For each record, the development identification number and address range associated with the correct spelling and duplicated for the alternate spellings. In this example, therefore, all three records for E. Stanford Avenue have a development identification number of 100 and an address range of 1100-1119, both sides of the street.

It is particularly important that each variation of a given street name be duplicated each time that street name appears in the geocode file. For example, in Figure B.2, the record for "Juniper Street" is repeated for the misspelled "Jupiner Street," for both development number 100 and number 101, each with the associated address range information.

Finally, it should be noted that some conventions must be developed for dealing with ambiguous misspellings and omissions in the unique street list. For example, the entry "Greenleaf" can refer either to "Greenleaf Street" or "Greenleaf Avenue." Similarly, the entry "Fourt

Street" may be a misspelling for "Fourth Street," "Fort Street," or some other variant. In this analysis, in order to be included in the geocode file, misspellings or omissions must be unambiguous for the area in question. Thus, the above records would not have been included as alternate spellings of Greenleaf Street or Fourth Street, if there was also a Greenleaf Avenue or Fort Street in the area. In a small number of cases, such records could be made unambiguous by examining the range of addresses associated with the spelling and checking to see whether that range could only be associated with a single possibility.

6. Match Records With Standard Address Formats

Once the geocode file has been revised, the matching process can be performed. The matching routine is performed in two stages. First, addresses in standard format are matched, then addresses in non-standard format are matched.

```
FOR EACH POLICE FILE RECORD
  FOR EACH GEOCODE FILE RECORD
    DO STREET DIRECTION, NAME, TYPE, AND NUMBER MATCH?
      IF YES: ASSIGN DEVELOPMENT ID# TO POLICE RECORD
              BEGIN AGAIN WITH NEXT POLICE RECORD
      IF NO: CONTINUE
    IS END OF GEOCODE FILE REACHED?
      IF NO: CHECK NEXT GEOCODE RECORD
      IF YES: ASSIGN NO-MATCH CODE TO POLICE RECORD
  CHECK NEXT POLICE FILE RECORD
```

Fig. B.3—Algorithm for Matching Police Records in Standard Address Format to Housing Developments

Matching of standard addresses is based on a straightforward algorithm, which is described in Figure B.3. Each police record is read into memory. If the street name, direction, and type match the first record in the geocode file, and the street number meets the associated range and odd/even criteria, the police record is assigned the housing development identification number associated with the matched record. (Since the revised geocode file has separate records for misspelled and incomplete addresses, the matched algorithm can require a perfect match on all four variables). If there is a match, the process begins again with the next police record.

If there is no match, the next geocode record is checked. This is done until the geocode file is exhausted. If the police record has not been matched by that time, it is assigned a no-match code, typically "999," in place of the housing development code. This process is repeated for each police record.

Once all records in standard format have been matched, records in non-standard format must be analyzed. For this analysis, researchers matched addresses in cross-street format if both the primary and cross streets appeared in the geocode file associated with the same development identification number. Addresses were treated in block format, such as "1900 block Maple," as if they were the first address in the block range; i.e., "1900 Maple." Clearly, these algorithms need to be developed on a case-by-case basis depending on the types of non-standard address formats that appear in the police data.

At the conclusion of the matching process, each police record is associated with a development identification number (which may also designate a nearby neighborhood) or a no-match code. Offenses can then be aggregated by development identification number, and, if desired, by year, offense category, or other variable.

Appendix C
SUPPLEMENTARY DATA

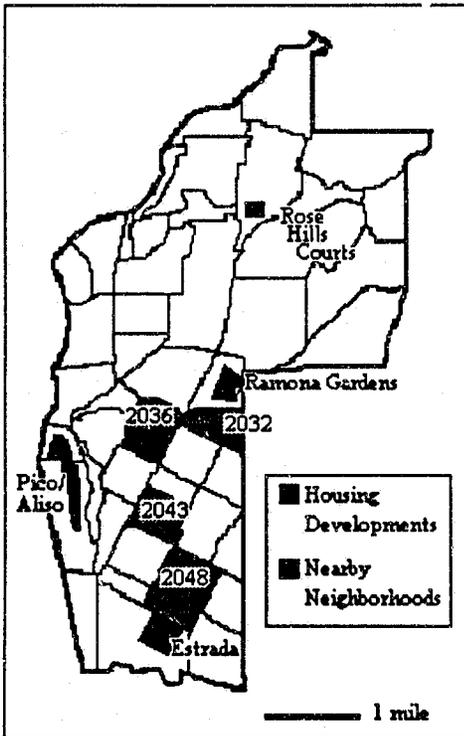


Fig. C.1—Location of Housing Developments and Nearby Neighborhoods Selected for Study, Hollenbeck Area, Los Angeles

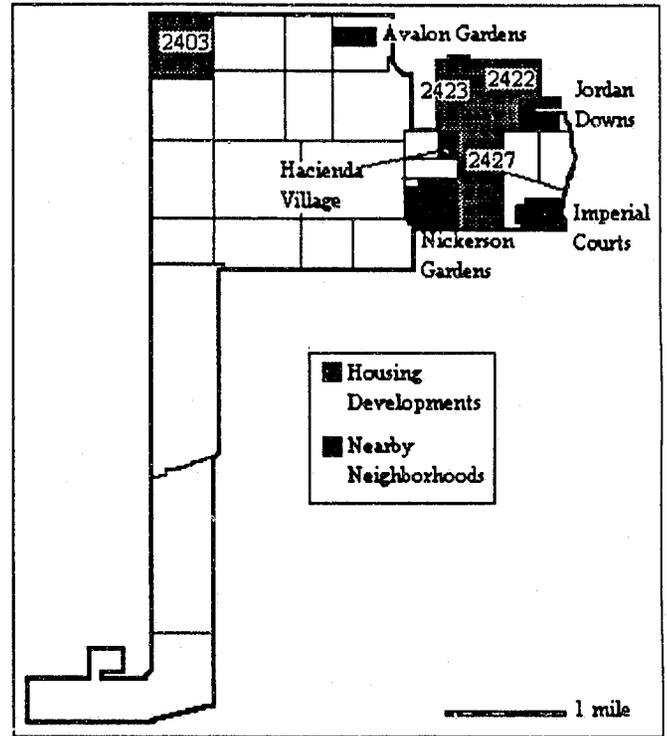


Fig. C.2—Location of Housing Developments and Nearby Neighborhoods Selected for Study, Southeast Area, Los Angeles

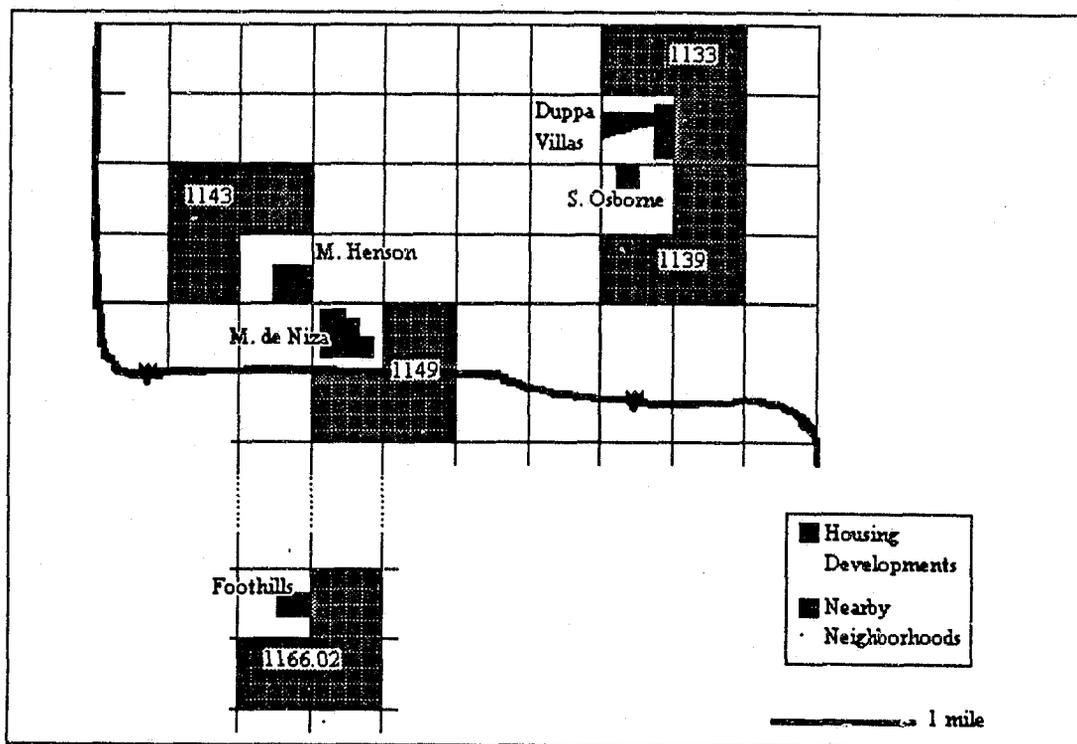


Fig. C.3—Location of Housing Developments and Nearby Neighborhoods Selected for Study, Phoenix

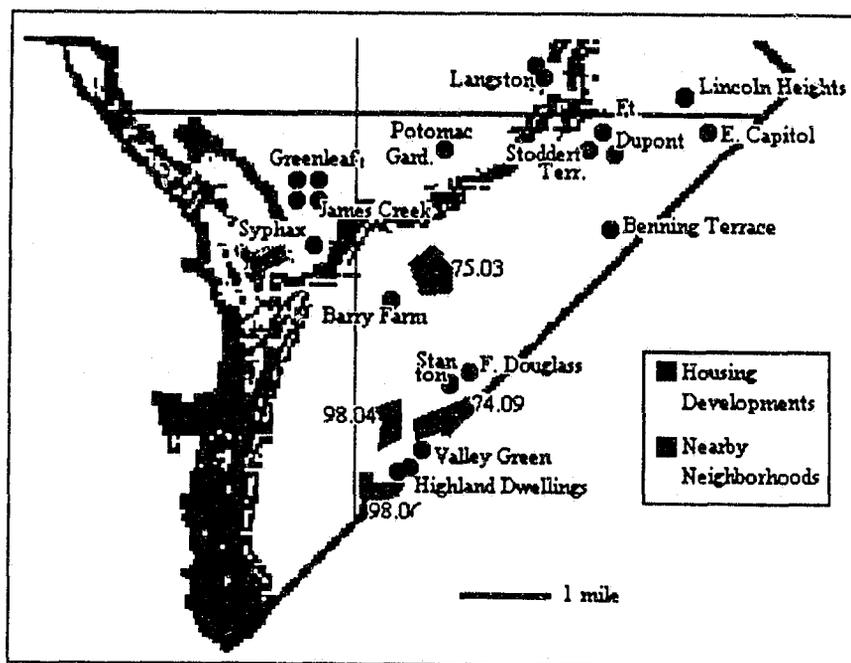


Fig. C.4—Location of Housing Developments and Nearby Neighborhoods Selected for Study, Washington, D.C.

Table C.1
Average Annual Number of Offenses Known to the Police in Public Housing Developments Selected
For Study, 1986-1989

	Population	Drug	Violent	Property
Los Angeles				
Citywide	3,070,710	50,521	68,606	240,072
Developments	16,134	930	1,073	958
Nrby. Nbrhds.	41,038	899	1,207	2,131
Phoenix				
Citywide	983,403	4,445	9,205	48,690
Developments	4,348	381	392	650
Nrby. Nbrhds.	17,032	292	427	1,175
Washington				
Citywide	606,898	14,529	11,810	46,618
Developments	13,889	447	565	456
Nrby. Nbrhds.	14,701	305	336	642

NOTE: The L.A. population figure shown, which is used throughout the report to calculate L.A. citywide offense rates, is taken from police department figures and is slightly lower than the corresponding figure from the 1990 census that is shown in Figure 3.1. This lower figure better represents the average L.A. population during the 1986-1989 period.

Table C.2
Average Annual Offenses Known to the Police per 1,000 Residents, by Region, Los Angeles, 1986-1989

	Total	Drug	Violent	Property
Los Angeles Citywide	117.0	16.4	22.3	78.2
Total				
Hollenbeck Area				
Housing Developments	85.3	46.9	16.1	22.3
Nearby neighborhoods	73.4	18.4	15.1	39.9
Southeast Area				
Housing Developments	288.4	69.1	120.3	99.0
Nearby neighborhoods	143.5	26.7	48.7	68.1

Table C.3
Average Annual Aggregate Arrest Rates for Drug Offenses in Housing Developments and Other Areas, 1986-1989, by Offense Type

	All Drug Offenses	Sale/ Manufacture	Other Drug Offenses
LA Citywide	16.5	n/a	n/a
LA Hollenbeck			
Developments	46.9	13.4	33.5
Nrby. Nbrhds.	18.4	3.4	15.0
LA Southeast			
Developments	69.1	23.9	45.2
Nrby. Nbrhds.	26.7	10.2	16.5
Phoenix			
Citywide	4.5	1.4	3.2
Developments	52.6	19.8	32.8
Nrby. Nbrhds.	29.8	11.1	18.7
Washington			
Citywide	23.9	14.1	9.9
Developments	32.2	18.6	13.6
Nrby. Nbrhds.	20.7	12.2	8.5

Table C.4
Average Annual Aggregate Violent Offense Rates for Housing Developments and Other Areas, 1986-1989, by Offense Type

	All Violent Offenses	Murder	Rape	Robbery	Aggr. Assault
LA Citywide	22.3	0.3	0.7	9.1	12.3
LA Hollenbeck					
Developments	16.1	0.3	0.2	5.4	10.1
Nrby. Nbrhds.	15.1	0.2	0.3	6.4	8.3
LA Southeast					
Developments	120.3	2.0	2.4	37.5	78.4
Nrby. Nbrhds.	48.7	0.8	1.5	16.0	30.4
Phoenix					
Citywide	9.4	0.1	0.6	2.8	5.9
Developments	54.2	1.0	1.9	18.9	32.5
Nrby. Nbrhds.	43.6	0.7	1.6	14.3	26.9
Washington					
Citywide	19.5	0.5	0.4	9.6	9.0
Developments	40.7	1.7	0.6	12.4	25.9
Nrby. Nbrhds.	22.8	0.7	0.3	10.0	11.8

Table C.5

Average Annual Aggregate Property Offense Rates for Housing Developments and Other Areas, 1986-1989, by Offense Type

	All Property Offenses	Burglary	Larceny	Auto Theft
LA Citywide	78.2	17.9	39.6	20.8
LA Hollenbeck				
Developments	22.3	4.9	8.6	8.8
Nrby. Nbrhds.	39.9	7.5	17.7	14.7
LA Southeast				
Developments	99.0	48.8	81.5	18.6
Nrby. Nbrhds.	68.1	21.6	83.8	12.7
Phoenix				
Citywide	49.5	23.9	16.8	8.8
Developments	89.9	42.0	21.9	25.5
Nrby. Nbrhds.	119.9	58.1	34.7	27.2
Washington				
Citywide	76.8	19.5	43.9	13.4
Developments	32.8	8.1	14.5	3.2
Nrby. Nbrhds.	43.6	16.7	13.0	14.0

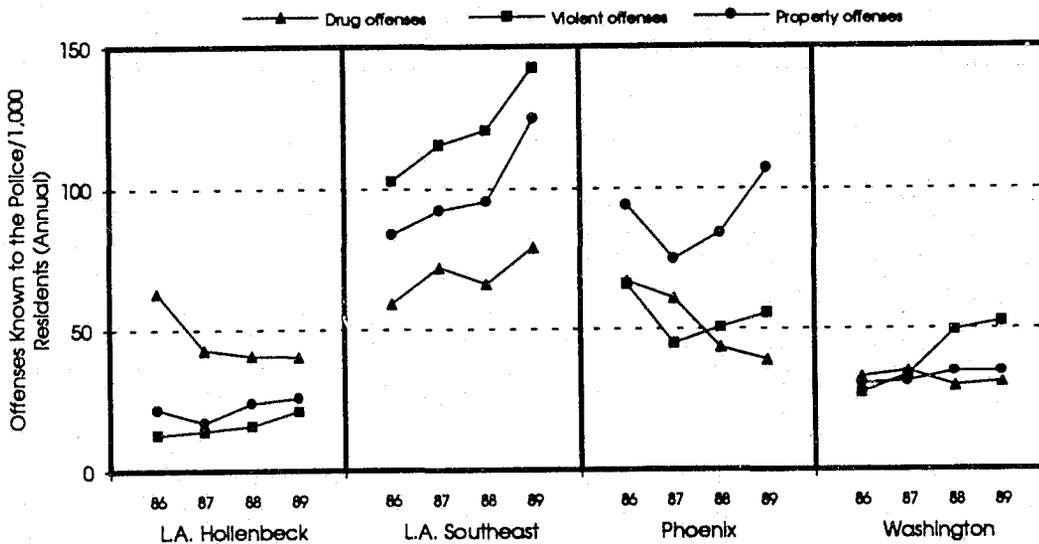


Fig. C.5—Trends in Drug, Violent, and Property Offenses in Housing Developments, 1986-1989

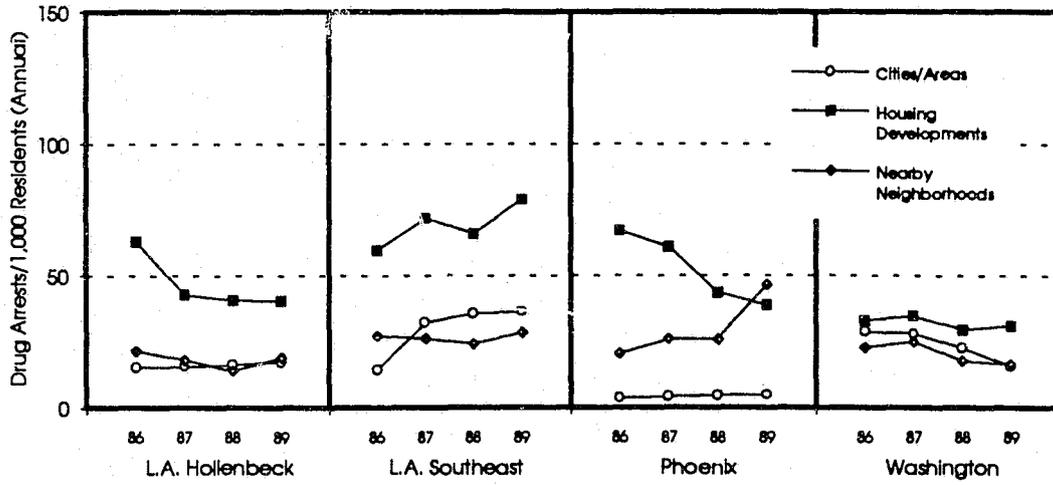


Fig. C.6—Trends in Drug Offenses in Public Housing and Other Areas, 1986-1989

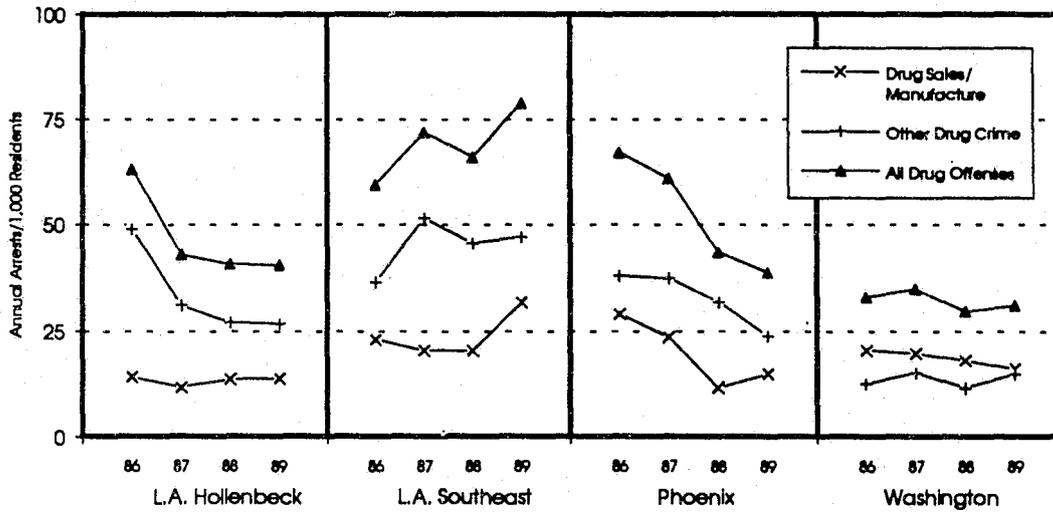


Fig. C.7—Trends Over Time in Rates of Drug Sale/Manufacture and Other Drug Arrests in Public Housing, 1986-1989

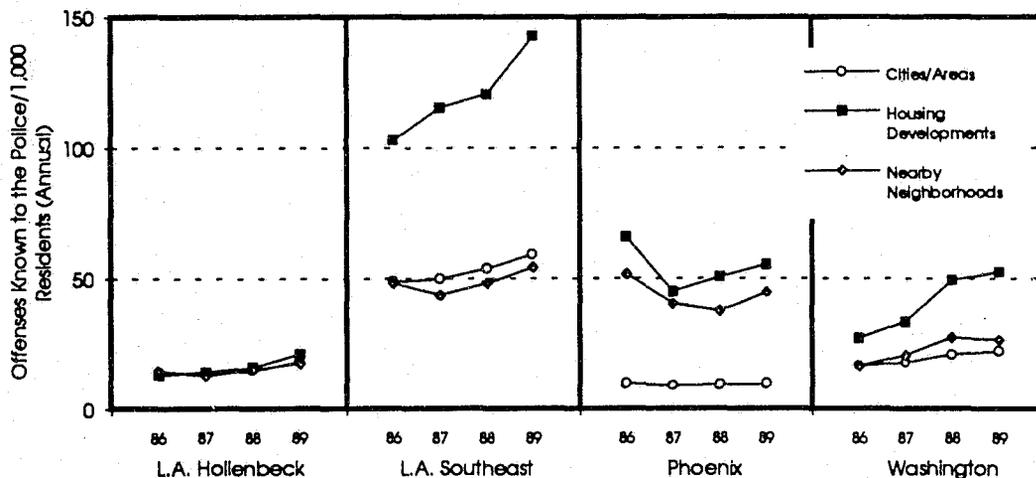


Fig. C.8—Trends in Violent Offenses in Housing Developments and Other Areas, 1986-1989

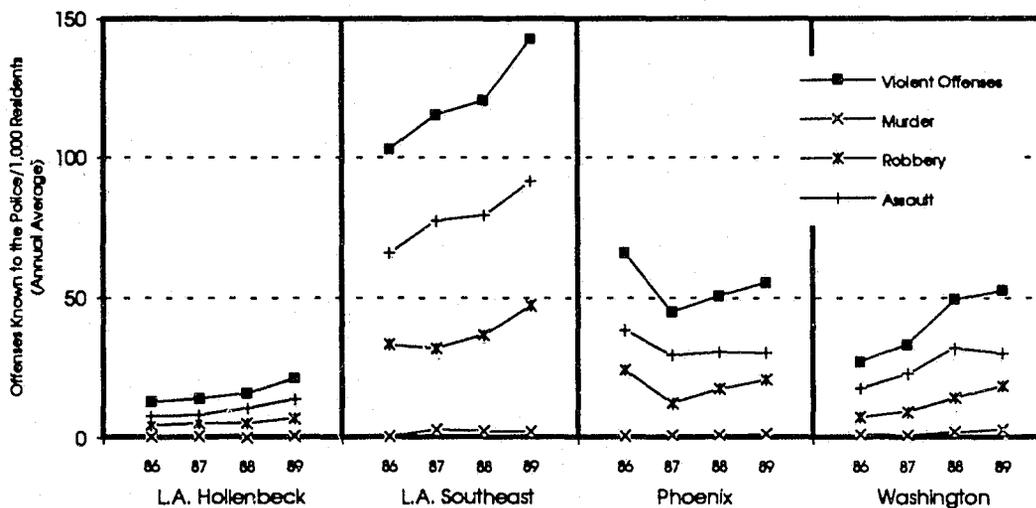


Fig. C.9—Trends in Rates of Specific Violent Offenses in Housing Developments, 1986-1989

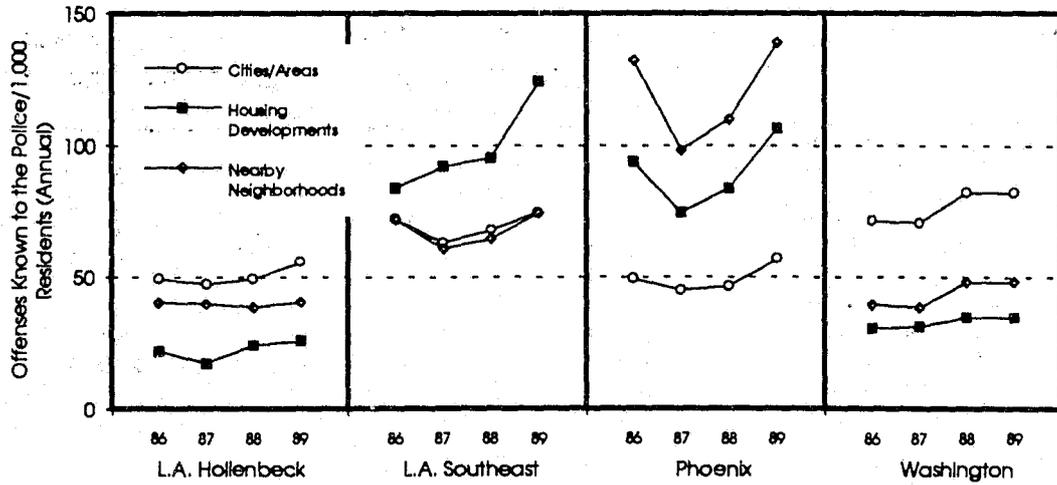


Fig. C.10—Trends in Property Offenses in Housing Developments and Other Areas, 1986-1989

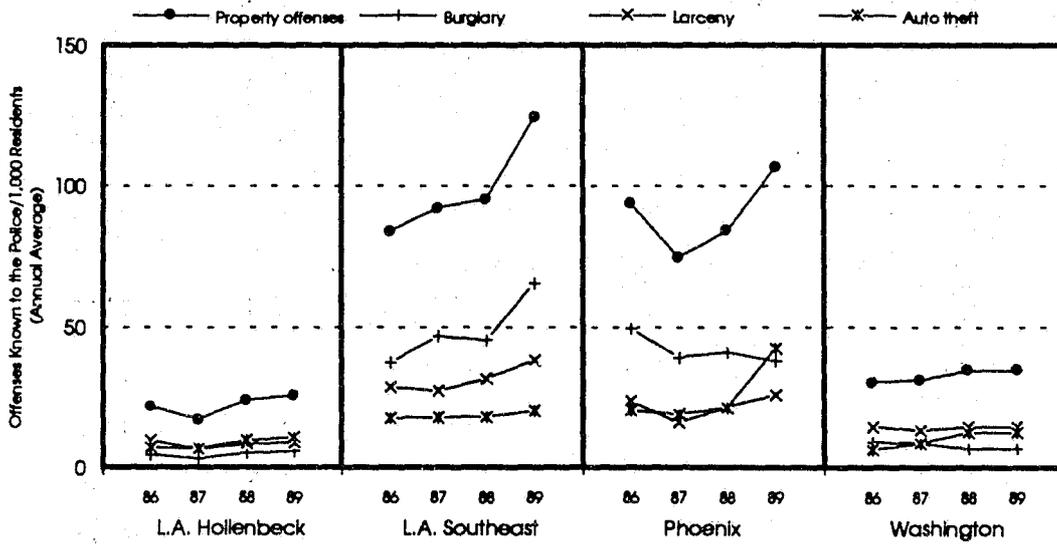


Fig. C.11—Trends in Rates of Specific Property Offenses in Housing Developments, 1986-1989

Table C.6

Average Annual Aggregate Offense Rates, 1986-1989, by Offense Type and Housing Development

	All Offenses	Drug Offenses	Violent Offenses	Property Offenses
L.A. Hollenbeck				
Estrada	73.4	24.2	17.3	31.9
Pico/Aliso	93.4	56.7	16.9	19.9
Ramona Gardens	83.0	46.7	15.0	21.3
Rose Hills	32.7	2.5	7.4	22.9
Courts				
L.A. Southeast				
Avalon Gardens	293.8	40.0	156.3	97.5
Hacienda	514.1	51.2	183.0	279.8
Village				
Imperial	260.6	66.6	118.1	75.9
Courts				
Jordan Downs	269.3	73.7	108.9	86.7
Nickerson	282.5	73.0	116.4	93.1
Gardens				
Phoenix				
Duppa Villas	187.0	35.1	50.2	101.7
Foothills	102.6	15.3	26.2	61.0
Village				
Marcos de Niza	124.1	11.9	30.1	82.0
Matthew Henson	350.0	123.5	106.7	119.7
Sidney Osborne	217.8	84.4	58.8	74.6
Washington				
Barry Farms	29.7	11.3	9.8	8.6
Benning	85.0	15.6	32.8	36.6
Terrace				
East Capitol	93.6	26.8	41.4	25.5
Fort Dupont	227.8	62.7	81.6	83.5
F. Douglass	124.0	31.0	43.9	49.1
	127.6	43.3	36.8	47.5
Greenleaf/Ledroit				
Highland	135.4	45.5	54.3	35.6
Dwell.				
James Creek	77.1	19.9	21.6	35.7
Langston	77.0	30.0	25.7	21.3
Lincoln	73.3	18.5	33.7	21.1
Heights				
Potomac	122.5	55.5	38.0	29.0
Gardens				
Stanton	289.4	82.9	128.2	78.2
Dwellings				
Stoddert	57.2	20.5	25.1	11.6
Terrace				
Syphax Gardens	137.8	37.6	52.7	47.5
Valley Green	123.9	39.8	53.9	30.2

Table C.7
Average Annual Aggregate Violent Arrest Rates for Housing Developments and Other Areas, 1986-1989, by Offense Type

	All Violent Offense s	Murder	Rape	Robbery	Aggr. Assault
LA Citywide	7.8	0.3	0.3	2.3	4.9
LA Hollenbeck Developments	8.1	0.5	0.1	1.7	5.7
Nrby. Nbrhds.	5.7	0.2	0.2	1.2	4.0
LA Southeast Developments	55.0	2.4	1.1	13.0	38.6
Nrby. Nbrhds.	21.3	1.0	0.6	5.2	14.4
Phoenix Citywide	3.2	0.1	0.1	0.6	2.5
Developments	20.8	0.4	0.6	4.5	15.3
Nrby. Nbrhds.	17.9	0.5	0.6	3.9	13.0
Washington Citywide	5.4	0.3	0.1	1.5	3.4
Developments	8.0	0.5	0.3	2.3	4.9
Nrby. Nbrhds.	4.4	0.2	0.1	1.2	2.8

NOTE:

Table C.8
Average Annual Aggregate Property Arrest Rates for Housing Developments and Other Areas, 1986-1989, by Offense Type

	All Property Offenses	Burglary	Larceny	Auto Theft
LA Citywide	11.4	2.9	5.5	3.0
LA Hollenbeck Developments	6.2	2.0	0.7	3.5
Nrby. Nbrhds.	7.3	1.6	3.0	2.7
LA Southeast Developments	24.4	9.3	4.2	10.9
Nrby. Nbrhds.	26.4	6.3	14.4	5.7
Phoenix Citywide	18.3	3.4	14.5	0.4
Developments	44.9	11.7	31.0	2.2
Nrby. Nbrhds.	101.0	15.4	83.8	1.8
Washington Citywide	9.8	1.7	5.1	2.9
Developments	11.5	1.9	5.3	4.3
Nrby. Nbrhds.	7.7	1.5	3.1	3.1

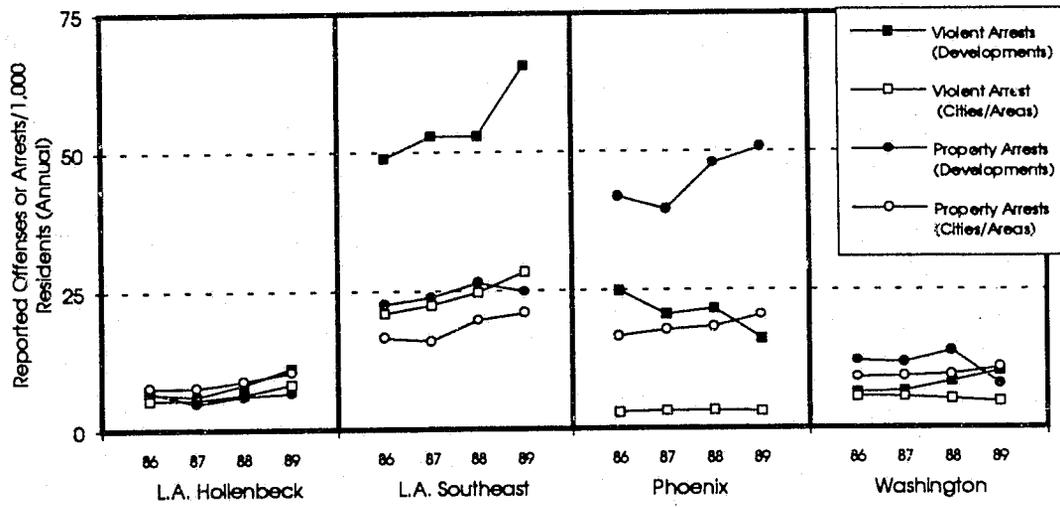


Fig. C.12—Part I Arrests in Housing Developments and Other Areas, 1986-1989

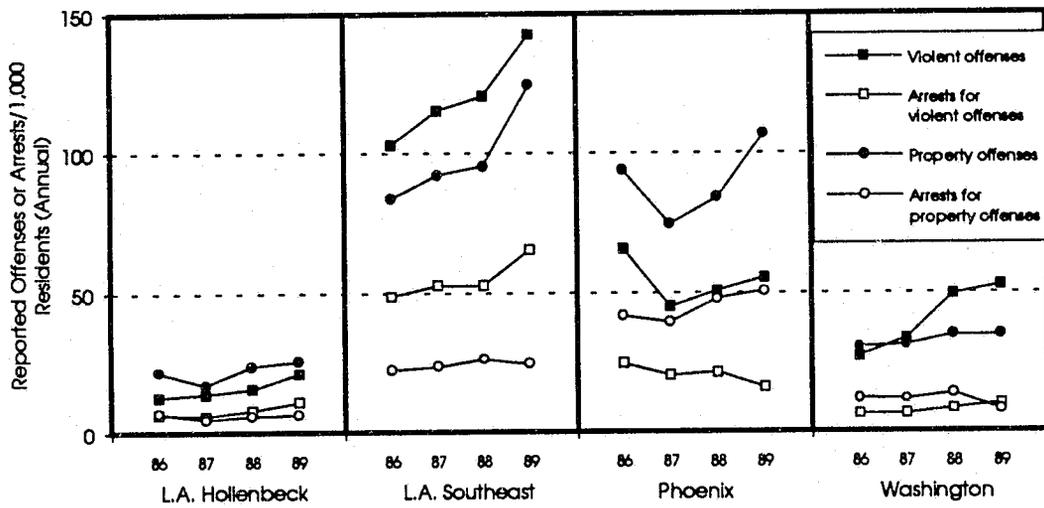


Fig. C.13—Part I Offense and Arrest Trends in Public Housing, 1986-1989

Table C.9

Average Annual Aggregate Arrest Rates, 1986-1989, by Offense Type and Housing Development

	Part I Offenses	Violent Offenses	Property Offenses
L.A. Hollenbeck			
Estrada	10.4	5.6	4.7
Pico/Aliso	17.1	8.9	8.2
Ramona Gardens	12.0	8.5	3.5
Rose Hills	5.7	3.3	2.5
Courts			
L.A. Southeast			
Avalon Gardens	109.4	81.3	28.1
Hacienda	114.9	63.6	51.2
Village			
Imperial	78.2	54.4	23.9
Courts			
Jordan Downs	78.1	57.1	21.0
Nickerson	72.4	49.4	22.9
Gardens			
Phoenix			
Duppa Villas	82.5	23.0	59.5
Foothills	30.1	9.1	20.9
Village			
Marcos de Niza	31.9	10.7	21.2
Matthew Henson	109.4	36.3	73.1
Sidney Osborne	73.1	24.6	48.6
Washington			
Barry Farms	6.1	2.8	3.3
Benning	11.3	4.5	6.8
Terrace			
East Capitol	18.1	7.8	10.3
Fort Dupont	33.3	15.0	18.3
F. Douglass	21.3	8.4	12.9
	30.7	14.4	16.3
Greenleaf/Ledroit			
Highland	26.6	9.2	17.3
Dwell.			
James Creek	12.9	5.8	7.0
Langston	18.3	7.0	11.3
Lincoln	9.9	3.5	6.3
Heights			
Potomac	21.5	7.2	14.3
Gardens			
Stanton	46.8	17.1	29.6
Dwellings			
Stoddert	16.2	6.4	9.8
Terrace			
Syphax Gardens	26.1	11.5	14.6
Valley Green	24.4	11.6	12.8

BIBLIOGRAPHY

- Abt Associates, Inc. *Public Housing Drug Elimination Program Evaluation: Preliminary Report*. Draft prepared for the United States Department of Housing and Urban Development. Cambridge, Massachusetts: August 1992.
- Alexandria, Virginia Housing and Redevelopment Authority. "Current and Past Activities to Address the Problem." Excerpts from the application to the Public Housing Drug Elimination Program, 1992. Materials presented at the Council of Large Public Housing Authorities (CLAPHA) Conference on Public Housing Security, Washington, D.C., 14-15 January 1993.
- Annan, Sampson O and Wesley Skogan. *Drugs and Public Housing: Toward an Effective Police Response*. Report to the National Institute of Justice. Washington: Police Foundation, 1992.
- Armstrong, Scott. "Debate Intensifies Over How to Combat Crime in Developments." *Christian Science Monitor*, 3 May 1989, p. 1.
- Autry, David E. "Combating Drugs in PHA's: A National Initiative." *Journal of Housing*, July/August 1987.
- Banham, R. "Parkhill Revisited: English Public Housing That Broke the Rules (But Works Anyway)." *Architecture Plus*, May-June 1974, pp. 109-115.
- BJA Taking a Problem-Oriented Approach to Drug Enforcement*. Bureau of Justice Assistance, Interim Report, April 1989.
- Bottoms, A.E. "Review of *Defensible Space* by Oscar Newman." *British Journal of Criminology*, 14, 1974, pp. 203-06.
- Bradel, Don, et al. *Evaluation of the ACOP-2 Program*. Saint Paul, Minnesota: Public Housing Agency of the City of Saint Paul, 1992.
- Bratt, R., C. Hartman, and A. Mayerson (eds.). *Critical Perspectives on Housing*. Philadelphia: Temple University Press, 1986.
- Brill, William H. *Security in Public Housing: A Synergistic Approach*. Washington, D.C.: U.S. Government Printing Office, 1973.
- Bureau of Justice Statistics. *Sourcebook of Criminal Justice Statistics 1991*. Washington, D.C.: U.S. Department of Justice, 1991.
- Bursik, Robert J. and Harold G. Grasmick. "Longitudinal Neighborhood Profiles in Delinquency: The Decomposition of Change." *Journal of Quantitative Criminology*, 8:3, 1992, pp. 247-263.
- Burton, Cynthia. "Drug Foes Tell of Threats: Abbotsford Tenant Leaders Seek Protection." *Philadelphia Daily News*, 8 September 1988, p. 5.
- California Department of Justice. *Crime and Delinquency in California, 1990*. Division of Law and Enforcement, Bureau of Criminal Statistics and Special Services. Daniel E. Lungren, Attorney General. Sacramento: 1991.

- Conner, Roger, and Patrick Burns. *The Winnable War: A Community Guide to Eradicating Street Drug Markets*. Washington, D.C.: United States Department of Housing and Urban Development, 1991.
- Cornish, D. and R. Clarke. "Understanding Crime Displacement: An Application of Rational Choice Theory." *Criminology*, 25:933-948, 1987.
- Cuyahoga (Ohio) Metropolitan Housing Authority. "Police Division Overview." Materials presented at the Council of Large Public Housing Authorities (CLAPHA) Conference on Public Housing Security, Washington, D.C., 14-15 January 1993.
- Davidson, Joe. "Public Housing Aides Push to Evict Drug Users, Sometimes Violating the Rights of Other Tenants." *Wall Street Journal*, 6 July 1989.
- Davidson, Joe. "Pride of Ownership: Takeover of Housing Development Makes Place Livable...Or Cruel Hoax." *Wall Street Journal*, 6 July 1989, p. A1.
- Davidson, Joe. "Street Sweeper: Some Citizen Patrols Bully Drug Traffickers Until They Flee Area." *Wall Street Journal*, 26 September 1988.
- DePalma, Anthony. "Newark Housing Lag: After a Year, One Unit." *New York Times*, 14 September 1990(N).
- Fairley, W. "Improving Public Safety in Urban Apartment Dwellings: Security Concepts and Experimental Design for New York City Housing Authority." Santa Monica: The RAND Corporation, 1971.
- Farley, John E. "Has Public Housing Gotten a Bum Rap? The Incidence of Crime in St. Louis Public Housing Developments." *Environment and Behavior*, 14:4, July 1982, pp. 443-477.
- Fisher, G.A. *Fear of Crime in Public Housing Developments*. Doctoral Dissertation, Ann Arbor, MI, 1978.
- Frady, Allen Doug. "Narcotics Enforcement in Public Housing" panel. *Evaluating Drug Control Initiatives: Conference Proceedings*. Washington, D.C.: Office of Justice Programs, U.S. Department of Justice, June 1990.
- Garafalo, James. "The National Crime Survey, 1973-1986: Strengths and Limitations of a Very Large Data Set." In Mackenzie *et al.* (eds.), *Measuring Crime: Large-Scale, Long-Range Efforts*. New York: State University of New York Press, 1990, pp. 75-96.
- Garreau, Joel. "The Invisible Hand Guides DC's Visible Menace." *The Washington Post*, 29 December 1988.
- Great Britain Home Office. *Crime and Public Housing - Proceedings of a Workshop Held in September 1980*. 1982.
- Greensboro Housing Authority. "Police Neighborhood Resource Centers: Making a Difference." Materials presented at the Council of Large Public Housing Authorities (CLAPHA) Conference on Public Housing Security, Washington, D.C., 14-15 January 1993.

- Hand, L. "Cincinnati Housing Authority Builds Safety Into Development." Washington, D.C.: Department of Housing and Urban Development, 1978.
- Hayes, John G. "Impact of Citizen Involvement in Preventing Crime in Public Housing: A Report of the Fairview Homes Crime Prevention Program in Charlotte." Washington, D.C.: Department of Housing and Urban Development, 1982.
- Horowitz, Sari and Linda Wheeler. "Drug Market Intensifies Violence on Drake Place." *The Washington Post*, 17 February 1989.
- House Committee on Government Operations. "Just Saying No is Not Enough: HUD's Inadequate Response to the Drug Crisis in Public Housing" Hearing, The United States House of Representatives, 15 June 1989.
- House Committee on Government Operations. "HUD Programs to Combat Drug Abuse in Public Housing." Hearing, The United States House of Representatives, March 21, 1988.
- House Select Committee on Narcotics and Abuse and Control. "The Drug Problem and Public Housing." Hearing, The United States House of Representatives, 15 June 1989.
- Housing and Urban Development, Department of. "Secretary Kemp Acts to Speed Nationwide Eviction of Drug Dealers." Press Release, 17 April 1989.
- Housing and Urban Development, Department of. *Urban Initiative Anti-Crime Program: First Annual Report to Congress*. Washington, D.C.: 1980.
- Housing Authority of Baltimore City. "Materials for Security Conference." Materials presented at the Council of Large Public Housing Authorities (CLAPHA) Conference on Public Housing Security, Washington, D.C., 14-15 January 1993.
- Housing Authority of the City of Newark. "Operational Security Plan." Materials presented at the Council of Large Public Housing Authorities (CLAPHA) Conference on Public Housing Security, Washington, D.C., 14-15 January 1993.
- "HUD Reform Bill Cleared by Congress." *Congressional Quarterly Almanac*, 101st Congress, 1st session (1989). Vol. 45, p. 631.
- Huth, Mary Jo. "Strategies for Crime Reduction in Public Housing." *Journal of Sociology and Social Welfare*, 8:3, September 1981, pp. 587-600.
- Jenkins, Kent and Gwen Ifill. "HUD Allows Virginia to Speed Evictions." *The Washington Post*, 29 March 1989.
- Johnson, Dirk. "Winning the War on Housing Crime." *The New York Times*, 20 May 1989.
- Keeney, Joseph D. "Meeting the Challenge of Policing Public Housing." *Law Enforcement Bible*, no. 2, 1982, pp. 66-73.
- Kelling, George *et al.* "Federally Funded Community Crime Control: Urban Initiatives Anti-Crime Program." *Criminal Justice Policy Review*, 1:1, 1986, pp. 58-75.
- Kemp, Jack. "Drug Free Housing for the Nation's Poor." *The Washington Post*. 17 April 1989.

- Keyes, Langley. *Strategies and Saints: Fighting Drugs in Subsidized Housing*. Washington, D.C.: The Urban Institute Press, 1992.
- Kolodny, R., R. Baron, and R. Struyk. *The Insider's Guide to Managing Public Housing*. Washington, D.C.: United States Department of Housing and Urban Development, 1983.
- Kosberg, Jordan I. *Abuse and Maltreatment of the Elderly*. Boston: Wright-PSG, 1983.
- Koss, Mary P. "The Underdetection of Rape: Methodological Choices Influence Incidence Estimates." *Journal of Social Issues*, 48:1, 1992, pp. 61-75.
- Kotiwitz, Alex. "Urban Trauma: Day to Day Violence Takes a Terrible Toll on Inner-City Youth." *Wall Street Journal*, 27 October 1987, p. 1.
- Kurtz, Howard. "Across the Nation, Rising Outrage." *The Washington Post*, 4 April 1989.
- Lehman, H. Jane. "Landlords Step Up Drug Fight: Moves Toward Screening Spark Debates on Rights." *The Washington Post*, 25 February 1989.
- Liechenstein, M.I. "Reducing Crimes in Apartment Dwellings - A Methodology for Comparing Security Alternatives." The RAND Corporation: 1971.
- Lindsey, William *et al.* "The Oasis Technique: A Method of Controlling Crime and Improving the Quality of Life." In William Geller (ed.), *Police Leadership in America*. New York: Praeger Publishers, 1985, pp. 322-331.
- Mackenzie, Doris, Phyllis Baunach, and Roy Roberg (eds.). *Measuring Crime: Large-Scale, Long-Range Efforts*. New York: State University of New York Press, 1990.
- Mariano, Ann. "Kemp Orders Report on Drugs in Developments." *The Washington Post*, 11 March 1989.
- Martin, R. "Crime Prevention in Inner City and Public Housing Communities." North Carolina Department of Crime Control and Public Safety (Crime Prevention Division).
- Massing, Michael. "D.C.'s War on Drugs: Why Bennett is Losing." *New York Times*, 23 September 1990, section 6, p. 36.
- Mawby, R.I. "Victimization of Juveniles - A Comparative Study of Three Areas of Publicly Owned Housing in Sheffield (England)." *Journal of Research in Crime and Delinquency*, 16:1, January 1979, pp. 98-113.
- McCormick, Maureen. "Crime and Drugs in Public Housing: Current PHA Efforts, Activities and Funding." Council of Large Public Housing Authorities, 12 August 1988.
- McInerney, Michael J. "Moonlighting at the Green: A Cop's Eye View of Life in Chicago's Most Notorious Housing Development." *Chicago Tribune*, 10 July 1988, section 10, p. 14.
- Minneapolis Public Housing Authority. "Information for Security Conference." Materials presented at the Council of Large Public Housing Authorities (CLAPHA) Conference on Public Housing Security, Washington, D.C., 14-15 January 1993.

- Musheno, M.C. *et al.* "Television Surveillance and Crime Prevention: Evaluating an Attempt to Create Defensible Space in Public Housing." *Social Science Quarterly*, 58:4, March 1978, pp. 647-656.
- National Commission on Severely Distressed Public Housing. *The Final Report of the National Commission on Severely Distressed Public Housing*. Report to the Congress and the Secretary of Housing and Urban Development. Washington, D.C.: August 1992.
- National Institute of Justice. *Searching for Answers: Annual Evaluation Report on Drugs and Crime, 1991*. Washington, D.C.: Office of Justice Programs, U.S. Department of Justice, July 1992.
- Newman, Oscar. *Defensible Space: Crime Prevention Through Urban Design*. New York: Macmillan, 1972.
- Newman, Oscar and K.A. Franck. "Factors Influencing Crime and Instability in Urban Housing Developments: Executive Summary of final report to NIJ." Washington, D.C.: United States Government Printing Office, 1980.
- _____. "The Effects of Building Size on Personal Crime and Fear of Crime." *Population and Environment*, 1982(5), pp. 203-220.
- New York City Housing Authority. "Description of Security-Related Activities." Materials presented at the Council of Large Public Housing Authorities (CLAPHA) Conference on Public Housing Security, Washington, D.C., 14-15 January 1993.
- Noah, Timothy. "Commission Seeks New Income Limits in Public Housing." *Wall Street Journal*, June 3, 1992, p. B5.
- Office of National Drug Control Policy (ONDCP). *National Drug Control Strategy: Budget Summary 1991*. Washington: The White House, 1992.
- Oklahoma City Housing Authority. *Strategies for Security, Education/Prevention, Treatment/Intervention, For a Drug-Free, Crime-Free Public Housing*. Materials presented at the Council of Large Public Housing Authorities (CLAPHA) Conference on Public Housing Security, Washington, D.C., 14-15 January 1993.
- Osborn, Denise R., Alan Trickett, and Rob Elder. "Area Characteristics and Regional Variates as Determinants of Area Property Crime Levels." *Journal of Quantitative Criminology*, 8:3, 1992, pp. 265-285.
- Pate, Antony. "An Evaluation of the Urban Initiatives Anti-Crime Program: Final Report." United States Department of Housing and Urban Development, 1984.
- Perglut, Donald. "Crime Prevention and the Design and Management of Public Developments: Selected and Annotated References from Australia, the United States, and the United Kingdom." Chicago: Council of Planning Librarians, 1981.
- Poyner, Barry. *Design Against Crime: Beyond Defensible Space*. London: Butterworths, 1983.
- Raspberry, William. "The Kenilworth Story." *The Washington Post*, 31 October 1988.

- Richardson, Linda. "Fairfax Police Get Free Rent in Patrol Plan." *The Washington Post*, 20 April 1989.
- Rohe, William and Raymond Burby. "Fear of Crime in Public Housing." *Environment and Behavior*, 20:6, 1988, pp. 700-720.
- Roncek, Dennis W. et al. "Housing Developments and Crime: Testing a Proximity Hypothesis." *Social Problems*, 29:2, December 1981, pp. 151-166.
- Roth, Jeffery et al. *Drugs and Crime: Workshop Proceedings*. National Research Council: June 1987.
- Rouse, W. Victor, and Herb Rubenstein. *Crime in Public Housing: A Review of Major Issues and Selected Crime Reduction Strategies*. 2 volumes. Washington, D.C.: U.S. Department of Housing and Urban Development, December 1978.
- Sampson, Robert. "Crime in Cities: The Effects of Formal and Informal Social Control." in M. Tonry and N. Morris, *Crime and Justice: An Annual Review of Research*, volume 8. Chicago: University of Chicago Press, 1987, pp. 271-311.
- Schmidt, William. "Chicago's Housing Raids Challenged." *The New York Times*, 17 December 1988, p. A8.
- Schnare, Ann B. "The Modernization Needs of Public Housing." Testimony before the U.S. House of Representatives Subcommittee on Housing and Community Development, delivered 7 March 1990.
- Senate Permanent Subcommittee on Investigations, Senate Committee on Governmental Affairs. "Testimony on Drugs and Public Housing." Hearing, United States Senate, 10 May 1989.
- Senate Subcommittee on Housing and Urban Affairs, Senate Committee on Banking, Housing, and Urban Affairs. "Drugs in Federally Assisted Housing." Hearing, United States Senate, 20 July 1989.
- Shenon, Philip. "Plan Would Speed Tenant Evictions." *The New York Times*, 30 March 1989.
- Sherman, Larry et al. "Hot Spots of Predatory Crime: Routine Activities and the Criminology of Place." *Criminology*, 27:27-55.
- Skogan, Wesley. "Measurement Problems in Official and Survey Crime Rates." *Journal of Criminal Justice* 3, pp. 17-32.
- Skogan, Wesley. "The Validity of Official Crime Statistics: An Empirical Investigation." *Social Science Quarterly* 55, 1974, pp. 25-38.
- Skolnick, Jerome "7 Crack Dilemmas in Search of an Answer." *The New York Times*, 22 May 1989, p. A17.
- Skolnick, Jerome and David Bayley. *The New Blue Line*. New York: Free Press, 1986.
- Spolar, Chris. "City Shelters Drugs, Blight/Group Finds DC Owns Troubled Houses." *The Washington Post*, 8 May 1989, p. A8.

- Stewart, Jill. "Weighing the Future of Jordan Downs: A Vast Repair Job for a New Owner." *Los Angeles Times*, 10 February 1989, p. B1.
- U.S. Department of Justice. *National Institute of Law Enforcement and Criminal Justice: Summary of Institute Research Results and Recommendations on Housing Security for the Elderly*. Washington, D.C.: 1972.
- Van Buren, D.P. "Public Housing Security and the Elderly: Practice Versus Theory." in National Conference on Crime Against the Elderly, *Crime and the Elderly: Challenges and Response*. Jack Goldsmith and Sharon Goldsmith, eds. Lexington, Massachusetts: Lexington Books, 1976.
- Walsh, Frederick J. "Orlando Police Implement Old Ideas with a New Twist." *The Police Chief*, December 1988.
- Webster, Barbara, and Edward F. Connors. *The Police, Drugs, and Public Housing*. Washington, D.C.: National Institute of Justice, 1992.
- Weidemann, Sue and James R. Anderson. "Residents' Perceptions of Satisfaction and Safety." *Environment and Behavior*, 14:6, November 1982, pp. 695-724.
- Weisel, Deborah Lamm. *Tackling Drug Problems in Public Housing: A Guide for Police*. Washington, D.C.: Police Executive Research Forum, 1990.
- Wells, Susan. "Drug Trade Out of Control in Low Income Areas." *Atlanta Journal and Constitution*, 27 March 1988.
- Wheeler, Linda. "NW Block Goes Cold Turkey and Savors It: DC Police Wrested Hanover Place From Drug Dealers and Made it Stick." *The Washington Post*, 19 May 1988.
- Wilkins, Charles W. *Drugs in Housing: What Managers can Do*. (Washington, D.C.: United States Department of Housing and Urban Development, 1989).
- Wilkinson, Tracy. "Crime Targeted at Mar Vista Gardens Units." *Los Angeles Times*, 24 March 1988, part 9, page 1.
- Wilson, William. *The Truly Disadvantaged*. Chicago: University of Chicago Press, 1987.
- Wimberly, John. "Kenilworth-Parkside: Success Story or Cruel Charade?" *The Washington Post*, 11 August 1988.