179280

Controlling Drugs and Social Disorder Using Civil Remedies:

Final Report of a Randomized Field Experiment in Oakland, California[1]

By

Lorraine Green Mazerolle
University of Cincinnati

&

Jan Roehl
Justice Research Center

Submitted to the National Institute of Justice

May, 1998

[1] This research was supported by grant no. 95-IJ-CX-0039 from the National Institute of Justice to the University of Cincinnati. Findings and conclusions of the research reported here are those of the authors and do not necessarily reflect the official position or policies of the U.S. Department of Justice. The authors are indebted to the support from the Oakland Police Department with special appreciation to Sergeant Tom Hogenmiller, Daphne Markham, Clarence Fisher, Dave Walsh, and the police officers, service technicians, and support staff of the Beat Health Unit. We would also like to thank Colleen Kadleck, James Frank Price, Michael Pellino and John Schwartz from the Center for Criminal Justice Research at the University of Cincinnati for their important contributions to this final product.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

City of Oakland Owner Occupied Housing Units
City of Oakland Median Gross Rent (Renter Occupied Housing Units)
City of Oakland Aggregate Gross Rent (Renter Occupied Units)
City of Oakland Median Value Owner Occupied Housing Unit

Appendix B— Beat Health Study Community Survey Codebook

EXECUTIVE SUMMARY

- Civil remedies are procedures and sanctions, specified by civil statutes and regulations, used to prevent or reduce criminal problems and incivilities. Civil remedies typically aim to persuade or coerce non-offending third parties to take responsibility and action to prevent or end criminal or nuisance behavior.

- Oakland's Beat Health program is an example of a civil remedy program. The Beat Health program seeks to control drug and disorder problems and restore order by focusing on the physical decay conditions of targeted commercial establishments, private homes, and rental properties.

- In our study, fifty street blocks were randomly assigned to the Oakland Police Department's civil remedy program ("Beat Health") and the other fifty street blocks were randomly assigned to the general patrol division.

- To enable close examination of the impact of Beat Health on residential and commercial properties, we used a blocked randomized experimental design by assigning commercial properties to one block and residential properties into a second block.

- Most of the study sites were rental properties (77 percent).

- Drug dealing was reported as a major problem prior to the start of the experiment in approximately three-quarters of the locations in both the control and experimental sites.

- Other complaints included rat and roach infestations, prostitution, trespassing, problems with pit bulls and/or other animals, and other health and welfare issues.

- Formal actions taken by Beat Health officers at the experimental sites included Specialized Multi-Agency Response Team (SMART) inspections (n = 23), sending general warning letters (n = 9), sending 11570 warning letters (n = 13), issuing beat orders (n = 9), working with property owners to evict troublesome tenants (n = 19), and property clean-ups.

- During the 23 SMART inspections instigated against experimental target sites, city inspectors issued nine housing and safety citations, six vector control violations, two sidewalk citations, and one sewer violation. The city attorney's office did not file suit against any of the experimental site owners during the period of our experimental tracking (one year).

- We examined 1,765,461 call incidents from January 1994 to March 1997 in our main impact assessment.

- Our results reveal statistically significant differences when the experimental sites were compared to the control sites for changes in drug call incidents: while calls about drug incidents increased for both groups, the experimental group increased by just over 10 percent whereas the control group increased by 66 percent in the mean number of calls per month when the pre-intervention period was compared to post intervention period.

- Calls about drug problems at the 100 study sites increased abruptly during the three month period immediately before the start of the interventions. As such, some of the decline in drug problems that were observed in our data could be attributed to a regression toward the mean. Our significant differences between the control and experimental group changes, however, suggest that the Beat Health Program has some positive influence in harnessing the increase of drug problems on a street block.

- The Beat Health program is particularly effective in reducing drug problems in the short run. In the long run we observe a return to earlier levels of drug problems.

- There were no significant differences between the experimental and control groups for violent, property, or disorder call incidents when the before period was compared to the after period.

- When the block effects were examined — namely the differences between the commercial and residential properties — we found significant differences for violent crimes and drug call incidents.

- For violent crime call incidents, our results show decreases in both the control and experimental sites for residential properties, yet increases (especially in the experimental sites) for commercial properties.

- For call incidents about drug problems, by contrast, our results show decreases in call incidents at both experimental commercial and residential properties yet increases in calls about drugs at both control residential and commercial sites. The increase in drug calls at commercial properties in control sites is especially large.

- There were very few differences in the changes depicting displacement and diffusion of crime control effects when the buffer zones and targets were examined across crime call types and when the control and experimental groups were compared.

- Structured observations of routine licit activity (e.g., pedestrians, children playing, people coming in and out of businesses), illicit activity (e.g., drug dealing, loitering, urinating in public), litter, graffiti, trash, traffic, and the presence of law enforcement and security personnel were made of each face block surrounding the 100 problem locations.

- Our observations showed statistically significant differences between the control and experimental groups in the number of males selling drugs: we observed fewer males selling drugs on experimental street blocks yet more males selling drugs after the intervention period at the control sites.

- Signs of disorder increased slightly for the experimental group yet increased significantly more on the control group street blocks.

- Our on-site observations also showed that there were fewer adult males and females loitering, fewer youths loitering, fewer males with boom boxes, homeless people and people drinking in public in the experimental street blocks after the experiment. These results, however were not statistically significant.

- We conducted interviews with 398 "place managers" living or working on the 100 target street blocks in our study at the end of the five-month experimental intervention period. We define the place managers in our study as those people who live or work near problem places and who, by virtue of their proximity and interests, may have primary or personal responsibility to the street block.

- Nearly half of the survey respondents were African American and 21 percent were white; 52 percent of the respondents were male; and the mean age of respondents was 47 years.

- There were no significant differences between the responses given by the resident and store owner/manager place managers on measures of place manager demographic characteristics, feelings of fear of crime, and perceptions of cohesiveness. There were, however, slightly more business store owners or managers who knew about the Beat Health Program than residents. Business store owners and managers were also more likely to take their own initiative in solving problems on the block than residents.

- About three quarters of the street blocks in our study had at least one place manager who took some type of direct action during the experimental intervention period.

- About half (48 percent) of the street blocks had at least one place manager who reported calling the police using 911.

- About 73 percent of the street blocks in our study had at least one place manager who reported that they were involved in community activities.

- The vast majority (90 percent) of street blocks in our study had at least one or more place managers who stated they were fearful of walking alone at night on their block.

- Our results reveal that the level of place manager collective involvement in community activism is associated with decreases in signs of disorder and with increases in levels of signs of civil behavior in public places on the street blocks in our study.

- Levels of perceived street block cohesiveness were found to play a significant role in decreases in males selling drugs.

- We also found that the experimental street blocks were also places that evidenced decreases in signs of disorder, decreases in males selling drugs, and increases in signs of civil behavior in public places.

- Individual, direct actions (e.g., calling 911) taken by place managers in an attempt to solve problems at specific target locations were not associated with decreased levels of social and physical disorder on the street blocks in our study.

- Our results indicate that police efforts to impact drug and disorder problems can be effective independent of the existing social climate on a street block. Conversely, our results also point to the importance of effective place management in controlling drug and disorder problems, independent of police efforts to solve street block problems.

- Overall, we conclude that fairly simple and expedient civil remedies applied by police officers, with the help of municipal agencies, are effective in reducing drug and disorder problems.

CHAPTER ONE:

INTRODUCTION

Civil remedies are procedures and sanctions, specified by civil statutes and regulations, used to prevent or reduce criminal problems and incivilities. Civil remedies typically aim to persuade or coerce non-offending third parties to take responsibility and action to prevent or end criminal or nuisance behavior. Many civil remedy approaches target non-offending third parties (e.g. landlords, property owners) and utilize nuisance and drug abatement statutes to control problems. These types of abatement statutes include repair requirements, fines, padlocks/closing, and property forfeiture and seek to make owners and landlords maintain drug- and nuisance-free properties.

The proliferation of civil remedies used to control crime problems began in the mid-1980s. Several early civil remedy cases captured the attention of the public and law enforcement community and catapulted the use of civil remedies from relative obscurity to mainstream crime prevention practices. One early test case involved the Westside Crime Prevention Association, a group of neighbors in New York City, who in 1986 had exhausted all traditional avenues to eliminate drug activity at a local crack house. A private attorney, working pro bono on the association's behalf, filed a lawsuit against the property owner based on a 125-year-old state statute originally enacted to control "bawdy houses" (i.e., prostitution establishments). The statute defined a nuisance property as any real property used for "illegal trade, business, or manufacture," and outlined civil sanctions (up to a $5000 penalty) that a property owner could face if the owner "does not in good faith diligently" move to evict the tenant (Real Property Actions and Proceedings Law, Section 715). The neighborhood

association won its case: the tenant was evicted, the house was sold, and the legal costs of the association were paid from the proceeds. The "bawdy house" statute is now used in similar situations by the Manhattan District Attorney's Office.

Another early pioneer in civil remedies was Portland, Oregon's Office of Neighborhood Associations, which helped enact a municipal drug house ordinance in 1987 enabling the city to impose civil penalties on owners of properties used for drug dealing; within a month of the ordinance's enactment, twelve civil suits against property owners were filed (Davis and Lurigio, 1996). Rather than needing to prove beyond a reasonable doubt that a crime had been committed, the civil suits were simply predicated on evidence that a drug nuisance existed[2].

One reason behind the rapid development and acceptance of civil remedies to prevent and control crime is the recognition that criminal remedies -- arrest, prosecution, and incarceration -- often fail to resolve the problem, even in the short-term, and especially in the long-term (Moore and Kleiman, 1989; Sherman, 1990; Uchida, Forst, and Annan, 1990). For example, a drug dealer may continue to deal while out on bail and on probation; if he or she is jailed, another is likely to quickly take his or her place. A motel which harbors drug use and prostitution with a long history of vice arrests is likely to persist unless there are changes in the management of the motel.

Unlike traditional criminal sanctions, civil remedies attempt to resolve underlying problems: the motel's poor management, the absentee owner's neglect. The use of civil remedies tends to be proactive and oriented toward prevention (Hansen, 1991, National Crime Prevention

---

[2] Ironically, the case is often made that a drug nuisance problem exists by virtue of a history of vice arrests at the property.

Council, 1996) while, at the same time, civil remedies aim to enhance the quality of life (Rosenbaum, Bennett, Lindsay, Wilkinson, Davis, Taranowski and Lavrakas, 1992) and eliminate opportunities for problems to occur or reappear (Feldman and Trapp, 1990; National Crime Prevention Council, 1992). A number of civil remedy approaches move beyond coercing and pressuring owners to evict, renovate, repair, and clean up their properties: and also provide training and assistance to the owner/landlord to prevent his or her other properties from becoming places with crime problems (Green, 1996; Skogan and Hartnett, 1997).

Civil remedies offer an attractive alternative to criminal remedies since they are relatively inexpensive and easy to implement (Davis and Lurigio, 1996). Citizens can make a difference by documenting problems, pressuring police and prosecutors to take appropriate civil action, or spearheading drives to establish useful local ordinances (Davis, Smith, Lurigio and Skogan, 1991). A group of neighbors can pursue a nuisance abatement action in small claims court without the assistance of police or public prosecutors (Roehl, Wong, and Andrews, 1997). Moreover, civil laws require a lower burden of proof than criminal actions and loosen the requirements of due process, making them easier to apply yet open to concerns about fairness and equity (Cheh, 1991).

Oakland's Beat Health program is an example of a civil remedy program. The Beat Health program seeks to control drug and disorder problems and restore order by focusing on the physical decay conditions of targeted commercial establishments, private homes, and rental properties. Police work with teams of city agency representatives to inspect drug nuisance properties, coerce landowners to clean up blighted properties, post "no trespassing" signs, enforce civil law codes and municipal regulatory rules, and initiate court proceedings against

property owners who fail to comply with civil law citations. While the ultimate targets of the Beat Health program are offending individuals living or socializing in target "zones," the proximate targets of the program include landlords, business owners, and private property owners.

This final report to the National Institute of Justice reports the results of a randomized field trial that sought to assess the impact of the Beat Health program on drug and disorder problems. In our study, fifty street blocks were randomly assigned to the Oakland Police Department's civil remedy program ("Beat Health") and the other fifty street blocks were randomly assigned to the general patrol division. The general patrol division officers, who targeted the fifty control sites, continued to conduct surveillances and make arrests in the fifty control street blocks.

Our final report is divided into eight chapters: Chapter Two describes Oakland as our research site; Chapter Three describes the Beat Health Program; Chapter Four presents our evaluation design; Chapter Five reports our key findings drawing from the police calls for service system; Chapter Six reports our findings from a series of on-site assessments conducted before and after the field trial; Chapter Seven examines our results from a survey of place managers living and working in and around the 100 street blocks in our study; and Chapter Eight concludes our report with a discussion of the main findings and policy implications.

CHAPTER TWO:

OAKLAND AS THE RESEARCH SITE

Oakland is the eighth largest city in California (State of California, Department of Finance, 1996). The 1990 census data indicate that there are 372,242 people living within the 53.8 square miles of the city. Oakland lies across a bay to the east of San Francisco. The city is ethnically diverse, with about 45 percent of the population being African American, about 15 percent white and over one third Asian community. Since the 1960's the average household size has been steadily dropping and there is now an average of 2.34 persons per household. The median income for residents of Oakland is about $20,000 per year and more than 16 percent of families live below the poverty line. During the early 1980's, Oakland experienced severe levels of unemployment, which reached 12.9 percent in 1982 (see Appendix A for a series of thematic maps of Oakland).

The city of Oakland has over 140,000 housing units of which more than 50 percent are rented. In 1989 the median rent for a one-bedroom apartment was $560 per month, representing a twelve percent increase in rents since 1985. Most of the housing units in Oakland are single family homes, reflecting a style of housing common throughout the west coast of the United States. As with other cities in the United States, the city of Oakland experienced a large increase in real estate prices during the mid-eighties. By the 1990's, however, the cost of purchasing property had declined and the median sale price of an Oakland home was about $185,000 (Oakland Office of Community Development, 1992).

CHAPTER THREE:

OAKLAND'S BEAT HEALTH PROGRAM

The Oakland Police Department created the "Beat Health Unit" in October 1988 and mandated the unit to reduce drug and disorder problems across the five police beats in the city. Five Beat Health teams, each comprising one uniformed officer and a police service technician, provide services throughout the City of Oakland. Beat Health police officers, working in conjunction with their partner police service technicians, "open" a case after making a preliminary site visit to a place that has generated emergency calls, a number of narcotics arrests, or special requests from community groups for police assistance. Police begin the Beat Health process by visiting nuisance locations and establishing working relationships with place managers or with those people who are thought to have a stake in improving the conditions of a target location (see Eck, 1994; Felson, 1995a). These place managers are typically homeowners, apartment superintendents, landlords, and business owners living or working at the target address or in the immediate surroundings (the street block). During the early stages of the intervention, police communicate landlords' rights and tenants' responsibilities, provide ideas for simple crime prevention measures, and gain the citizens' confidence that the police are supporting them in their efforts to clean up the problem location.

Beat Health officers also coordinate site visits by the Specialized Multi-Agency Response Team (SMART) that comprises a group of city inspectors. Depending on preliminary assessments made by the police, representatives from agencies such as Housing, Fire, Public Works, Pacific Gas and Electric, and Vector Control (a government agency that deals with rodent infestations) are invited to inspect a problem location and, where necessary, enforce local

housing, fire, and safety codes. About half of all targeted locations have SMART inspections and about two-thirds of the targeted sites are cited for at least one code violation from a city inspector: the most common type is a housing code violation.

The police department also draws upon its in-house legal expertise and, as needed, uses a variety of civil laws[3] to bring suit against the owners of properties with drug problems. For example, the Uniform Controlled Substances Act makes every building where drug use occurs a nuisance, thus allowing the city to use the civil law to eliminate the problem by fining the owner or by closing or selling the property. About two percent of cases result in formal court action against a property owner.

---

[3] For example, Section 11570 of the California Health and Safety Code states: "Every building or place used for the purpose of unlawfully selling, serving, storing, keeping, manufacturing, or giving away any controlled substance, precursor or analog specified in this division, and every building or place wherein or upon which those acts take place, is a nuisance which shall be enjoined, abated and prevented, and for which damages may be recovered, whether it is a public or a private nuisance."

In addition, Section 11366.5 (a) stipulates that persons managing or controlling a building who allows the unlawful manufacturing, storing, or distributing of any controlled substance can be imprisoned for up to one year.

Some of the local municipal codes that are enforced include obstructions (6-1.09), building constituting a menace to public safety (2-4.09), unnecessary noises (3-1.01), unsecured buildings (2-4.09), and dumping garbage (4-5.12).

CHAPTER FOUR:

RESEARCH METHODS

The goal of our research was to assess the impact of the Beat Health Program, under experimental field trial conditions, on 100 street blocks in Oakland, California. Street blocks were eligible for inclusion in our study when a "place" on the block (a residential or commercial property) was referred to the Beat Health Unit as having a drug and/or blight problem. Cases were referred to the Beat Health Unit via hotline calls, community meetings, and periodic examination of narcotics calls for service and vice arrests. Existing Beat Health locations, old Beat Health locations, locations typically not targeted by Beat Health (e.g., Section 8 housing sites), places that had already been targeted by the patrol division, and places that were deemed an "imminent danger" (e.g., child abuse problems evident at the site) were not included in the study for random allocation. Apart from these non-eligible places, all problems sites that were referred to the Beat Health Unit from October 15, 1995 through to December 15, 1995 were included in the study.

The Beat Health Unit targets about 330 cases every year of which about fourteen percent are commercial properties and the rest are residential properties (see Green, 1996). To enable close examination of the impact of Beat Health on residential and commercial properties, we used a blocked randomized experimental design by assigning commercial properties to one block and residential properties into a second block. We randomized cases in the study within statistical blocks because we believed there was substantial differences between drug dealing activities at commercial and residential properties (see Green, 1996). Randomized block designs, which allocate cases randomly within pairs or groups, minimize the effects of variability on a

study by ensuring that like cases are compared with one another (see Lipsey, 1990; Neter, Wasserman, and Kutner, 1990; Weisburd, 1993) There are two basic advantages of using a block randomized design: first, computations with randomized block designs are simpler than those with covariance analysis, and second, randomized block designs are essentially free of assumptions about the nature of the relationship between the blocking variable and the dependent variable, while covariance analysis assumes a definite form of relationship. A drawback of randomized block designs is that somewhat fewer degrees of freedom are available for experimental error than with covariance analysis for a completely randomized design (Neter, Wasserman, and Kutner, 1990).

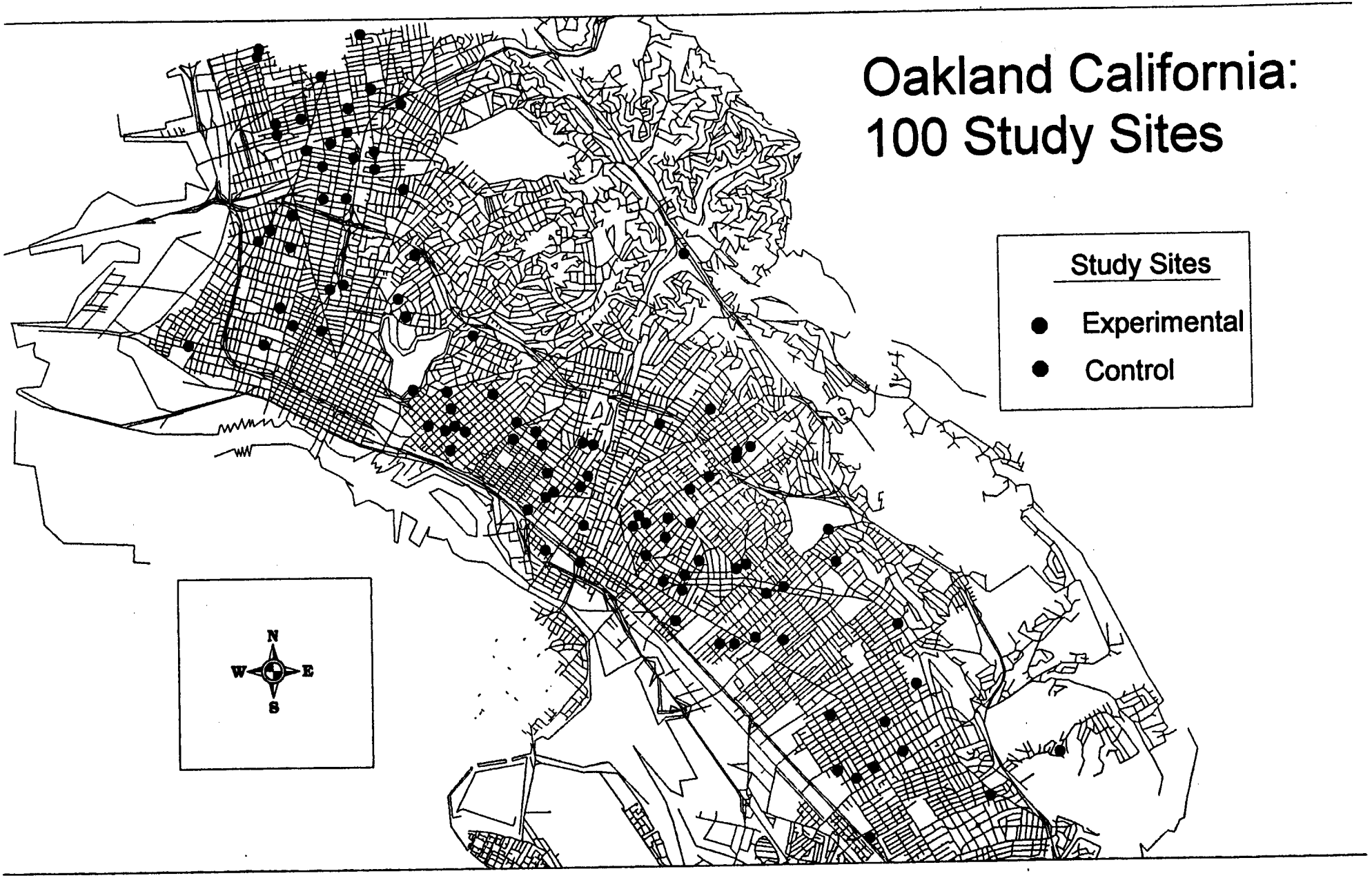
All cases eligible for randomization were plotted on a computerized map of Oakland. If an incoming case fell within a 300 foot radius (about one street block) of a case already randomly allocated, the case was withheld and not allocated to either the patrol division (control group) or the Beat Health Unit (experimental group). [4] This case selection criteria allowed for an uncontaminated examination of the effects of the experimental and control treatments on each street block without fear of direct proximal contamination from a nearby site. As such, this design allowed for an analysis of street block activity free of some of the confounding problems that arise with overlapping catchment areas and duplicate cases that could potentially bias the evaluation results (for a discussion of these issues, see Green, 1995).

---

[4] While a larger catchment area radius than 300 feet would have been better (indeed the larger the uncontaminated catchment area the better) the realities of withholding cases from intervention raises ethical considerations. By using the 300 foot criteria, we sought to both minimize the ethical problems of withholding cases while still maintaining our ability to assess the street block effects of the interventions without proximal overlap.

Incoming cases were also verified as being either commercial or residential properties. Residential properties were allocated within the "residential block" and commercial properties were randomly allocated to the control or experimental treatment within the "commercial block." Cases randomly allocated to the control condition (uniformed patrol response) were referred to beat officers through an established "beat binder" system. These beat binders were simply a folder kept in each patrol car that included places that either community service officers or supervising officers requested beat officers pay attention to. During the intervention phase of our experiment we added control-allocated cases to these beat binders. By mid- December 1995, the Beat Health Unit was targeting 50 sites (7 commercial and 43 residential) and the patrol division was targeting 50 sites (7 commercial and 43 residential). Figure 1 (over page) depicts a map of the 100 study sites in our study.

The study sites came to the attention of the Beat Health Unit in roughly three ways: Nearly half of all study cases came to the attention to the Beat Health Unit as a "goldenrod" from known individuals in the community (48 percent); about a quarter of the cases were referred anonymously through drug hotline calls; and another quarter were identified through hot spot searches of places with high numbers of vice and drug arrests over the previous six months.



Description of the Experimental and Control Sites

Most of the study sites were rental properties (77 percent) and twelve of the experimental sites and eleven of the control sites were owner-occupied. Of the dozen owner-occupied experimental sites, ten involved problems with relatives of the owner; the most typical situation was when the children or grandchildren of an elderly owner were involved in drug dealing. At one experimental location, the problem was the owner. Ten of the experimental sites and seven of the control sites were completely or partially vacant.

Drug dealing was reported as a major problem prior to the start of the experiment in approximately three-quarters of the locations in both groups. Other problems in the experimental sites included drug use (n = 14), blight (n = 14), and nuisance problems such as noise and unkempt yards (n = 7). Of the control sites, 36 recorded drug dealing problems, followed by blight (n = 11), other criminal offenses (n = 6), drug use (n = 4), and nuisance problems (n = 4). Other complaints included rat and roach infestations, prostitution, trespassing, problems with pit bulls and/or other animals, and other health and welfare issues.

Beat Health Interventions in Experimental Sites

Beat Health officers personally visited all but two of the fifty experimental sites. Of the two properties not visited, one was owned by an individual known to the Beat Health team and contact was made by warning letter and telephone calls. The other property was not visited, but the owner was sent a warning letter. For the other 48 experimental sites, Beat Health officers made an initial visit to the target site to confirm the nature of the problem. The officers checked out the condition of the property from the outside, particularly if trash, blight, hazards, or animal problems were reported. In 35 of the 50 experimental locations, the Beat Health officers talked to

the property owner in person or by telephone. Contact was also made with tenants, neighbors, and owners/managers to discuss problems at the target locations. These initial activities by Beat Health officers constitute the primary efforts made by the police to build working relationships with place managers in the experimental sites. Beat Health officers use the knowledge gained by the initial visit and the degree of cooperation exhibited by the owner to guide subsequent steps in the Beat Health problem solving process.

The Beat Health approach uses a variety of tactics to resolve drug and disorder problems. In many cases, the Beat Health teams aim to establish working relationships with property owners, on-site managers, and business owners in an effort to enlist their help in solving the problems reported. Officers make suggestions for increasing security, make referrals to city agencies for assistance, communicate legal ordinances and safety codes relative to particular problems, encourage owners to fix up and clean properties without the pressure of a formal citations, and support the owners in the prevention and intervention efforts. The Beat Health officers and Police Service Technicians often contact owners or other responsible parties several times during the intervention period to make sure the problems are mitigated. The Beat Health Unit also offers training to landlords and owners in tenant screening and effective management of rented properties.

In the 50 experimental sites, a substantial amount of the intervention activity involved a combination of working with and pressuring third parties (primarily owners, parents of grown children, and property managers) to make positive changes. Most of the contact with place managers was for the purpose of gathering information, although in a few sites, place managers were directly involved in the problem-solving interventions. In one commercial location, for

example, the Beat Health officer put the property owner in touch with a community organization and other nearby merchants. The community organization subsequently met with the owner to discuss possible solutions to the loitering, trash, and suspected drug problems on his property. In another particularly troublesome residential location, Beat Health interventions (e.g., a SMART inspection, working with the owner, warning, letters, eviction, etc.) and traditional surveillance and undercover interventions were combined with neighborhood organizing and clean-up efforts. These neighborhood-based efforts were coordinated by a civilian Neighborhood Service Coordinator who also worked closely with the Beat Health teams.

Other formal actions taken by Beat Health officers at the experimental sites included SMART inspections (n = 23), sending general warning letters (n = 9), sending 11570 warning letters (n = 13), issuing beat orders (n = 9), working with property owners to evict troublesome tenants (n = 19), and property clean-ups. These actions short of SMART inspections involve the following:

- *Letters to owners.* Warning letters from the Beat Health officer or sergeant inform the owner that complaints of problem activities (e.g., drug dealing) have been reported on their property, advise the owner of steps he or she might take to prevent or minimize the problems, and offer assistance in resolving the problem. "11570" letters make reference to the primary civil statute used in the Beat Health approach. These letters are sent to owners of property where a drug arrest has occurred, and inform the owner of Section 11570 of the California Health and Safety Code (also known as The Drug Nuisance Abatement Act), which holds owners and managers responsible for knowingly allowing illicit drug activity to occur on their property. The letters also reference Section 11366.5

(a), which states that criminal actions may be taken as well. The letters serve as official notice of drug activity and a copy is forwarded to the city attorney. The owner is encouraged to call a specific Beat Health officer for assistance in eliminating the problem.

- *Eviction.* In addition to the 19 evictions in experimental sites, in several other cases the problem was resolved when the tenant(s) moved out without eviction orders. The Beat Health Unit cannot order or request that tenants be evicted, but they support eviction as a problem-solving strategy.
- *Beat orders.* Beat orders notify patrol officers or special units (narcotics, vice, etc.) of the problems at specific locations and requesting their services be directed to them. The Beat Health officers also work with these officers on surveillance efforts. Problems related to liquor stores and bars are typically referred to the Alcohol Beverage Action Team (ABAT) of the police department as well.
- *Other interventions* include property clean-ups conducted by a city agency (who then bills the owner for the work) and referrals to agencies (Legal Assistance for Seniors, subsidized loan programs for rehabilitation efforts, etc.).

During the 23 SMART inspections instigated against experimental target sites, city inspectors issued nine housing and safety citations, six vector control violations, two sidewalk citations, and one sewer violation. The individual agencies give owners a certain amount of time to fix the problem, depending on its severity and the owner's degree of cooperation, and are to follow up to see if the problem is taken care of (this step is not always followed). Fines and other civil penalties may occur if violations are not corrected, and there are fees for re-inspections to

cover city costs.

If owners do not correct the problem, the penalties under Section 11570 include fines of up to $25,000, closure of the property for up to one year, and sale of the property to satisfy city costs. The city attorney's office files suit against owners who do not take responsibility for their property after the other Beat Health steps have occurred; none of the experimental locations reached this stage during the period of our tracking (one year).

CHAPTER FIVE:

CALLS FOR SERVICE

Calls for police service comprise a common source of outcome information for many police interventions (see Sherman, Shaw and Rogan, 1995; Sherman and Weisburd, 1995; Warner and Pierce, 1993; Weisburd and Green, 1995). Indeed, Sherman and his colleagues argue that calls for police service "provide the widest ongoing data collection net for criminal events in the city" (Sherman, Gartin and Buerger, 1989:35). Similarly, Warner and Pierce argue that calls for service data are biased only by citizens' willingness to report crimes" (Warner and Pierce, 1993:512).

Researchers who use calls for service data, however, are not without their critics. Klinger and Bridges (1997), for example, argue that calls for service are biased because they do not include crimes that come to police attention through means other than police dispatch centers; because callers can provide misleading information (see also Reiss, 1971); and because they consist of what police call takers record about what citizens tell them (see also Gilsinan, 1989). Overall, Klinger and Bridges (1997) identify three types of error in calls for service crime counts: calls identified as noncriminal events that are in fact criminal activity (false negatives), callers that classify noncriminal behavior as criminal (false positives), and calls that misclassify the nature of criminal incidents (crime misclassification). They conclude that calls for service data undercounts the amount of crime officers encounter on patrol (by about 23 percent), that the undercounting varies by crime type (overcounts burglary by about 3 percent and undercounts trespassing by about 51 percent), and that errors in calls for service crime counts vary systematically across space (1997:719-720).

Klinger and Bridges' (1997) analysis of the limitations with calls for service information stems from data gathered for the Police Services Study (PSS) in 1977 where initial codes for police dispatches were compared to observer codes about each encounter. We contend, however, that several current factors challenge the basis of Klinger and Bridges' criticisms of calls for service data. First, we suggest that more (rather than less) people these days opt to call the emergency 9-1-1 number rather than local police numbers, despite efforts by police to encourage citizens to call 9-1-1 only in emergency situations. Recent initiatives underway in most large cities to establish non-emergency number systems are testament to the overuse problem of 9-1-1 systems. Klinger and Bridges (1997) argue that calls for service severely under-count crimes in communities. We suggest that the undercounting problem using the Oakland CAD data may not be as severe as what Klinger and Bridges find in their research.

Second, CAD systems these days often serve as police "switchboards" where non-emergency calls (or information calls) are received by the emergency call takers and then subsequently re-directed (see also Scott, 1981). As such, CAD systems capture a vast array of information about issues faced by citizens. Finally, our analysis uses calls for service data under randomized field trial conditions. As such, in our type of analysis, we would expect that any biases in the CAD data (either over-counting or under-counting) would be randomly distributed between the control and experimental sites. For these three reasons, we contend that our use of calls for service information to be a reasonable measure of changes in drug and disorder conditions in the 100 test sites in our study.

Calls for Service Data

We examine all calls for service records from January 1994 through March 1997 (39

months) downloaded from the Oakland Police Department Computer Aided Dispatch (CAD) system (n = 7,163,071). All types of communications are stored as CAD records in the Oakland calls records management system including calls for service from citizens to the police; patrol officers logging in and out of the system; call takers and dispatchers logging in and out of the system; patrol officers informing central dispatch of their field status (e.g. when they go "off the air" for lunch or dinner; when they meet up with a citizen; when they make requests to call a fellow officer; when they notify superiors of field conditions; when they give the time of arrival at a scene) as well as all computer maintenance checks.

The Oakland Police Department CAD system also allows call takers to enter multiple records about one incident. System technicians state that multiple entries can be recorded for a single call incident in a number of different situations: (1) when call takers want to quickly forward the record onto the dispatcher, yet they still want to collect additional information from the caller, the call takers can create multiple records. The more complex the call, the more serious the event, and the longer the caller is on the phone, the more likely the call taker will create multiple records for the incident; (2) when police officers report an incident from the field that provides additional information about a call incident the call takers can create an additional CAD record and reference the call to the citizen call about the incident; or (3) when the call taker accidently hits the return key while taking a call, then multiple records will be created. These types of situations all lead to a new CAD record being started and referenced to the originating call record.

Given the idiosyncratic nature of the Oakland Police Department CAD system, we knew, from the outset, that we could not use each CAD record as our unit of analysis in our impact

assessment. Indeed, if we had used each CAD record as the unit for analysis we would have greatly inflated the actual number of calls for service. Since the Oakland CAD system provides no identifier as to what type of situation generated multiple records for one call incident, we decided to aggregate all call records to what we call the call incident unit of analysis. This method for handling Oakland's CAD data was parsimonious and did not force us to make a decision about call taker actions in creating multiple records. Overall, we aggregated all 7.1 million CAD records to the incident unit of analysis and identified 3,712,209 unique call incidents.

Of the 3.7 million call incidents examined, nearly 2 million did not contain an address (n = 1,946,748). On exploring the call codes for these 2 million records we discovered that the vast majority of these "missing address" records (n = 1,752,073; 90 percent) were for what we classified as "internal police business" about administrative matters (e.g. computer maintenance, field calls from police about meal breaks, logging in and out of the system, and technician requests). Of the remaining 10 percent of non-address records, the majority of cases were identified as system errors (n = 179,101) and the remaining records appeared to be valid calls for service about crime and quality of life problems (n = 15,574; average of about 400 calls per month citywide during our study period). About 93 percent of these apparent valid crime calls were for traffic and vehicle infringements (14,484 of 15,574 call incidents). Conversations with call takers and system technicians suggest that these types of calls were most likely made by callers about matters that were not within the jurisdiction of the Oakland Police Department.

In total we examine 1,765,461 call incidents from January 1994 to March 1997 in our impact assessment. Just over 40 percent (40.9 percent) of calls for service incidents examined

represented one entry about a single incident. Conversely, nearly 60 percent of the calls for service incidents examined represented multiple entries about the same incident. In total, there was an average of 2.79 call records for every one call incident over the 39 months of CAD data examined (n = 1,765,461). Table 5.1 below summarizes some of the basic information from the call incidents from which we draw our analysis.

Table 5.1: Summary of Call Incidents (January 1994 to March 1997)

	N	Percent (n = 1,765,461)
Selected Call Types[5]		
Violent	100,825	5.7
Property	80,957	4.6
Disorder	342,658	19.4
Drugs	49,918	2.8
Priority Level		
A Imminent	55,121	3.1
B. Urgent	829,417	47.0
C. No Cover Needed	769,679	43.6
D. Non-Emergency Assignments	111,244	6.3
Time Period		
Before Intervention (1/1/94 - 10/15/95)	994,321	56.3
During Intervention (10/16/95 - 3/31/96)	240,465	13.6
After Intervention (4/1/96 - 3/31/97)	530,675	30.1
Locational Information		
Geocodable Address	1,661,461	94.1
In Study Catchment Zone	59,489	3.4
At Study Target	3,102	0.2

[5] Violent crimes include homicide, murder, rape, assault, robbery, weapons offenses, domestic abuse, threatening calls, stalking. Property crimes include arson, burglary, theft and malicious mischief. Disorder includes trespassing, suspicious persons, littering, public morals, disturbing the peace, drunk/disorderly behavior, city service problems, and abandoned cars. Other call types not reported here included traffic offenses, alarms, citizen requests for information, civil matters, administrative calls, warrants, animal control and security checks.

As this table shows, the "before" period includes all calls from January 1, 1994 to October 15, 1995 (21.5 months), the "during" period includes all calls from October 16, 1995 through March 31, 1996 (5.5 months) and the "after" period includes all calls from April 1, 1996 through March 31, 1997 (12 months). We examine a total of 1,765,461 call incidents that were received by the Oakland Police Department from January 1 1994 to March 31, 1997. Of these call incidents, 94.1 percent were "geocodable." Non-geocodable cases included calls with invalid addresses (e.g. "intersections" given with streets that do not meet, addresses that do not exist on the given street, major mis-spellings of streets that our cleaning programs could not decipher the street name). A total of 3.4 percent of all call incidents fell within the 300 foot buffer zones that surrounded our 100 target sites. Less than one percent (0.2%) were geocoded to the target location. Nearly three percent of all call incidents citywide were for drugs and nearly 20 percent of call incidents were about disorder incidents.

Citywide Changes

Table 5.2 below presents the mean number of selected calls for service incidents per month as well as the percent change for the pre and post intervention periods and comparing the citywide and the study sites (experimental and control sites together).

Table 5.2: Percent Change and Mean Number of Selected Call Incidents Per Month Pre and Post Intervention Citywide Compared to All Study Sites

	Citywide			Study Sites		
Call Type	**Before**	**After**	**% Change**	**Before**	**After**	**% Change**
Violent Crime	2617.9	2565.4	-2.0%	121.4	120.8	-.05%
Property Crime	2303.5	1726.3	-25.1%	101.3	78.5	-22.5%
Drugs	1280.4	1295.3	+1.2%	71.4	104.4	+46.2%
Disorder	9019.6	8639.9	-4.2%	407.6	442.2	+8.5%

As this table shows, the number of calls for service incidents about violent and property crimes in the study sites changed in very similar ways to changes in calls for service incidents for these types of crimes citywide: the percent change in calls for service incidents both citywide as well as in our study sites declined for violent and property crimes calls. Citizen calls about drug and disorder incidents, by contrast, increased significantly in the study sites (by nearly 50 percent for drug incidents and by 8.5 percent for disorder incidents), yet declined slightly citywide (decrease of just one percent for drug incidents and by 4.2 percent for disorder incidents). We explore the nature of these changes in the following section.

Leaving Out the Intervention Period from the Analysis

Our analysis of the effects of the experimental intervention compares calls for service incidents during the 21.5 months prior to the start of the experiment (pre-intervention) to the twelve months after the completion of the intervention period (post-intervention). We do not use the intervention period in our analysis because we were concerned that the calls for service data could be influenced by the interventions themselves. We suspect that calls for service during the

intervention period could be influenced by both the experimental and control treatments in several different ways: first, in the Beat Health sites, police sought to build problem-solving partnerships with residents and business owners living or working on the target street blocks (see Chapter Three and Seven). We expect that citizen contacts with police increased somewhat in response to these partnership building efforts (see Green, 1996; Weisburd and Green, 1995) and that possibly a number of calls for police service were made directly to Beat Health officers working on the target street block problems rather than to the emergency call number; second, residents in the control sites may have increased their calls for service to the police emergency 9-1-1 system, particularly if patrol officers encouraged citizens to call the police emergency number about problems on their street blocks (see Chapter Seven). The former scenario would lead to an aggregate decline in calls for service recorded by the 9-1-1 system while the latter scenario would lead to an aggregate increase in calls for service incidents recorded by the 9-1-1 system[6]. Table 5.3 below summarizes the changes in calls for service for the before to during periods of our field trial for selected call types.

Table 5.3 Before and During Beat Health Intervention Comparisons for Selected Call Types for Citywide, Experimental, and Control Areas

Call Type	Experimental	Control	City Wide
Drugs	small decline	big increase	small decline
Disorder	decline	increase	decline
Violent	no change	no change	no change
Property	no change	no change	small decline

[6] We explore the relative impacts of solo actions (e.g. calling 9-1-1) versus collective problem-solving actions (e.g. working with a Beat Health officer to solve a problem) on drug and disorder problems in Chapter Seven.

During the five and a half month intervention period, calls for service incidents about drug offenses averaged about 24 calls per month in the experimental sites (slight decrease from the pre-intervention period) compared to nearly 60 calls per month during the intervention period in the control sites (large increase from the pre-intervention period). By contrast, the citywide monthly averages about drug incidents during the intervention time period declined slightly from the before period to the during period. Calls about disorder incidents followed a similar pattern to the calls for drug incidents both citywide and at the study sites: we observed declines in the monthly averages of disorder incidents in the experimental sites and across the city when the before period was compared to the during period. By contrast, we observed increases in disorder calls in the control sites when the before period was compared to the during period. Calls for service about violent and property crimes remained fairly stable throughout the study period (pre, during and post periods) averaging about 51 calls per month for violent crime incidents and 46 calls for property crimes in the experimental study sites and about 59 calls per month for violent crime incidents and 48 calls per month for property incidents in the control sites. Overall, we suspect some instability and program contamination with the citizen calls for police service during the intervention period, particularly for drug and disorder call incidents. As such we do not use the data from the intervention period in our analysis.

Main Effects of the Experimental Intervention

Our analysis uses residual gain scores (or residual change scores) to measure the impact of our interventions at the study sites. For each crime call category examined (violent, property, drugs and disorder) the raw pre-intervention score ("before") was regressed onto the raw post-intervention score ("after") to generate a residual gain score (see Bohrnstedt, 1969; Bursik and

Webb 1982; Cronbach and Furby, 1970) and thus enable analysis of the amount of change occurring during the course of the intervention. This procedure allows us to identify changes in calls for service such that positive (or greater) scores of a "difference" variable indicates more calls than expected after the intervention and negative (or lower) scores of a "difference" variable indicate less calls than expected after the intervention. Bursik (1986) explains "....that since this score represents the difference between the level of a variable at time t and the level that was predicted on the basis of time t-1, the measure is automatically corrected for ongoing patterns that characterize the study sites: that is it represents the changes that were unexpected given the prior ecological conditions of the [street block]" (Bursik, 1986:43).

Table 5.4 presents the mean change in the number of calls for service incidents within the experimental (Beat Health) and control (Patrol) groups comparing the pre and post intervention periods. We also present the statistical significance of the differences in the residual gain scores between the experimental and control groups using an ANOVA method of analysis taking into account the direct effects of type (experimental versus control) and block (commercial versus residential) as well as the interactions between "type" and "block."[7] We provide analysis for four categories of calls for service incidents: violent, property, disorder, and drugs (see footnote 5 for explanations of what call incidents are included in these categories). We use the street block as our unit of analysis in this first presentation of our results and our analysis of the effects of the

[7] We decomposed the sums of squares by assessing each type of effect separately where the main effects of the factors were assessed first and then the two way interactions (between block and type) second. The effects within each type were adjusted for all other effects in that type and also for the effects of all prior types (see SPSS-X User's Guide, Third Edition: pages 369-374).

experimental intervention compares calls for service incidents during the 21.5 months prior to the start of the experiment (pre-intervention) to the twelve months after the completion of the intervention period (post-intervention)[8].

Table 5.4: Mean Changes in Calls for Service Incidents, Pre Versus Post Intervention Periods (by Call Type) with Street Blocks as the Unit of Analysis

	Group							
Call Type	Experimental			Control			Group	Block
	Before	After	%	Before	After	%	p=	p=
Violent	59.72	60.00	+ 0.5	61.72	60.83	- 1.4	.868	.054**
Property	49.30	37.75	- 23.4	52.00	40.75	- 21.6	.610	.673
Drugs	26.51	29.67	+11.9	44.93	74.75	+ 66.4	.093**	.079**
Disorder	207.07	214.58	+ 3.6	219.16	227.58	+ 3.8	.789	.231

*** p < .01 (one tailed test)
** p<.05 (one tailed test)
* p < .10 (one tailed test)

As this table shows, there were no significant differences between the experimental and control groups for violent, property, or disorder call incidents when the before period was compared to the after period. Our results reveal, however, significant differences in the number of call incidents per month when the experimental sites were compared to the control sites for

---

[8] We also examined the results when just twelve months (rather than 21.5 months) were examined prior to the start of the experiment. We also examined a six month pre-intervention period compared to a six month post-intervention period to capture any short run effects that could be hidden with the longer baseline data and the longer follow-up period data. Results of this analysis suggests that for property calls and drug calls, there were no differences when the shorter periods were compared to the longer time periods: the drug effect in favor of the experimental sites remained and there remained no significant differences between experimental and control sites for property crimes. For disorder and violent crimes call incidents, however, the control sites appeared to be somewhat better off than the experimental sites when the six month pre and post time periods were compared. The differences between the control and experimental groups for disorder call incidents during the six-month analytic period were statistically significantly in favor of the control sites. The differences were not statistically significant for the violent crime call comparisons.

changes in drug call incidents. While calls about drug incidents increased for both groups, the experimental group increased by just over 10 percent whereas the control group increased by 66 percent in the mean number of calls per month when the pre-intervention period is compared to post intervention period. This result was statistically significant at the .05 level (one-tailed test) and represents less of an increase than expected in the number of calls for drug incidents in the experiment street blocks.

When the block effects were examined — namely the differences between the commercial and residential properties — we found significant differences for violent crimes and drug call incidents. For violent crime call incidents, our results show decreases in both the control and experimental sites for residential properties, yet increases (especially in the experimental sites) for commercial properties. For call incidents about drug problems, by contrast, our results show decreases in call incidents at both experimental commercial and residential properties yet increases in calls about drugs at both residential and commercial control sites. The increase in drug calls at commercial properties in control sites is especially large.

Table 5.5 presents results of a similar analysis when only the target sites (the addresses of the target sites rather the street blocks) are examined. Our second analysis seeks to examine the impact of the Beat Health program compared to the patrol division efforts to ameliorate problems specifically at the location that was the subject of citizen complaints.

Table 5.5: Mean Changes in Calls for Service Incidents, Pre Versus Post Intervention Periods (by Call Type) with Target Sites Only as the Unit of Analysis

	Group							
Call Type	Experimental			Control			Group	Block
	Before	After	%	Before	After	%	p =[9]	p =
Violent	4.37	3.58	-22.0	3.26	3.17	- 2.8	.540	.042**
Property	2.74	1.58	- 73.3	2.51	2.00	-25.6	.487	.734
Drugs	1.86	2.33	+25.3	1.77	1.42	-19.8	.492	.739
Disorder	13.12	11.00	-19.2	12.05	11.58	-4.0	.592	.005***

*** p < .01 (one tailed test)
** p<.05 (one tailed test)
* p < .10 (one tailed test)

As this table shows, there were no statistically significant differences between the control and experimental groups when the group effects (either control or experimental) were examined. These results, however, are unreliable due to the large within group variances (see footnote 9 for an explanation as to why these results are unstable). Nonetheless, Table 5.5 shows that the experimental group mean number of call incidents per month declined for violent crime calls, property and disorder. Conversely, the number of calls about drug problems at the target site for the control group showed a large decline compared to the large increase in the experimental group. The only statistically significant finding when the control and experimental target sites were examined was between the residential and commercial targets for violent crime call incidents and disorder calls for service incidents. For both of these call types, there were more

[9] Careful analysis of the changes in calls for service at the target addresses (especially the drug calls) reveals that the within group differences are large compared to the between group differences, creating a small F-ratio. This result makes the analysis somewhat unreliable. Indeed, when each case was examined, we found that the majority of target sites showed no change in the number of calls for service. This problem was not observed in the data at the street block level of analysis.

calls at the commercial control targets during the after period compared to the before period.

Interestingly, we observed statistically significant declines in the mean number of drug calls in the experimental group compared to the control group when the number of drug call incidents per month were compared for a 12 month pre and post study period (decrease of 7.6% in experimental; increase of 35.2% in control) as well as for a six month pre and post study period (36.9% decrease in experimental; 19.5% increase for control).

Overall, the fluctuations in calls for service regarding drug problems at the target addresses are most likely the result of one possible explanation: the target sites probably experienced abrupt increases in drug problems during the six month period prior to case selection for the experiment. When the longer pre-period was examined (21.5 months as opposed to comparisons based on 12 and 6 month respectively), the seriousness of the problem at the target sites prior to our intervention period was somewhat masked. We present graphs of the 39 month time series of calls for drug problems at Figures 2 (Street Block) and 3 (Target Site Only) on the following pages.

Figure 2: Number of Drug Calls for Service by Month for Experimental and Control Street Blocks

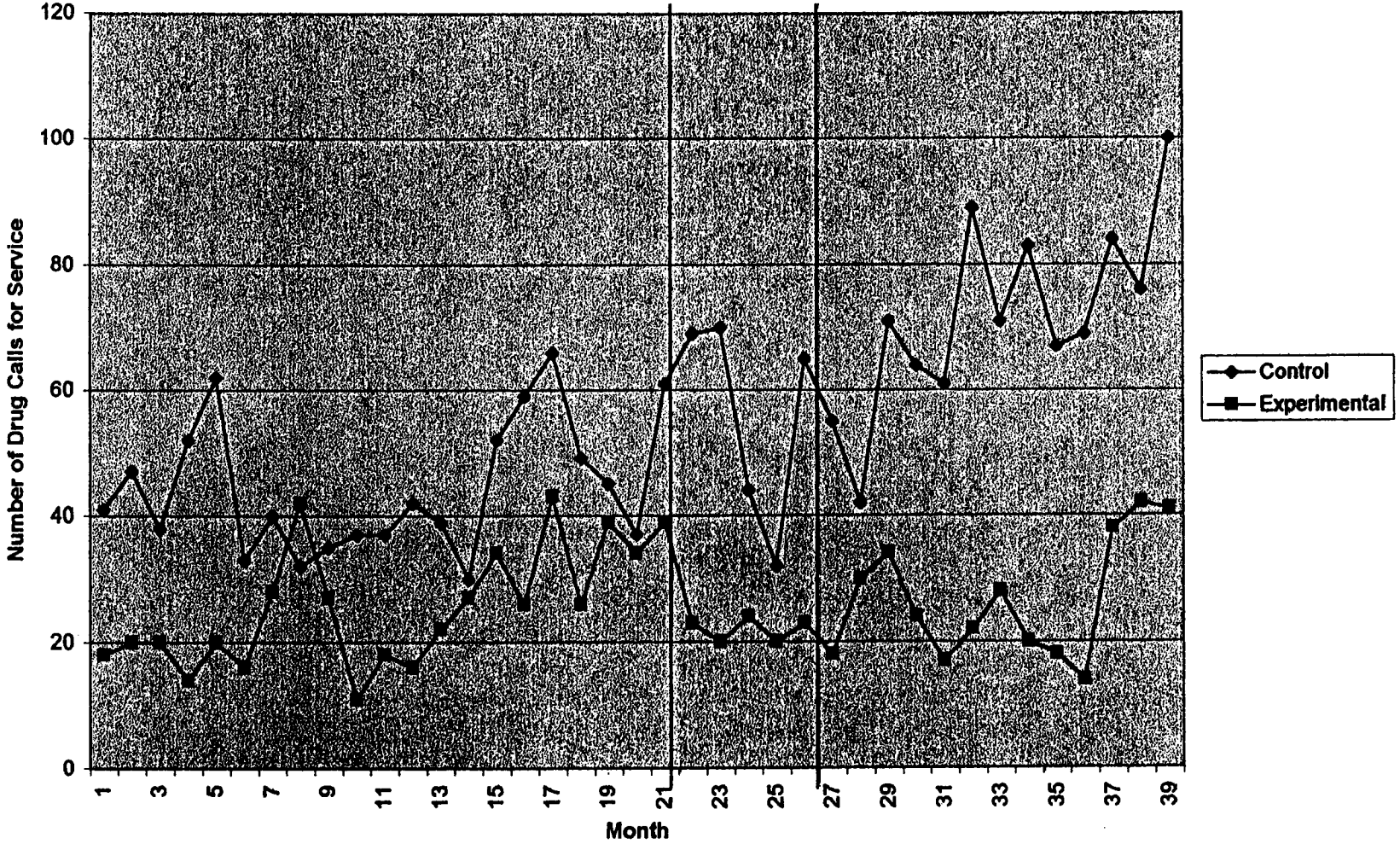
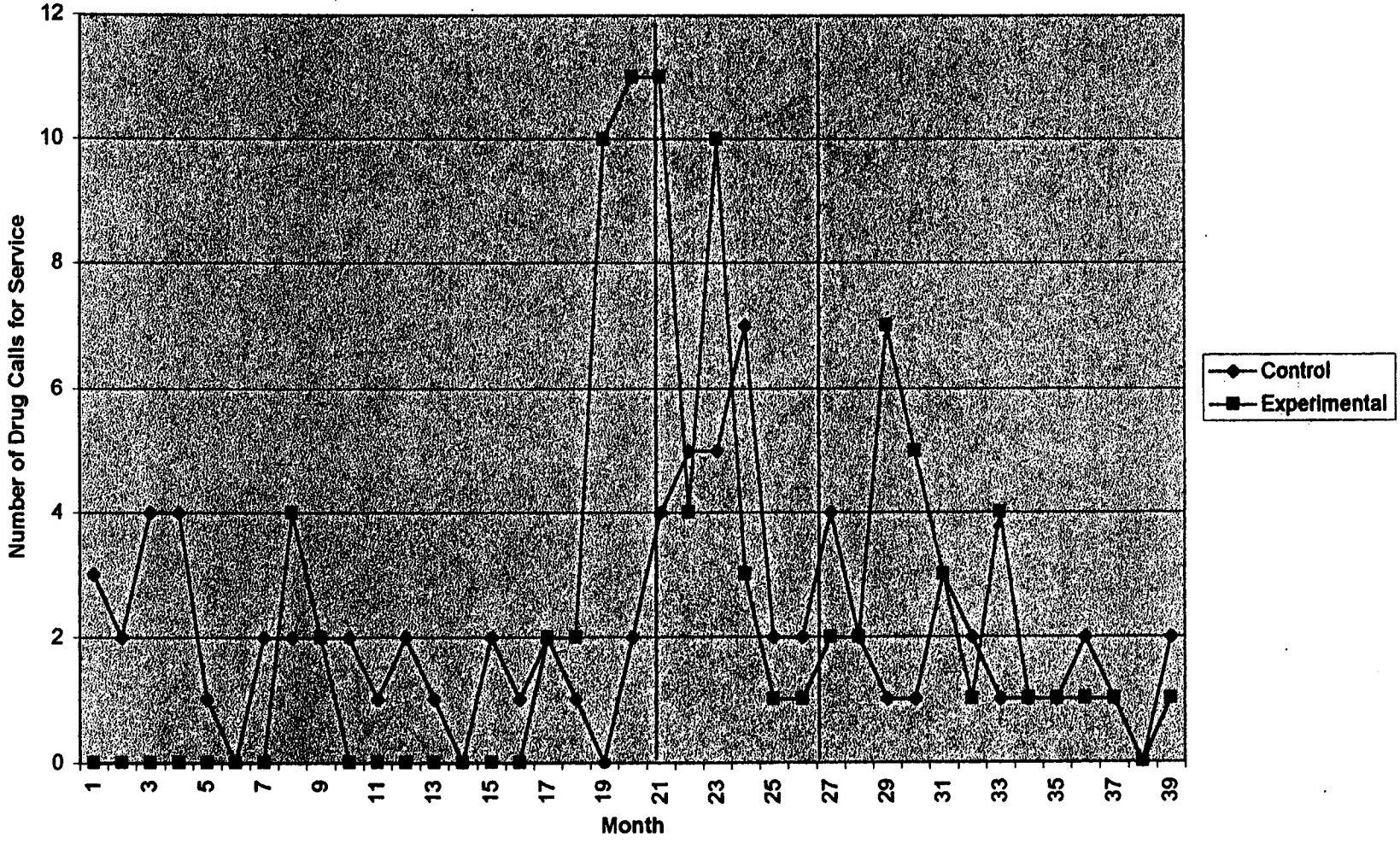


Figure 3: Number of Drug Calls for Service by Month for Experimental and Control Target Sites



As Figure 2 shows, the control street blocks had a higher monthly average of calls about drug problems prior to the start of the intervention period than the experimental street blocks. As suspected, however, the number of calls about drug problems began to increase from about month 11 through to month 21 (start of the experiment), particularly for the experimental blocks. While the control street blocks show a steady increase over the entire 39 month period, the experimental street blocks show an abrupt decline at the onset of the experimental treatment, followed by several months of "containment" and then an increase once again in drug activity some 14 or 15 months after the start of the intervention period. Figure 3 (Target Site Only) contrasts with Figure 2 and shows abrupt (as opposed to steady) increases in drug calls immediately prior to the case coming to the attention of the Beat Health Unit. These longitudinal patterns suggests several phenomenon: (1) target sites come to the attention of the Beat Health Unit after drug problems have slowly escalated over several months on the street block, (2) the specific target site is most likely referred to the Beat Health Unit when drug problems have abruptly escalated in the previous three months, (3) the Beat Health Program seems to directly impact the escalation of drug problems on target street blocks during the first few months of the Beat Health intervention, (4) the Beat Health treatment leads to some residual deterrence effects in keeping drug problems under control for some months after the intervention has concluded but (5) these gains seem to be lost over the long term.

The declines observed during the six month follow-up period, and to a lesser extent the twelve month follow-up period, could be attributed to one of two factors: either a regression to the mean or the effectiveness of the Beat Health program. Given that the improvements at the street block unit of analysis for changes in drug problems are statistically significant when all

months are included in the analysis (see Table 5.4), we suggest that the latter explanation — that the Beat Health program was effective in reducing drug problems — is the most plausible explanation. We suggest, however, that there may be some regression to the mean contributing to the observed declines in drug call incidents. Nonetheless, we would expect that the control group would also experience regression to the mean given that the cases were randomly allocated between the control and experimental treatments. As such, we conclude that at least part of the improvements in drug problem conditions on the experimental street blocks can be attributed to the effectiveness of the Beat Health program.

Displacement and Diffusion Effects of the Experiment

Measuring spatial displacement and diffusion offers a unique challenge to evaluators (see Green, 1995). Generally, evaluators are interested in the direct main effects of an intervention — e.g did the intervention reduce the problem against the target — before they turn their attention to exploring whether there were any "unintended" results of the intervention (see Weisburd and Green, 1997). More often than not, if there are "no significant findings" from the main thrust of the study, evaluators will not take the time to assess whether there was either a displacement or diffusion result. Conversely, when there are "significant findings," evaluators typically scramble to find out whether their findings could be nullified if there was a companion displacement effect as a result of the direct intervention.

The main effects of the Oakland experiment are consistent with a growing body of evidence that suggests that police can be effective in controlling drug problems when they use problem-solving approaches rather than traditional enforcement oriented police tactics (see also Hope, 1994; Kennedy, 1993; Weisburd and Green, 1995). In addition to assessing the main

effects of the Beat Health program, however, our study sought to explore the displacement and diffusion effects of the experimental and control treatments.

We contend that efforts to measure the spatial effects of interventions should be designed with three issues in mind: first, we suggest that evaluators should seek to directly measure the underlying displacement and diffusion processes of the intervention programs; second, we argue that evaluation designs that seek to assess the direct effects of an intervention may need to be modified to enable a direct assessment of possible displacement and diffusion effects; and third, we suggest that more sophisticated methodologies be employed to tease out the spatial patterns of crime control interventions.

Our evaluation of the spatial displacement and diffusion effects of the Beat Health program "designed-in" a capacity to evaluate the effects of the program on 100 uncontaminated street blocks surrounding the 100 target sites (see Chapter Four). Activity at our 100 target sites as well as in a 300 foot uncontaminated buffer zone surrounding each site was tracked for a period on twelve months following a five and a half month intervention period. We use calls for service data (violent crimes, property, drugs and disorder) to examine the various changes in the target and buffer zone activity comparing the pre-intervention period (21.5 months) to the post-intervention period (12 months). Table 5.6 presents a summary of the results.

Table 5.6 Number of Study Sites with Changes in Calls for Service by Crime Type and Group (Control vs Experiment)

		Target Sites					
		Less		No Change		More	
		C	E	C	E	C	E
Buffer Zone							
	Violence	6	7	10	11	5	6
Less	Property	10	14	16	16	7	2
	Drugs	6	5	12	15	1	2
	Disorder	11	8	5	3	5	5
	Violence	1	1	0	0	0	1
No Change	Property	0	1	0	0	0	0
	Drugs	0	1	4	6	1	0
	Disorder	0	0	0	0	0	0
	Violence	8	11	12	11	8	2
More	Property	3	5	11	9	3	3
	Drugs	4	2	19	16	3	3
	Disorder	11	15	8	10	10	9

This table presents the number of sites by control or experimental group that have more, less or no change in the number of calls for service incidents pre to post the intervention and by crime call type (violence, property, drugs, and disorder). Arguably, one could propose that the study site experienced a diffusion of crime control benefits when both the target site and the surrounding buffer zone had less crime calls after the intervention. Table 5.6 shows that 14 of the experimental sites had less property crime calls both at the target as well as in the buffer zone compared to ten of the control sites that experienced similar declines. Conversely, however, the control group seems to have performed better for controlling disorder crimes: eleven of the control sites had fewer disorder calls both at the target and in the buffer zone compared to eight of the experimental sites that had fewer disorder calls at both units of analysis.

One could also argue that displacement of crime has occurred when there are either less or no change in crime call events at the target, yet more in the surrounding buffer zone. Table 5.6 shows that the experimental sites performed somewhat worse that the control sites for violence, property and disorder calls: for these crime call categories more experimental target sites showed declines in crime call events whereas the buffer zones showed an increase in crime calls events. For drug crime calls, by contrast, just two of the experimental target sites had less drug calls at the site with an accompanying increase in drug calls in the buffer zone. Four of the control target sites showed a displacement effect for drug calls.

Overall, there were very few differences in the aggregate patterns of change depicting displacement and diffusion of crime control effects when the buffer zones and targets were examined across crime call types and when the control and experimental groups were compared.

CHAPTER SIX:

ON-SITE OBSERVATIONS

On-site observations of the physical and social conditions of the study street blocks comprise the focus of this chapter. Our research supports and extends prior research that uses on-site ratings by trained researchers in order to capture the "ecological" changes in the neighborhood or street. We conducted two on-site observations of each street block as each case was randomly allocated to either the experimental or control group (before). We then conducted two observations of each street block five months later (after). Structured observations of routine licit activity (e.g., pedestrians, children playing, people coming in and out of businesses), illicit activity (e.g., drug dealing, loitering, urinating in public), litter, graffiti, trash, traffic, and the presence of law enforcement and security personnel were made of each face block surrounding the 100 problem locations. These observations were conducted during two of four randomly selected time periods (11am to 2pm, 2pm to 5pm, 5pm to 8pm and 8pm and 11pm), both before the start of the intervention at each site and again at the end of the intervention period at each site five months later. Trained observers made 400 on-site visits to the experimental and control sites (200 before and 200 after).[10]

Our decision to conduct two observations per street block per period derived from our understanding that street blocks have standing patterns of behavior, or rhythms of recurring

---

[10] Randomly selected observation periods were generated for the before period. The "after" period observations then used the same time period allocations per site to ensure consistency between the before and after observations. On-site observers did not know which street blocks were in the experimental group and which ones were in the control group. Two coders entered scores for each block and came to an agreement of the scores to generate the measures in this study.

behavior and activity, that are somewhat predictable and routine (Taylor, 1988, 1997a). Felson (1995b) also suggests that activities occur in fairly predictable rhythms where patterns of behavior are dictated by a host of factors including individual people's working hours, sleeping times, and recreational times.

On-site observations of social activity can be conducted for either a sample or a census of a street's activity rhythms. For example, if a street block has a constant standing pattern of behavior (or just one activity rhythm) across all minutes of an hour, across all hours of a day, and across all days of a week, then one could reasonably assume that conducting one on-site observation of social activity at any time of the day and on any day of the week would adequately capture the true social activity patterns of that street block. In this extreme case, one could argue that consideration of sampling error is not a concern because one observation would be representative of the population of social activity patterns (n = 1) for that street block. Alternatively, if a street block is characterized by various standing patterns of behavior where, for example, morning activity is different to afternoon activity which is then different to evening and nighttime activity, then one could conclude that there are at least four standing patterns of behavior on that particular street block. [11] In this type of case, the total population of standing patterns of behavior is quite small (n = 4), and if one were to draw a sample of time periods of social activity that is quite large (e.g., n = 2) relative to the size of the population of time periods of social activity (e.g., n = 4), the standard error may not be as problematic as expected (see Blalock, 1979; see also Rosenbaum and Lavrakas, 1995; Weisburd and Green, 1991). Indeed,

[11] This example would assume constant variation of social activity between weekends and weekdays as well as across the four seasons.

Rosenbaum and Lavrakas (1995:296) conclude that the size of the population is not always associated with the stability of estimates.

We also suggest that the reliability and validity of on-site observations increases as the unit of analysis decreases. We propose that street blocks and other small units of analysis (e.g., hot spots, public housing common areas) have fewer and less complex patterns of street activity (or standing patterns of behavior) than neighborhoods, communities, or other larger units of analysis that have more complex and varied patterns of social behavior. For example, a street block may have just two standing patterns of behavior, where daytime activity is characterized by people coming and going from the stores on the block and evening activity is characterized by drug dealing on the street corners. This kind of predictability in the standing patterns of behavior on a street block is rarely present for neighborhoods for a number of reasons: the absolute number of people frequenting a neighborhood makes it more difficult to anticipate standing patterns of behavior; the range of land use patterns across a neighborhood (businesses, single family homes, multi-dwellings) creates more complex rhythms of social activity; and the diversity of people living and working in neighborhoods leads to more complex and diverse patterns of social behavior.

Observation Method

We conducted two on-site observations of the 100 street blocks in our study both before the case was assigned to the Beat Health Unit and five months after the start of the Beat Health intervention.[12] The average of the two observations before and after the intervention was used as

---

[12] The average intervention time for the Beat Health program is five months (see Green, 1996).

the count of people involved in the various types of activity before and after the intervention. For example, if two people were observed selling drugs on a target street block during the time period from 2pm through 5pm before the intervention and four people were observed selling drugs on the same target street block during the time period from 8pm to 11pm also before the intervention, then we counted three people as selling drugs before the intervention in that particular target street block. The raw "before" score was regressed onto the raw "after" score to generate a residual gain score (see Bohrnstedt, 1969; Bursik and Webb 1988; Cronbach and Furby, 1970) and to enable analysis of the amount of change occurring during the course of the intervention. This procedure allows for identification of changes in a street block characteristic (e.g., drug dealing, signs of disorder or signs of civil behavior in public places) over and above what we would expect taking into account the baseline observation. As such, positive (or greater) scores of a "difference" variable indicates more than expected of a particular social characteristic (e.g., more drug dealing) after the intervention and negative (or lower) scores of a "difference" variable indicate less than expected of a particular social characteristic after the intervention.

Results

Table 6.1 presents the mean number of people engaged in a variety of licit activity (e.g. supervised children playing, pedestrians, people at bus stops) and illicit activity (e.g. people selling drugs, people loitering, intoxicated people) both before and after the experiment and in the experimental and control locations. We also present the mean scores (before and after) of observed physical disorder[13] as well as the presence of police and other security personnel

[13] The physical disorder scale was constructed by adding together a series of ordinal scales of observed physical decay. The scales ranged from 1 (almost none) to 4 (almost

observed on the study blocks before and after the experiment. We display the statistical significance of the differences (using residual gain scores) between the experimental and control conditions, accounting for the block-randomized design of the study[14].

Table 6.1: Changes in Social Activity and Physical Disorder (per street block), Pre Versus Post Intervention Periods (by group)

Dependent Variables (Means)	Experimental		Control		p=
	Before	After	Before	After	(type)
supervised kids playing (private yard, street, school yard)	0.32	0.22	0.26	0.10	0.366
unsupervised kids playing (private yard, street)	0.02	0.36	0.30	0.26	0.261
adult males general activity (stopping to talk, pedestrians, in/out of businesses)	1.70	2.08	1.68	2.28	0.565
adult females general activity (stopping to talk, pedestrians, in/out of businesses)	0.92	1.44	1.14	1.24	0.202
males & females on bicycles (adult & youth)	0.36	0.36	0.28	0.28	0.585
males at bus stops	0.06	0.08	0.04	0.00	0.006*
females at bus stops	0.06	0.06	0.00	0.00	0.216
males at pay phones	0.02	0.00	0.04	0.06	0.041*
adult males loitering (by bars, stores & other places)	1.28	0.40	1.24	0.60	0.281
adult females loitering (by bars, stores & other places)	0.26	0.16	0.30	0.08	0.299

everywhere) and included measures of garbage, litter, broken glass, trash, junk, cigarette butts, needles, syringes, empty beer or liquor bottles, graffiti. The alpha reliability score for the scale was .77 and the additive measure could range from 4 (hardly any signs of physical decay) to 24 (extensive signs of physical decay).

[14] We used an analysis of variance test by first taking into account the main effects of the factors (block and type) and then the interactions between block and type to assess statistical significance in our study.

male youths loitering (by bars, stores & other places)	0.44	0.40	0.58	0.36	0.815
female youths loitering (by stores & other places)	0.12	0.04	0.06	0.10	0.210
males with boom boxes, homeless, or drinking	0.20	0.04	0.14	0.14	0.103
females drinking	0.08	0.02	0.04	0.00	0.283
males selling drugs †	0.06	0.04	0.10	0.44	0.015*
disorder scale (range 4-24) higher values=more disorder	8.04	8.46	8.04	9.18	0.020*
police/security present	0.00	0.08	0.12	0.16	0.261

*p<0.05 (two tailed test)
†No females were observed selling drugs.

The key findings from Table 6.1 show that four conditions (males selling drugs[15], signs of physical disorder, males at pay phones and males at bus stops) were statistically significant at the .05 level. As the table shows, the mean number of males selling drugs on the experimental street blocks went from .06 (or 3 people) before the intervention to .04 (2 people) after the intervention. For the control street blocks we observed more males selling drugs after the intervention period (22 people) compared to before the intervention (5 people) (p = 0.015).

The differences between the physical disorder conditions of the control and experimental groups are also statistically significant at the .05 level. As Table 6.1 shows, we find that although the signs of disorder increased slightly for the experimental group (from a score of 8.04 before to 8.46 after), the control group, while starting off with the same score as the experimental group, increased to a score of 9.184 by the end of the intervention period (p = 0.020).

[15] We did not present females selling drugs because no females were observed selling drugs either before or after the experiment.

Table 6.1 also shows that the mean numbers of pro-social behavior generally increased in both the control and experimental locations. For example, there were more adult males and adult females stopping to talk to one another on the street, walking up and down a street, and coming in and out of businesses both in the experimental and control sites. We also recorded more police and other security (private, crossing guards) present in both the control and experimental locations after the intervention period.

In terms of observed anti-social behavior, our on-site observations showed that in the experimental street blocks after the experiment there were fewer adult males and females loitering, fewer youths loitering, fewer males with boom boxes, homeless people and people drinking in public. These results, however were not statistically significant.

CHAPTER SEVEN:

PLACE MANAGER SURVEY[16]

This chapter assesses the role of place managers in reducing disorder problems, drug problems, and signs of incivility. We draw from two data collection efforts: first, a survey of 398 place managers; and second, on-site observations of the social and physical conditions of the 100 street blocks in our study (see Chapter Six). Our analysis differs from many other studies of street block activity in that we use both on-site observations and respondent perceptions in our research [17]. Prior research typically measures street block activity (and changes on street blocks) using either surveys of residents (see Greenberg and Rohe, 1986; Hirshfield, Brown, and Bowers, 1996; Rosenbaum and Lavrakas 1995; Taylor et al., 1984) or through on-site observations (see Taylor 1995a; Taylor 1995b; Taylor 1996a; Taylor 1997b).[18]

Place Manager Survey

Our first data source utilizes interviews with 398 "place managers" living or working on the 100 target street blocks in our study at the end of the five-month experimental intervention period[19]. We define the place managers in our study as those people who live or work near

---

[16] This chapter is based on a draft of a paper submitted to the National Institute of Justice in April 1997 and the final version of the paper titled "Controlling Drug and Disorder Problems: The Role of Place Managers," forthcoming in Criminology (May, 1998).

[17] See Perkins and Taylor (1996) and Taylor (1996b), however, for two studies that did, in fact, use both on-site assessments as well as resident surveys.

[18] See Taylor (1997a) for an excellent, detailed review of the issues concerning different methods available for assessing signs of incivility.

[19] Funds were only available to conduct one wave of place manager interviews. As such, we do not have effective measures of change in the actions, attitudes, and perceptions of place managers in response to the intervention efforts.

problem places and who, by virtue of their proximity and interests, may have primary or personal responsibility to the street block (see Eck and Wartell, forthcoming; Felson, 1995a). The place managers in our sample included residents (71.4 percent) and managers or owners of stores on the study blocks (21 percent). The survey sought to examine place manager self-reports of their specific involvement in controlling the drug problem on their block, the actions they had taken recently to remedy the problem, their feelings of community cohesion, their perceptions of security on the street block, their specific assessments of recent police intervention efforts, and their feelings of fear of crime (see survey instrument at Appendix B).

Our study attempted to include 400 face-to-face interviews at the 100 sites in our study (4 interviews per site). Place managers were selected using the following criteria: we interviewed residents living on the target blocks who complained about drug activity on the block; owners or managers of commercial establishments on the block; and school superintendents or other people working on the block who might have a stake in controlling drug activity on the block. If less than four people were identified per block using these primary selection criteria, the interviewers were instructed to interview the residents across the street from the problem location, and residents on either side of the target location--moving away no further than the end of the face block if no one was home at these residences after four attempts. A total of 398 interviews were conducted during February and March 1996.

Survey Sample

The place manager respondents were not drawn from a random sample of a population of place managers. Rather, a purposive sample was utilized in order to better capture how street blocks were viewed from the perspective of place managers who had a stake in the area, worked

in the area, or lived in the area (see Rosenbaum and Lavrakas, 1995). The interviewers for the study were highly trained census workers on temporary furlough due to a budget stalemate in Washington DC in early 1996. An on-site supervisor verified each interviewer's first five interviews and verified 20 percent of their interviews thereafter by calling or visiting the respondent. Interviewers were not aware of the allocation status (control or experimental) of any location.

Sample Characteristics

Of the 398 place managers interviewed, nearly half of the respondents were African American and 21 percent were white; the median number of years living or working at their current location was about six; 52 percent of the respondents were male; and the mean age of respondents was 47 years. There were no significant differences between the responses given by the resident and store owner/manager place managers on measures of place manager demographic characteristics, feelings of fear of crime, and perceptions of cohesiveness. There were, however, slightly more business store owners or managers who knew about the Beat Health Program than residents. Business store owners and managers were also more likely to take their own initiative in solving problems on the block than residents ($p < .05$).

Sample Characteristics at the Street Block Unit of Analysis

The unit of analysis in our study was the street block. Therefore, the results of the place manager survey were aggregated by site ($n = 100$). The aggregated results of the place manager survey were matched to the results of the on-site assessments of the street blocks (see later) on a case-by-case basis. Several scales were then constructed from the place manager survey to enable examination of various theoretical constructs.

Place Manager Individual Action Scale: [20] The items which make up this scale are presented in Table 7.1. This scale was constructed to capture the specific actions (e.g., calling 911) taken by individual place managers against problems at the target location (see Eck, 1994; Felson, 1995a). In effect, this scale is a measure of those actions taken by individuals in direct response to anti-social behavior. The scale was included in the analysis to determine if individual actions on the part of place managers had an impact on the change in the amount of drug dealing, the level of disorder, and signs of civil behavior in public places on the street blocks in our study.

Table 7.1: Place Manager Individual Action Scale (N = 398)

Variable	Percent
Called 911 about the target	15.6
Called the drug hotline about target	12.1
Talked to owner/manager about problems at the target	7.8
Talked to tenants about problems at the target	8.3
Confronted offenders at/about target	8.8
Called a city agency about target	10.8
Done something on their own about target	8.0

Cronbach's Alpha: 0.77

Place Manager Cohesiveness Scale:[21] The items which make up this scale are presented in Table 7.2. This scale was designed to represent the reported cohesiveness of the street block and

[20] The individual action scale was derived by summing the seven items described in Table 1 and dividing by seven. The scale ranges from 0 to 1 where higher values represent more individual actions taken on a study block and lower values represent fewer individual actions taken on a study block.

[21] The cohesiveness scale was derived by summing the three items described in Table 2 and dividing by three. The scale ranges from 0 to 1 where higher values represent more cohesiveness on a study block and lower values represent less cohesiveness on a study block.

it also reflects a similar construct introduced by Taylor (1996b) which he calls "resistance." Other researchers have alluded to this type of measure in arguing that a more cohesive group of residents will "stick up" for each other and engage in informal social control when the norms of the street block are being violated (Greenberg and Rohe, 1986; Hirshfield et al., 1996; Sampson et al., 1997; Taylor, 1988, 1995a, 1996b; Taylor and Harrell, 1996; Taylor and Gottfredson, 1986; Taylor et al., 1984).

Table 7.2: Place Manager Cohesiveness Scale (N = 398)

Variable	Percent
Believe neighbors on street help each other rather than go their own way	34.4
Believe neighbors on street will call city to ask for help dealing with problems	56.6
Believe neighbors will intervene and ask a youth spray painting graffiti to stop	51.3
Cronbach's Alpha = 0.81	

Place Manager Collective Action Scale:[22] The items which made up this scale are presented in Table 7.3. This scale was designed to tap into the collective involvement of residents and place managers in their community. Buerger (1994) argues that the greatest challenge of community-oriented policing is to motivate the community to become involved in partnerships designed to solve community-based problems. This measure was included in the analysis to determine if place manager involvement in the community had an impact on the amount of drug dealing and disorder change. The measure was also included to determine if

[22] The collective action scale was derived by summing the ten items described in Table 3 and dividing by ten. The scale ranges from 0 to 1 where higher values represent more collective actions taken on a study block and lower values represent fewer collective actions taken on a study block.

changes in street conditions were related to the involvement of residents and place managers in their street as well as the larger community.

Table 7.3: Place Manager Collective Action Scale (N = 398)

Variable	Percent
Met with community group about problems	17.6
Attended a community fair	3.3
Attended a drug rally, vigil, or march	1.0
Participated in neighborhood clean-up	8.3
Participated in citizen patrols	1.8
Participated in organized observations of drug activity	4.0
Participated in neighborhood or block watch programs	8.8
Attended landlord training	2.5
Worked with the police about the target	14.8
Worked with community group concerning target	11.8
Cronbach's Alpha = 0.79	

Fear/Avoidance Scale:[23] The items contained in this scale are presented in Table 7.4. This measure was included in the analysis to determine if fear of crime, which has been found to restrict the level of resident intervention and alter resident perceptions of their environment (Bursik and Grasmick, 1993; Greenberg and Rohe, 1986; Perkins and Taylor, 1996; Taylor, 1995a, 1996a; Taylor and Harrell, 1996; Taylor et al., 1984), had an impact on the dependent variables examined. This variable was also added to the analysis to control for its possible confounding effects on resident perceptions and behavior.

[23] The fear scale was derived by summing the six items described in Table 4 and dividing by six. The scale ranges from 0 to 1 where higher values represent greater levels of fear on a study block and lower levels represent lower levels of fear on a study block.

Table 7.4: Fear/Avoidance Scale (N = 398)	
Variable	**Percent**
Felt less safe after dark	12.8
Felt less safe during the day	13.8
Never/seldom park on the street	46.5
Never/seldom walk in the neighborhood	39.9
Never/seldom visit a neighborhood park	79.4
Never/seldom talk to neighbors	35.1
Cronbach's Alpha = 0.66	

Overall, our survey results show that 23.9 percent of all respondents took some type of direct, individual action during the intervention period. The most common type of individual action taken was calling the police using 911 (15.6 percent). About 31.9 percent of the residents reported that they were involved in collective community activities: the most common type of community activity was meeting with a community group (17.6 percent). About two-thirds of the place managers in our sample were fearful of walking alone at night on their block, and only one-third believed that their neighbors on their street help each other rather than go their own way.

When these frequencies for individual place managers were aggregated to the street block level of analysis (n = 100), we found that 75 percent of the street blocks in our study had at least one place manager who took some type of direct action during the experimental intervention period. About half (48 percent) of the street blocks had at least one place manager who reported calling the police using 911. About 73 percent of the street blocks in our study had at least one place manager who reported that they were involved in community activities; the most common type of community activity was meeting with community groups, followed by neighborhood clean-up projects and neighborhood or block watch activities. The vast majority (90 percent) of

street blocks in our study had at least one or more place managers who stated they were fearful of walking alone at night on their block. Seventy-one percent of street blocks had at least one place manager who believed that most neighbors on the street helped each other rather than going their own way. Table 7.5 provides summary data of the study variables discussed in this chapter.[24]

Table 7.5: Descriptive Statistics For All Study Variables

Variable Description	Mean	Std. Dev.	Range	Skewness*
Control (0) or Experimental (1)	0.50	0.50	0 - 1	0.00
Residential (0) or Commercial (1)	0.14	0.35	0 - 1	2.11
Fear (scale 0- 1)	0.38	0.15	0 - 1	0.22
Percent Female	0.48	0.28	0 - 100	0.07
Percent African American	0.45	0.33	0 - 100	0.16
Percent Resident	0.71	0.33	0 - 100	-0.83
Months at Current Location	133.61	84.57	16.25 - 399.00	0.81
Number of Properties on Block	18.11	11.65	3 - 56	0.24
Collective Action (scale 0 - 1)	0.07	0.08	0 - 1	1.58
Individual Action (scale 0 - 1)	0.10	0.11	0 - 1	1.90
Cohesiveness (scale 0 - 1)	0.47	0.27	0 - 1	-0.02
Disorder Scale	-0.82	1.99	-5 - +4	0.11
Drug Dealing	-0.16	0.81	-4 - +1	-3.15
Public Signs of Civil Behavior	-0.31	1.47	-6 - +3	-0.89

** Measure of the asymmetry of a distribution. Positive skewness indicates that the more extreme values are greater than the mean and negative skewness indicates that the more extreme values are less than the mean.*

---

[24] The multi-collinearity test (tolerance) for the three models presented in this chapter suggest that the variables are both theoretically as well as empirically distinct constructs. The correlation matrix can be found at the end of this chapter. Several diagnostics were performed to ensure the integrity of the three models presented in this paper. First, plots of the standardized and unstandardized residuals were examined. The plots for the model reporting changes in disorder reveal no outlier cases. The plots for the model reporting changes in drug activity reveal two possible outlier cases. All coefficients remain stable when the two possible outliers are removed from the analysis except cohesiveness drops slightly in the level of significance. The plots for the model reporting changes in civil behavior reveal one possible outlier case. The model coefficients, however, remain stable when the outlier case is removed. Second, we examined the Cook's D statistics for each of the three models included in this paper (analysis for all 100 cases in the study). The Cook's D statistics for the disorder model ranged from 0 to .136 (mean of .012); the Cook's D statistics for the drugs model ranged from 0 to .246 (mean of .011); the Cook's D statistics for the civil behavior model ranged from 0 to .285 (mean of .013) (see Fox 1991).

Results

To explore the role of place managers in changing levels of drug dealing, signs of disorder, and signs of civil behavior, several control variables were introduced into the models. First, dichotomous variables indicating whether the site was a control or experimental site and whether the site was residential or commercial were introduced to explore whether these variables had an impact on the change in social activity on the block. These variables were entered into the analysis to control for the effects of the different interventions that occurred at the sites (control versus experimental) and any differential impact at commercial versus residential locations. We would expect that the experimental sites, where the Beat Health officers sought to build working relationships with the place managers, would be predictive of greater change in the levels of drug and disorder problems than any observed changes at the control sites. We also hypothesized that the commercial properties could be impacted more than the residential properties for two reasons: first, since most of the residential properties were rental units we expected less change; and second, since the commercial properties were, on average, more valuable properties we expected the property owners to be more responsive to crime control efforts (see also Green, 1996)[25].

---

[25] The surveys of place managers were conducted for two purposes: (1) to assess the impact of Beat Health interventions on resident and business representatives' satisfaction with the block, fear of crime, victimization, and perceived crime and disorder changes at the target site and (2) to explore the role of place managers on changes in the levels of drug dealing, signs of disorder, signs of civil behavior, and other outcomes. One way analysis of variance tests found no differences between the views of place managers at experimental and control sites except as follows: place managers at control sites questioned at the end of the intervention period were more likely to report feeling safer during the day and night than were place managers at experimental sites. Place managers at experimental sites reported more "other" crimes than did control site place managers. These results were not affected by whether the target sites were

Second, a series of aggregated demographic variables of the place managers on each block were introduced into the model to control for any effects related to the gender and racial mix of the respondents, whether the respondents were primarily residents on the street block or had businesses on the block, and the average length of time the place managers had lived or worked on the block. We also controlled for the number of properties on each street block.

We examine the 100 cases in our study to assess the relationships between several independent variables (e.g., place manager activities, cohesiveness, fear of crime, demographic characteristics of the place managers identified on the street blocks in our study, number of properties on the street block) and the outcome variables of disorder, drug activity, and signs of civility. We expect that those street blocks where place managers perceive high levels of social cohesion and those blocks with high levels of place manager activity will have greater decreases

---

residential or commercial. Finally, place managers at control sites were more likely than place managers at experimental sites to perceive that their block had become a "better place to work or live", comparing the end of the intervention period to the beginning, although this result did not reach statistical significance. We expect that much of the differences between the experimental analysis of our place manager perceptions and the experimental analysis of our on-site assessments and calls for service data are a function of the different methodologies used to collect outcome data. Indeed, extensive work employing both surveys of residents and on-site assessments by trained observers have discovered that residents' perceptions of disorder and on-site assessments of disorder may not be measuring the same underlying construct (Perkins and Taylor 1996; Taylor 1995a, 1995b, 1996a, 1997b). On-site assessments appear to be measuring the actual physical conditions of a location, while surveys of residents appear to be capturing the actual conditions of a locations filtered through the various psychological attributes and psychological processes of residents. In fact, one study by Taylor (1995c) finds that up to 90 percent of the variation in residents' perceptions of ecological conditions may be psychological rather than ecological, and that "personal differences contribute more to perceived signs of incivility than do difference between locations" (Taylor 1995d: 11). In addition, researchers have theorized that in high disorder neighborhoods, residents may not take notice of changes in disorder because they are confronted with many troubling or disorderly conditions (Taylor 1997b).

in disorder and drugs and greater increases in signs of civility than those places that have weak place management. The results of the first regression model predicting the observed changes in signs of disorder [26] are presented in Table 7.6. [27]

[26] The disorder scale was derived by adding on-site ratings of (a) litter and broken glass, (b) trash or junk, (b) cigarette butts, (c) needles and drug paraphernalia (d) empty beer or liquor bottles, and (e) graffiti on the street block. The outcome measure used in this analysis uses unstandardized residualized difference scores (see Bohrnstedt, 1969; Bursik and Webb 1988; Cronbach and Furby, 1970).

[27] Interactions were examined across several key independent variables in our models (treatment, cohesion, individual actions, collective actions, and fear). None of these interaction terms were significant for the three models included in this study (both for the models with the outliers included as well as with the outliers excluded).

Table 7.6: OLS Regression Results for Changes in Signs of Disorder			
Variable	**B**	**Standardized B**	**Std Error**
Control (0) versus Experimental (1)	-0.615*	-0.204	0.291
Residential (0) versus Commercial (1)	0.271	0.062	0.509
Fear (scale 0 - 1)	-0.237	-0.024	1.033
Percent Female	0.294	0.055	0.584
Percent African American	-0.408	-0.089	0.505
Percent Resident	-0.437	-0.095	0.612
Mean Number of Months at Current Location	0.001	0.049	0.002
Number of Properties on Block	0.032*	0.248	0.014
Collective Action (scale 0 - 1)	-7.621*	-0.445	2.113
Individual Action (scale 0 - 1)	4.077*	0.298	1.706
Cohesiveness (scale 0 - 1)	-0.076	0.013	0.616
Constant	0.126		0.763

R Square = .22 Significance of F = .02
* significant at p<.05 (one tailed test)

As this table shows, the variable that is most predictive of change in signs of disorder at the 100 street blocks in our study was the scaled measure "collective action" (explains 44 percent of variation). As discussed above, this measure was a composite measure of self-reported place manager involvement in community activism (meeting with community groups, attending drug rallies, neighborhood clean-ups, citizen patrols, block watch group activities). The more

collectively involved the place managers reported they were, the greater the observed decreases in signs of disorder on the street block. Conversely, our results show that the more individual action taken by the place managers to resolve problems on their block (e.g., calling 911), the more disorder was found after the intervention ($p<.05$). Interestingly, the more properties on the block, the less decrease in signs of disorder. We expect that this result is because smaller blocks could be cleaned up more quickly than larger blocks.

Table 7.6 also shows that the experimental sites had a significantly greater decrease in signs of disorder than the control sites. Our study does not, however, disentangle which of the array of Beat Health program tactics contributes most to reductions in signs of disorder.

The results of the tobit regression model examining changes in the number of males[28] selling drugs[29] on the target street blocks are presented in Table 7.7. As this table shows, whether the site was in the control or experimental group and self-reported levels of community cohesiveness were significantly more likely to be associated with change in the number of males selling drugs on the target street blocks.

---

[28] There were no females observed selling drugs either before or after the intervention.

[29] The drug dealing measure is a single item measure captured through the social observations. The drug dealing outcome measure used in this analysis uses unstandardized residualized difference scores. The drug dealing variable does not exhibit a normal distribution. As one would expect for any type of crime event, there are many blocks where drug dealing was not observed (n = 84 blocks did not have any drug dealing observed either before or after the intervention). As such, Tobit analysis was used for this particular variable because it is appropriate for restricted (limited) interval-level dependent variables where one value includes a very large portion of cases (see Baba, 1990; Wooldredge and Winfree, 1992). Indeed, "the Tobit Model is designed to handle criterion variables that assume some value with a high probability and are continuously distributed beyond this point with the remaining probabilities" (Baba, 1990: 428). Importantly, using a Tobit analysis did not change the substantive results demonstrated by using an ordinary least squares model.

Table 7.7: Tobit Results for Changes in Males Selling Drugs

Variable	B	Std Error
Control (0) versus Experimental (1)	-0.429*	0.149
Residential (0) versus Commercial (1)	-0.241	0.261
Fear (scale 0 - 1)	-0.248	0.530
Percent Female	0.252	0.299
Percent African American	0.157	0.259
Percent Resident	-0.022	0.314
Mean Number of Months at Current Location	0.000	0.001
Number of Properties on the Block	0.001	0.007
Collective Action (scale 0 - 1)	0.355	1.083
Individual Action (scale 0 - 1)	-1.127	0.874
Cohesiveness (scale 0 - 1)	-0.769*	0.316
Constant	0.606	0.391

* significant at $p<.05$ (one tailed test)

Our results show that the experimental street blocks were more likely to show decreases in the number of males selling drugs relative to the control street blocks from before the start of the intervention to afterwards ($p < .05$). We also find that those street blocks with greater levels of reported community cohesiveness (where the place managers in the study reported that their neighbors on their street block would help each other, call the city to help them solve problems on their block, and intervene when youths were acting in an anti-social manner) were more likely

to show decreases in numbers of males selling drugs on the street block ($p < .05$). This result is consistent with Taylor's (1997b) findings that show that where street blocks have higher levels of in-built resistance, then the ability to impact the street block is greater (see also Sampson et al., 1997).

Our results also show that when residents act in individual ways to solve street problems (e.g., calling 911) it appears to be an ineffective way to deal with street block problems. Indeed, our non-significant results of individual actions reflect this explanation.

The results of the regression model predicting changes in signs of civil behavior in public places[30] as measured by the number of females engaging in positive behavior (e.g., walking on the block, going in and out of businesses) are presented in Table 7.8.

---

[30] The public signs of civil behavior measure is a single item measure captured through the social observations. The number of female pedestrians, females going in and out of business and stopping to talk on the street represent our proxy measure of public signs of civil behavior. The public signs of civil behavior outcome measure used in this analysis uses unstandardized residualized difference scores. A negative value for the public signs of civil behavior outcome measure means that, based on time 1 predictions of time 2, there is less public signs of civil behavior after the intervention. Conversely, a positive value on the public signs of civil behavior outcome measure means that, based on time 1 predictions of time 2, there is more public signs of civil behavior.

Table 7.8: OLS Regression Results for Changes in Signs of Civil Behavior in Public Places

Variable	B	Standardized B	Std Error
Control (0) versus Experimental (1)	0.451*	0.164	0.261
Residential (0) versus Commercial (1)	0.938*	0.237	0.457
Fear (scale from 0 - 1)	-1.961*	-0.214	0.927
Percent Female	0.646	0.131	0.524
Percent African American	-0.486	-0.116	0.453
Percent Resident	-0.484	-0.115	0.549
Mean Number of Months at Current Location	-0.001	-0.081	0.002
Number of Properties on Block	0.004	0.033	0.012
Collective Action (scale 0 - 1)	4.111*	0.263	1.896
Individual Action (scale 0 - 1)	-0.253	-0.020	1.531
Cohesiveness (scale 0 - 1)	-0.268	-0.052	0.552
Constant	0.596		0.685

R Square = .25 Significance of F = .01
* significant at p<.05 (one tailed test)

As this table shows, the variable that is most predictive of change in signs of civil behavior in public places at the 100 street blocks in our study was the scaled measure "collective action" (explains over 26 percent of variation). As discussed above, this measure was a

composite measure of self-reported place manager involvement in community activism (meeting with community groups, attending drug rallies, neighborhood clean-ups, citizen patrols, block watch group activities). The more involved the place managers said they were, the greater the observed increases in signs of civil behavior on the street block.

Table 7.8 shows that the experimental street blocks also had more signs of civil behavior in public places after the interventions relative to the control street blocks ($p < .05$), and that the commercial blocks in the study showed more signs of civil behavior in public places after the intervention ($p < .05$). Importantly, we find that the less fearful that the respondents were on the block, the more signs of civil behavior in public places after the intervention ($p < .05$). Consistent with the vast body of criminological literature (see for example Bursik and Grasmick, 1993; Greenberg and Rohe, 1986; Perkins and Taylor, 1996; Taylor, 1995a, 1996a; Taylor and Harrell, 1996; Taylor et al., 1984;), this finding suggests that blocks where people are less fearful are more apt to engage in collective problem-solving.

Chapter Seven Appendix: Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Control/ Experimental.	1.00												
2. Commercial/ Residential.	0.00	1.00											
3. Fear Scale	0.10	0.07	1.00										
4. Percent Female	-0.02	-0.14	0.01	1.00									
5. Percent African American	0.03	-0.16	-0.23*	0.26*	1.00								
6. Months at Current Location	0.04	-0.02	0.05	0.18	0.32*	1.00							
7. Number of Properties	-0.12	-0.28*	-0.08	0.08	0.22*	0.18	1.00						
8. Collective Action	-0.09	0.11	-0.12	0.09	0.06	-0.04	0.03	1.00					
9. Individual Action	-0.12	0.02	-0.13	0.04	0.13	-0.16	-0.04	0.59*	1.00				
10. Cohesiveness	-0.07	-0.03	-0.29	0.26*	0.19	0.07	0.15	0.32*	0.15	1.00			
11. Disorder	-0.23*	0.01	-0.02	-0.00	-0.01	0.03	0.20	-0.22*	0.07	-0.04	1.00		
12. Drug Dealing	0.22*	0.12	0.04	-0.08	-0.05	-0.07	-0.05	0.11	0.16	0.20	-0.12	1.00	
13. Civil Behavior	0.12	0.31*	-0.16	0.02	-0.09	-0.12	-0.10	0.30*	0.17	0.06	0.03	0.02	1.00

* $p<.05$ (two-tailed test)

CHAPTER EIGHT:

DISCUSSION AND CONCLUSION

Oakland's Beat Health program is an example of a civil remedy program that seeks to control drug and disorder problems and restore order by focusing on the physical decay conditions of targeted commercial establishments, private homes, and rental properties. Our study sought to evaluate the impact of the Beat Health Program on drug and disorder problems under experimental field trial conditions. Fifty street blocks were randomly assigned to the Beat Health program that attempts to build working relationships with residents and place managers, uses citations for building, health, sewer, sidewalks, and rodent control code violations, draws on drug nuisance abatement laws, and coerces of third parties (such as property owners, apartment superintendents, and business owners) to clean up blighted and drug nuisance places. These "treatment" sites were compared to fifty control sites that received traditional enforcement tactics such as surveillance, arrest, and search warrants. To enable close examination of the impact of Beat Health on residential and commercial properties, we used a blocked randomized experimental design by assigning commercial properties to one block and residential properties into a second block.

Our project examines calls for service, social observations, and interviews with place managers to explore the relative impact of the Beat Health program on drug and disorder problems. We downloaded over 7 million calls for service from Oakland Police Department's CAD system over a 39 month study period and we spent several months in the field conducting on-site observations before the start of the intervention period as well as at the end of a five and a half month intervention period. We used self-reports of place manager individual actions, their collective involvement in neighborhood crime prevention activities,

their fear of crime, and their perceived community cohesiveness to examine the role of place managers in changing the social and physical conditions of street block activity within the context of our randomized field trial in Oakland.

We found that the experimental street blocks targeted by Oakland Police Department's Beat Health program were also places that evidenced decreases in signs of disorder, decreases in males selling drugs, and increases in signs of civil behavior in public places when the social observation data were used as our outcome measure. Our finding that drug problems decreased in the experimental sites were also found in the calls for service data. Indeed, we found statistically significant differences between the control and experimental groups when the number of calls about drug problems prior to the start of the intervention were compared to a twelve month follow-up period. Our finding of an improvement in drug problems at the experimental sites at the street block unit of analysis was consistent across varying "before" and "after" time periods (12 months, 6 months), suggesting stability and endurance of the Beat Health impact.

Our blocked group experimental design allowed us to examine the relative impact of the Beat Health program on commercial and residential properties. Our results suggest that the Beat Health program and the control intervention (patrol response) had differential effects across the statistical blocks included in our study. Importantly, it appears that the patrol response (control treatment) led to significant increases in drug problems particularly at the commercial properties included in our study.

While the Beat Health program seems to be effective in reducing drug problems, our study shows no significant differences between the experimental and control groups when violent crime, property and disorder problems were examined. Indeed, our results tend to

suggest that the control treatment was more effective in dealing with violent crime problems, especially at commercial properties.

Our research sought to assess the role of place managers in controlling drug and disorder problems. In our study, we defined place managers as those people who live or work near problem places and who, by virtue of their proximity and interests, may have primary or personal responsibility to the street block (see Eck and Wartell, forthcoming; Felson, 1995a). We found that the level of place manager collective involvement in community activism is associated with decreases in signs of disorder and with increases in levels of signs of civil behavior in public places on the street blocks in our study. Levels of perceived street block cohesiveness were found to play a significant role in decreases in males selling drugs.

Individual, direct actions (e.g., calling 911) taken by place managers in an attempt to solve problems at specific target locations were not associated with decreased levels of social and physical disorder on the street blocks in our study. We also found inverse relationships between fear and other place manager actions: increased fear of crime was associated with lower levels of collective action, individual action, and cohesiveness.

Interaction effects between the treatment variable and other selected variables (such as cohesion, collective action, individual action, and fear) were not significant. The failure to observe significant interaction effects in these data suggest that while place managers activities (particularly collective problem-solving activities) play a significant role in decreasing drug and disorder problems, the programmatic efforts of the Beat Health Unit most likely independently impact changes in drug and disorder problems on street blocks. This result suggests that specific, short-term program efforts (such as sending property owners warning letters, enforcing property code violations, evicting tenants) contribute to the

observed decreases in drug and disorder activity. As such, our results indicate that police efforts to impact drug and disorder problems can be effective independent of the existing social climate on a street block. Conversely, our results also point to the importance of effective place management in controlling drug and disorder problems, independent of police efforts to solve street block problems.

Our results suggest that efforts to control drug and disorder problems on street blocks are most likely to succeed when there are in-built resistances existing on street blocks (see also Sampson et al., 1997; Taylor, 1996b). Our results indicate improvements in drug dealing and disorder conditions when place managers work collectively with their neighbors rather than when they react as individuals (e.g., calling 911) to specific problems on their block. Individual actions--such as calling 911, calling the police drug hotline, talking to the owner or tenant from the target, or directly calling a city agency to respond to the specific problem location--were not associated with reductions in signs of disorder or the number of males selling drugs. This may be because these types of individual actions are typically reactive in nature and represent solo crime control activities, and therefore may have minimal ability to control problems in the long run. By contrast, the collectively-based activities by place managers are indicative of more integrative and longer term commitments to controlling street block problems, and were related to decreases in signs of disorder, decreases in males selling drugs, and increases in signs of civil behavior in public places.

Our results have several important theoretical and policy implications. First, our results indicate that fairly simple and expedient civil remedies applied by police officers, with the help of municipal agencies, are effective in reducing drug and disorder problems. Warnings of dire legal consequences of problems are not remedied, inspections and code

violations, and various forms of assistance offered by Oakland Police Department officers and civilian technicians resulted in noticeably cleaned up properties, and increase in the legitimate use of the street, a decrease in illicit and non-civil behavior, and reductions in drug-related calls for service, at least in the short-run. These interventions were neither costly nor time consuming, and might be strengthened by increased regulatory actions by involved city agencies and additional work with neighborhood place managers.

Second, our research suggests that place managers may play an important role in controlling drug and disorder problems. There is evidence to suggest that place managers may be most effective when they are more socially integrated with their neighbors on their street block and when they are involved in collective, rather than individual, problem-solving efforts.

The apparent significance of collective crime control activities has several implications for the civil remedy program of the Beat Health Unit in particular and police problem-solving activities in general. First, encouraging citizens to simply call the police (or other city agencies) about problems may have a backfire effect: this type of individual "solution" to the problem may inhibit rather than enhance the ability of place managers on a street block to be effective in solving problems in the long run. Place managers who simply call the police (and expect the police to deal with the problem) may be less effective than place managers who seek a solution that is grounded in group-based problem-solving activities. Second, police efforts that build working relationships with a core group of place managers may have a greater likelihood of long term success than police building one-on-one working relationships with individual place managers. Efforts to strengthen collective neighborhood actions among place managers may also work to lessen fear and thus place

further obstacles in the "spiral of decline."

REFERENCES

Baba, Vishwanath V.
1990 Methodological issues in modeling absence: A comparison of least squares and tobit analyses. Journal of Applied Psychology 75: 428-432.

Barker, Roger G.
1968 Ecological Psychology. Stanford, CA: Stanford University Press.

Blalock, Hubert M.
1979 Social Statistics (3rd edition). New York, NY: McGraw-Hill.

Bohrnstedt, George W.
1969 Observations on the measurement of change. In Edgar F. Borgatta (ed.), Sociological Methodology. San Francisco: Jossey-Bass.

Buerger, Michael E.
1994 The limits of community. In Dennis P. Rosenbaum (ed.), The Challenge of Community Policing: Testing the Promises. Thousand Oaks, CA: Sage.

Bursik, Robert J.
1986 Ecological Stability and the Dynamics of Delinquency. In A. Reiss and M. Tonry (eds) Communities and Crime. Crime and Justice: An Annual Review of Research. Chicago, IL: University of Chicago Press.

Bursik, Robert J. and Harold G. Grasmick.
1993 Neighborhoods and Crime: The Dimensions of Effective Community Control. New York: Lexington.

Bursik, Robert J. and Jim Webb
1982 Community change and crime rate trends: A routine activity approach. American Sociological Review 44:588-608.

California Health and Safety Code Division 10: Uniform Controlled Substances Act.
1972 (amended 1992).

Cheh, Mary M.
1991 Constitutional Limits on Using Civil Remedies to Achieve Criminal Law Objectives: Understanding and Transcending the Criminal-Civil Law Distinction." The Hastings Law Journal, 42:1325-1413.

Cronbach, Lee J. and Lita Furby
1970 How should we measure "change" or should we? Psychological Bulletin 74: 68-80.

Davis, Robert C. & Lurigio, Arthur J.
1996 Fighting Back: Neighborhood Antidrug Strategies. Thousand Oaks, CA: Sage Publications.

Davis, Robert C., Smith, Barbara A., Lurigio, Arthur J., & Skogan, Wesley G.
1991 Community Responses to Crack: Grassroots Anti-drug Programs. Report to the National Institute of Justice. New York: New York City Victim Services Agency.

Eck, John E.
1994 Drug markets and drug places: A case control study of the spatial structure of illicit drug dealing. Unpublished doctoral dissertation, University of Maryland.

Eck, John E. and Julie Wartell
Forth. Improving the management of rental properties with drug problems: A randomized experiment. In Lorraine Green Mazerolle and Jan Roehl (eds) Civil Remedies and Crime Prevention, Crime Prevention Studies, Monsey, NY: Criminal Justice Press.

Feldman, J. and Trapp, S.
1990 Taking Our Neighborhoods Back. Chicago: National Training and Information Center.

Felson, Marcus.
1995a Those who discourage crime. In John E. Eck and David Wesiburd (eds.), Crime and Place: Crime Prevention Studies Vol 4. Washington, DC: Police Executive Research Forum.

1995b I got rhythms: crime rhythms and routine activities. Paper presented at the Annual Meetings of the American Society of Criminology, Boston, Massachusetts.

Fox, John
1991 Regression Diagnostics. Newbury Park, CA: Sage.

Gilsinian, James F.
1989 They is clowning tough: 911 and the social construction of reality. Criminology 27: 329-344.

Green, Lorraine.
1995 Cleaning up drug hot spots in Oakland, California: The displacement and diffusion effects. Justice Quarterly 12:737-754.

1996 Policing Places with Drug Problems. Thousand Oaks, CA: Sage.

Greenberg, Stephanie W. and William M. Rohe.
1986 Informal social control and crime prevention in modern urban neighborhoods. In Ralph B. Taylor (ed.), Urban Neighborhoods: Research and Policy. New York: Praeger.

Hansen, K.J.
1991 An Exploratory Study of the Extension of Local Empowerment through Community Policing. Unpublished paper.

Hirshfield, Alex, Peter Brown and Kate Bowers.
1996 New perspectives on relationships between crime, neighborhood location, social cohesion and disadvantage in urban areas. Paper presented at the Annual Meetings of the American Society of Criminology, Chicago.

Hope, Timothy
1994 Problem-Oriented Policing and Drug Market Locations: Three Case Studies. In Ronald V. Clarke (Ed). Crime Prevention Studies. Volume 2: 5-32. Monsey, N.Y.: Criminal Justice Press.

Kennedy, David
1993 Closing the market: controlling the drug trade in Tampa, Florida. National Institute of Justice Program Focus. U.S. Department of Justice: Washington D.C.

Klinger, David A. and George S. Bridges
1997 Measurement error in calls-for-service as an indicator of crime. Criminology 35(4):705-726.

Lipsey, Mark.
1990 Design Sensitivity: Statistical Power for Experimental Research. Newbury Park, CA: Sage.

Moore, Mark H. and Kleiman, Mark A.
1989 The Police and Drugs. Perspectives on Policing, Volume 11. Washington, DC: National Institute of Justice.

National Crime Prevention Council
1992 Creating a Climate of Hope: Ten Neighborhoods Tackle the Drug Crisis. Washington, DC: National Crime Prevention Council.

1996 New Ways of Working with Local Laws to Prevent Crime. Washington, DC: National Crime Prevention Council.

Neter, John, William Wasserman and Michael H. Kutner.
1990 Applied Linear Statistical Models: Regression, Analysis of Variance, and Experimental Designs. (3rd edition) Homewood, IL: Irwin.

Oakland Office of Community Development.
1992 Data on the City of Oakland.

Park R.E., Burgess, E., and McKenzie,R.
1925 The City. Chicago: University of Chicago Press.

Perkins, Douglas D. and Ralph B. Taylor.
1996 Ecological assessments of community disorder: Their relationship to fear of crime and theoretical implications. American Journal of Community Psychology 24: 63-107.

Reiss, Albert J.
1971 The Police and the Public. New Haven: Yale University Press.

Roehl, Jan, Wong, Henry and Andrews, C.
1997 The Use of Civil Remedies by Community Organizations for Neighborhood Crime and Drug Abatement. Pacific Grove, CA: Institute for Social Analysis.

Rosenbaum, Dennis P. and Paul J. Lavrakas.
1995 Self-reports about place: The application of survey and interview methods to the study of small areas. In John E. Eck and David Weisburd (eds.), Crime and Place: Crime Prevention Studies Vol 4. Washington, DC: Police Executive Research Forum.

Rosenbaum, Dennis P., Bennett, S.F., Lindsay, B.D., Wilkinson, Deanna L., Davis, B.D., Taranowski, C., & Lavrakas, P.J.
1992 Executive Summary: The Community Responses to Drug Abuse National Demonstration Program Final Process Evaluation Report. Chicago: Center for Research in Law and Justice, University of Illinois.

Sampson, R.J., S.W. Raudenbush, and F. Earls.
1997 Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy. Science 277: 918-924.

Scott, Eric J.
1981 Calls for service: citizen demand and initial police response. Washington D.C.: National Institute of Justice

Sherman, Lawrence W.
1990 Police Crackdowns: Initial and Residual Deterrence. In M. Tonry & N. Morris (Eds.), Crime and Justice: A Review of Research, Volume 12: 1-48. Chicago: University of Chicago Press.

Sherman, Lawrence W., Patrick Gartin and Michael E. Buerger
1989 Hot spots of predatory crime: routine activities and the criminology of place. Criminology 27: 27-55.

Sherman, Lawrence, James W. Shaw and Dennis Rogan
1995 The Kansas City Gun Experiment: Research in Brief. Washington D.C.: National Institute of Justice

Sherman, Lawrence and David Weisburd
1995 General deterrent effects of police patrol in crime hot spots: a randomized controlled trial. Justice Quarterly 12(3):625-648.

Skogan, Wesley and Hartnett, S.
1997 Community Policing, Chicago Style. New York: Oxford University Press.

State of California, Department of Finance.
1996 Population Estimates for California Cities and Counties, January 1, 1996 and 1995. Report 96 E-1. Sacramento, California.

Stenning, P. and C. Shearing.
1980 The quiet revolution: The nature, development, and general legal implications of private security in Canada. Criminal Law Quarterly 22: 220-248.

Taylor, Ralph B.
1988 Human Territorial Functioning. Cambridge: University of Cambridge Press.

1995a The impact of crime on communities. Annals 539: 28-45.

1995b Responses to disorder: relative impacts of neighborhood structure, crime and physical deterioration on residents and business personnel. Final Report for Grant 94-IJ-CX-0018.

1995c Crime and grime: relative impacts of neighborhood structure, crime and physical deterioration on residents and business personnel. Grant Executive Summary.

1995d Going grime reduction: conceptual and practical implications of measuring and distinguishing community disorder. Non-published manuscript. November 1995.

1996a Crime and grime over two decades: Stability, decline, and spatial inequality in Charm City neighborhoods. Draft Executive Summary.

1996b Neighborhood responses to disorder and local attachments: The systemic model of attachment, social disorganization, and neighborhood use value. Sociological Forum 11: 41-74.

1997a Social order and disorder of street-blocks and neighborhoods: Ecology, micro-ecology and the systemic model of social disorganization. Journal of Research in Crime and Delinquency 34: 113-155.

1997b Crime, grime, and responses to crime: Relative impacts of neighborhood structure, crime and physical deterioration on residents and business personnel in the Twin Cities. In Steven P. Lab (ed.), Crime Prevention at a Crossroads. Cincinnati, OH: Anderson.

Taylor, Ralph B. and Adele V. Harrell.
1996 Physical Environment and Crime. Washington, DC: National Institute of Justice.

Taylor, Ralph B., Sally A. Shumaker and Stephen D. Gottfredson.
1985 Neighborhood-level links between physical features and local sentiments: Deterioration, fear of crime, and confidence. Journal of Architecture and Planning Research 2: 261-275.

Taylor, Ralph B., Stephen Gottfredson and Sidney Brower.
1984 Block crime and fear: Defensible space, local social ties, and territorial functioning. Journal of Research in Crime and Delinquency 21(4): 303-331.

Taylor, Ralph B. and Stephen Gottfredson.
1986 Environmental design, crime and prevention: An examination of community dynamics. In Albert J. Reiss, Jr. and Michael Tonry (eds) Communities and Crime. Chicago: University of Chicago Press.

Tobin, James
1958 Estimation in relationships for limited dependent variables. Econometrica 26: 24-36.

Uchida, Craig D., Forst, Brian, and Annan, Sampson.
1990 Modern Policing and the Control of Illegal Drugs: Testing New Strategies in Two American Cities. Washington, DC: Police Foundation.

Warner, Barbara D. and Glenn L. Pierce
1993 Reexamining social disorganization theory using calls for service as a measure of crime. Criminology 31: 493-518.

Weisburd, David.
1993 Design sensitivity in criminal justice experiments. Crime and Justice 17: 337-379.

Weisburd, David and Lorraine Green.
1991 Identifying and Controlling Drug Markets. Technical Report. Newark, NJ: School of Criminal Justice, Rutgers University.

1994 Defining the drug market: The case of the Jersey City DMA system. In Doris L. MacKenzie and Craig D. Uchida (eds.), Drugs and Crime: Evaluating public policy initiatives. Thousand Oaks, CA: Sage.

1995 Policing Drug Hot Spots: Findings from the Jersey City DMA Experiment." Justice Quarterly 12 (4):711-735.

1995 Measuring Immediate Spatial Displacement: Methodological Issues and Problems. In John Eck and David Weisburd (Eds.), Crime and Place: Crime Prevention Studies. Vol. 4, pp. 349-359. Monsey, NY: Criminal Justice Press.

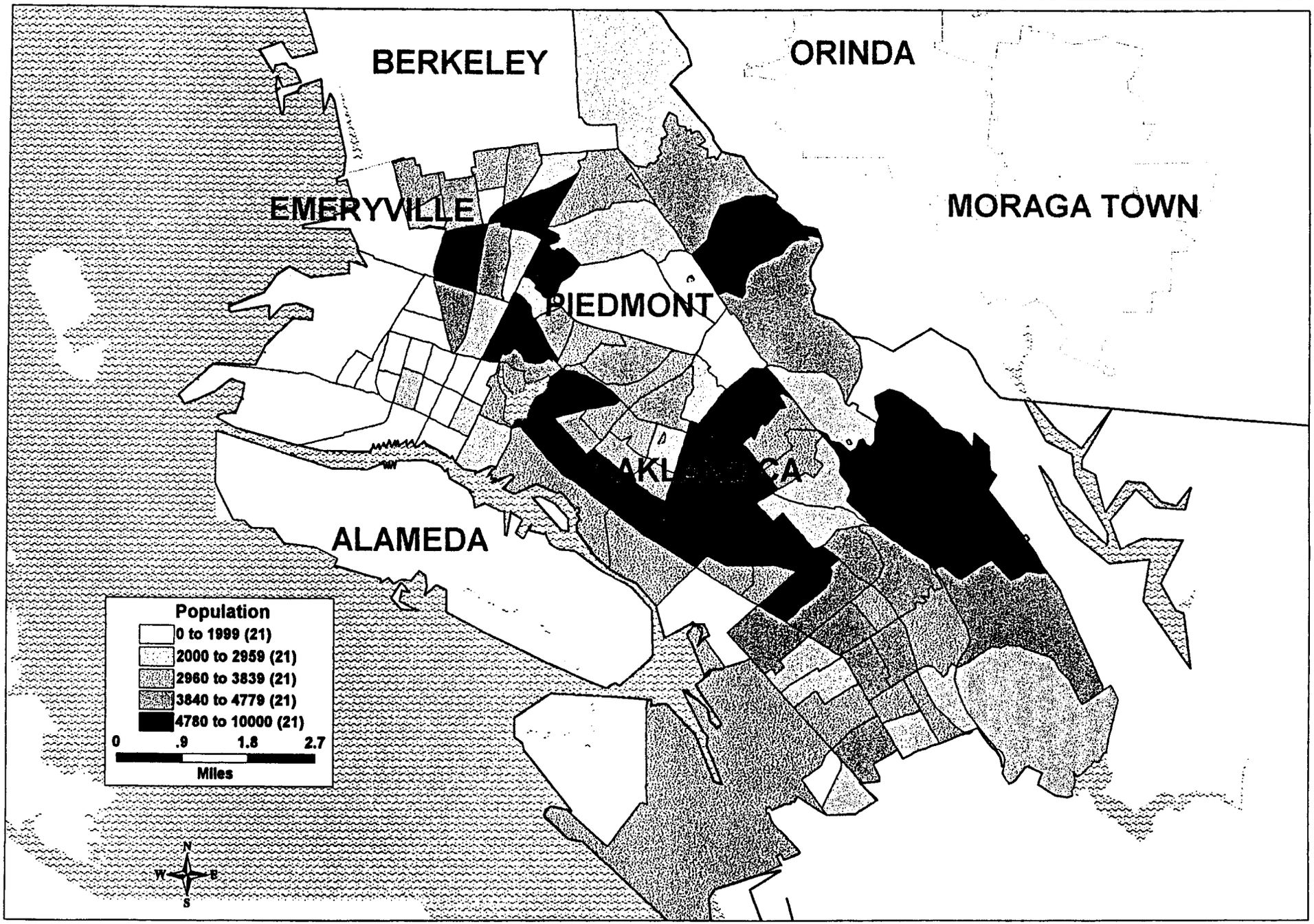
Wicker, Allan W.
1979 An Introduction to Ecological Psychology. Monterey, CA: Brooks/Cole.

Wilson, James Q. and George Kelling.
1982 Broken windows. The Atlantic Monthly March: 29-38.

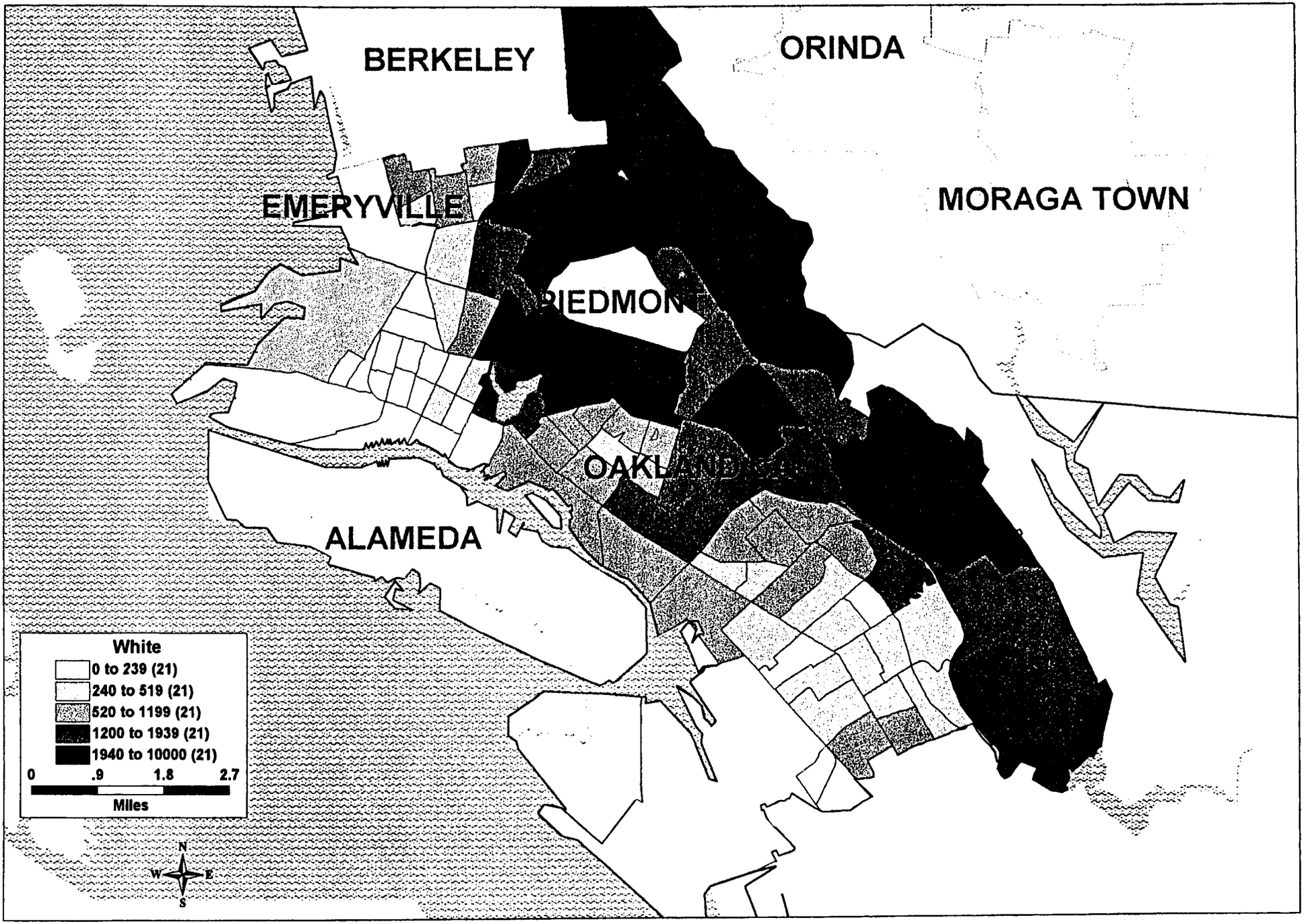
Wooldredge, John D. and L. Thomas Winfree, Jr.
1992 An aggregate-level study of inmate suicides and deaths due to natural causes in U.S. jails. Journal of Research in Crime and Delinquency 29: 466-479.

APPENDIX A

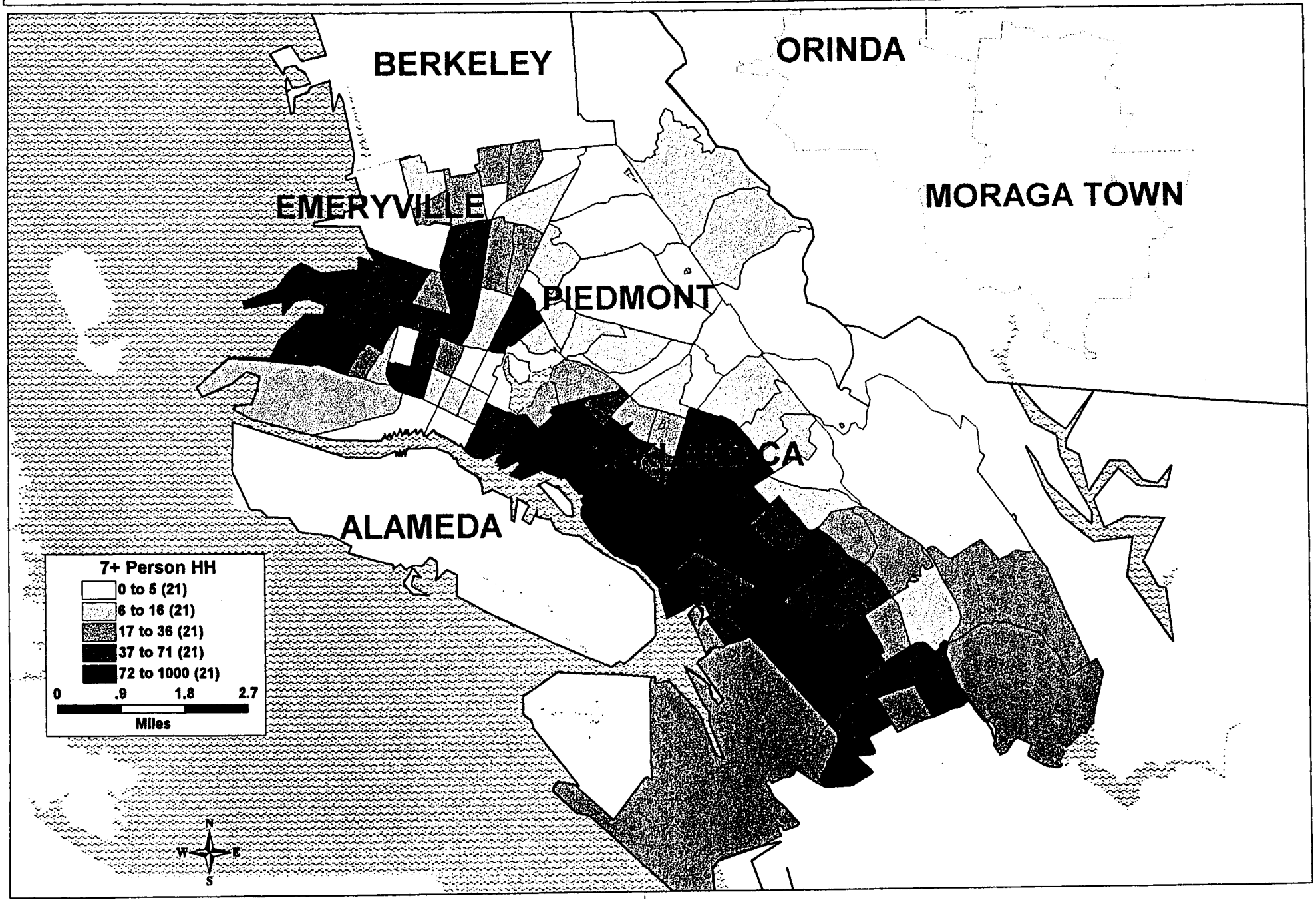
City of Oakland
1990 Population



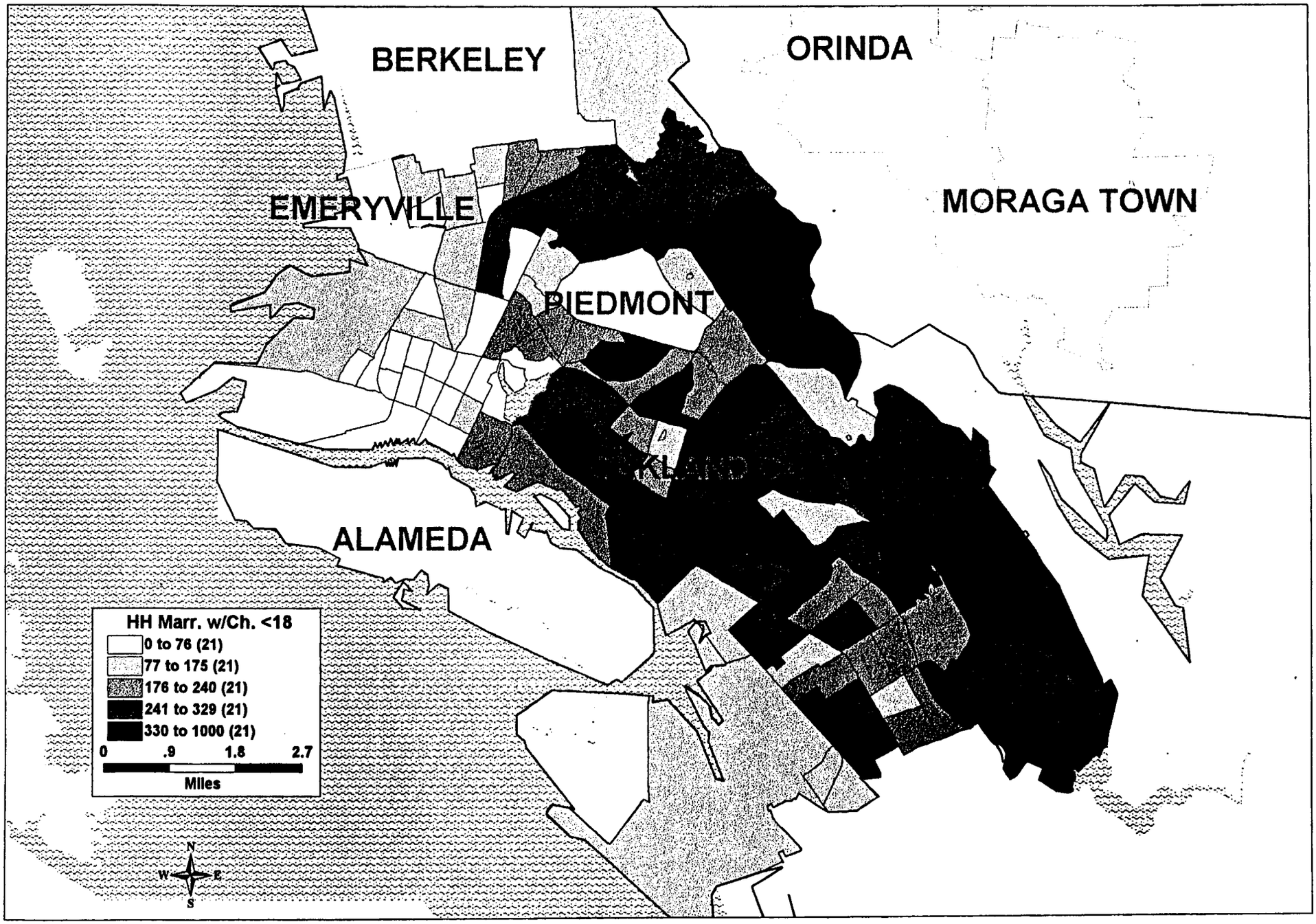
City of Oakland
1990 Population by Race (White)



City of Oakland
7+ Persons in Household (1990)

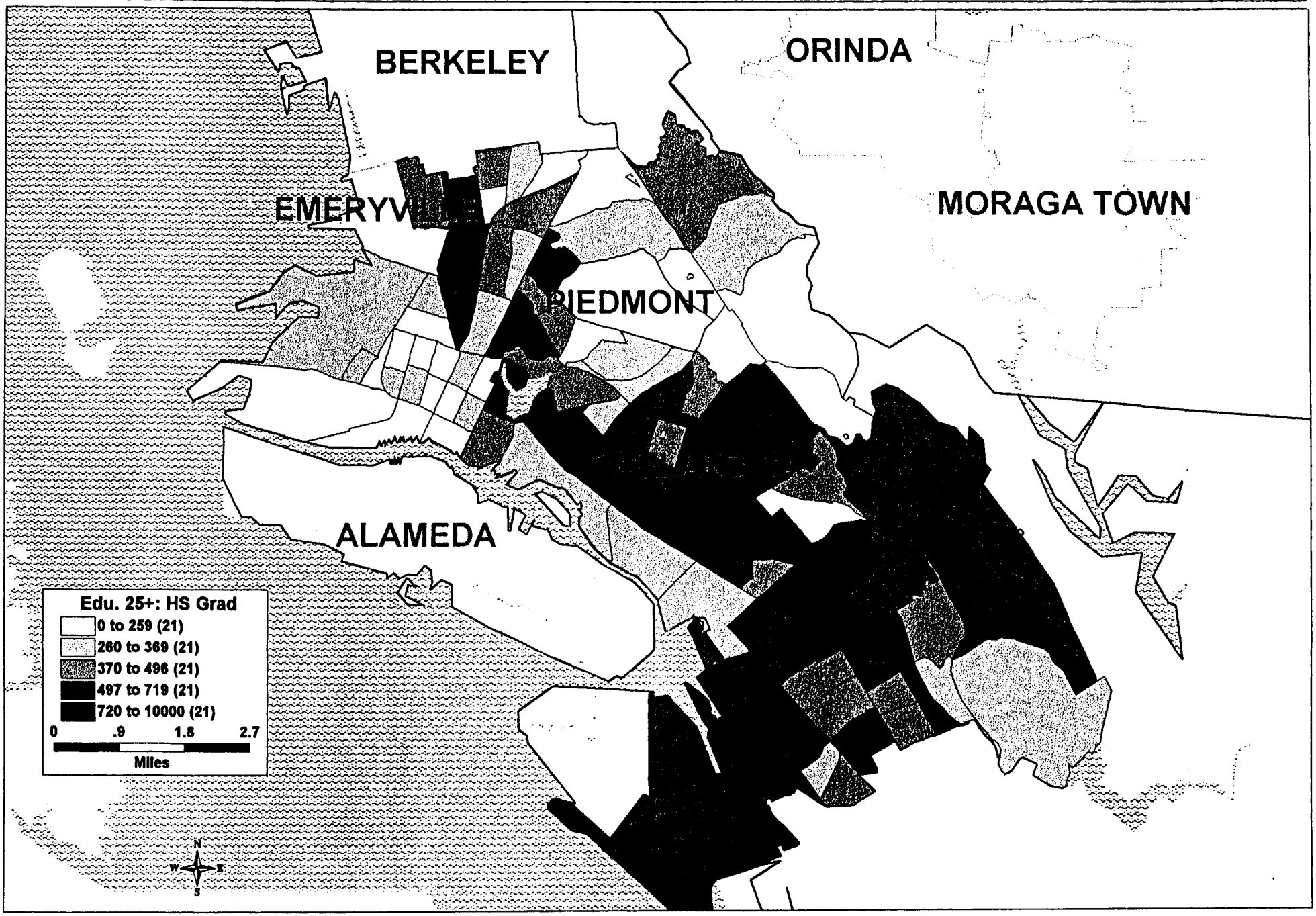


City of Oakland
Household Married with Children < 18 years

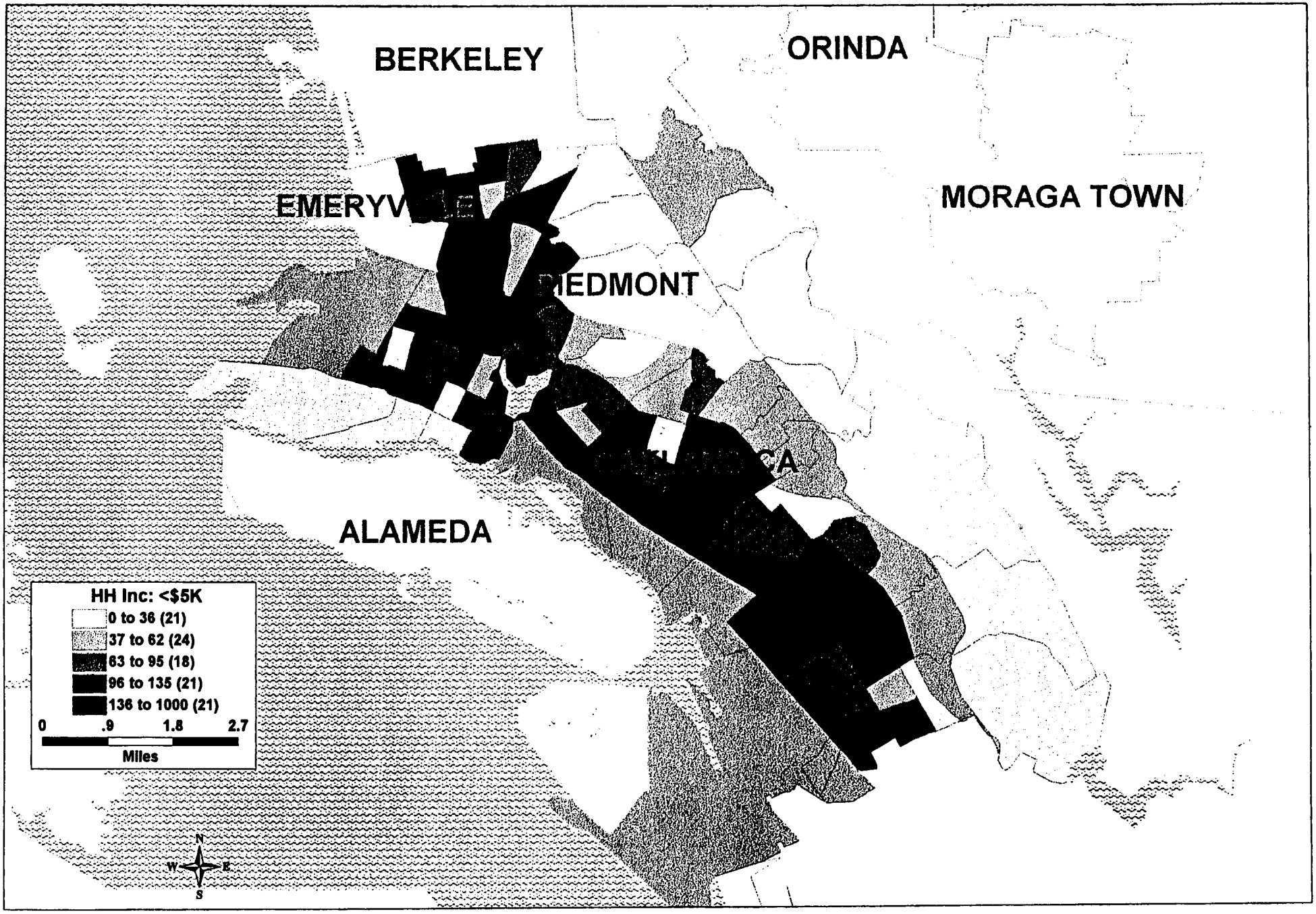


City of Oakland

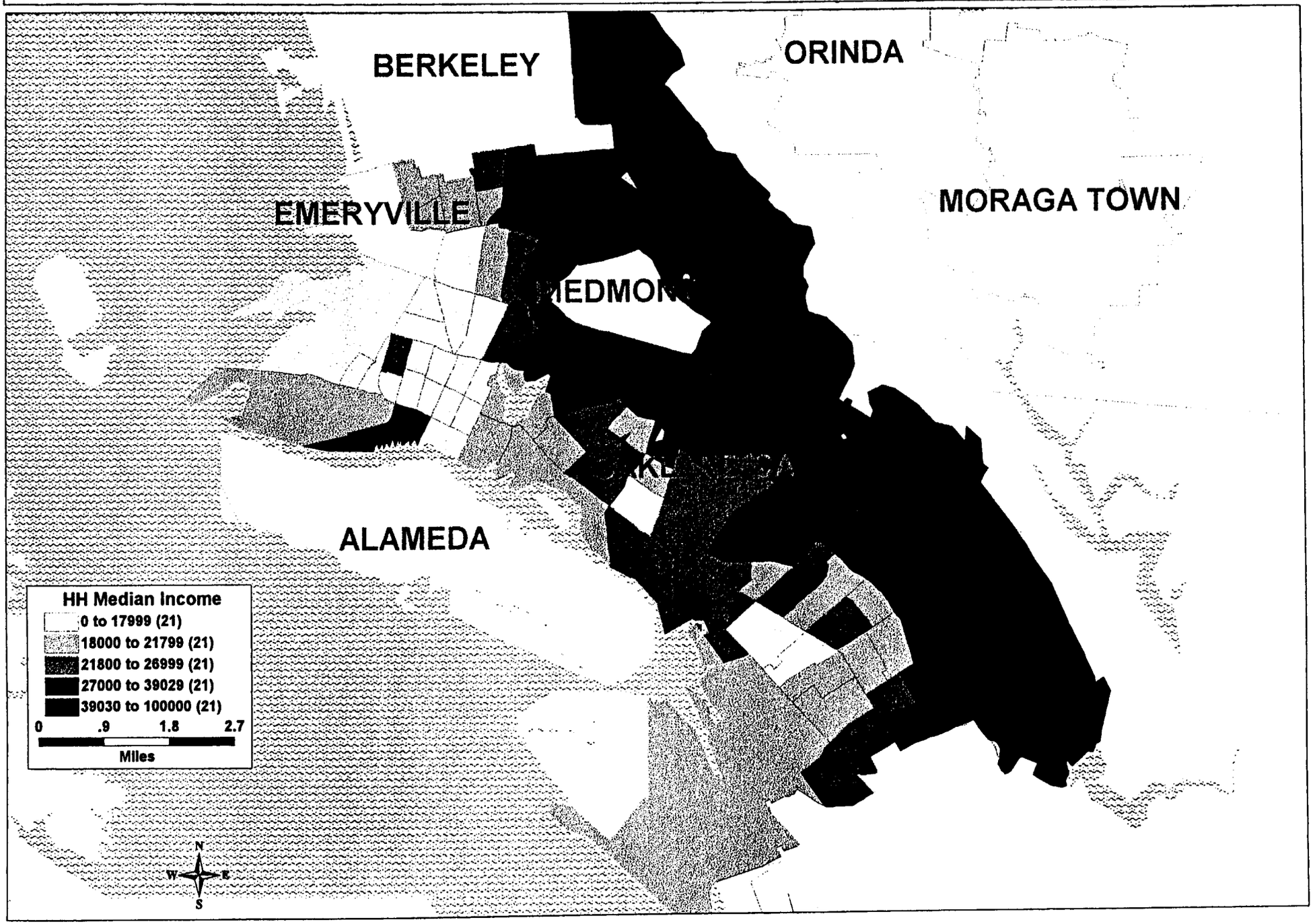
Educational Attainment (25+ High School Graduate)



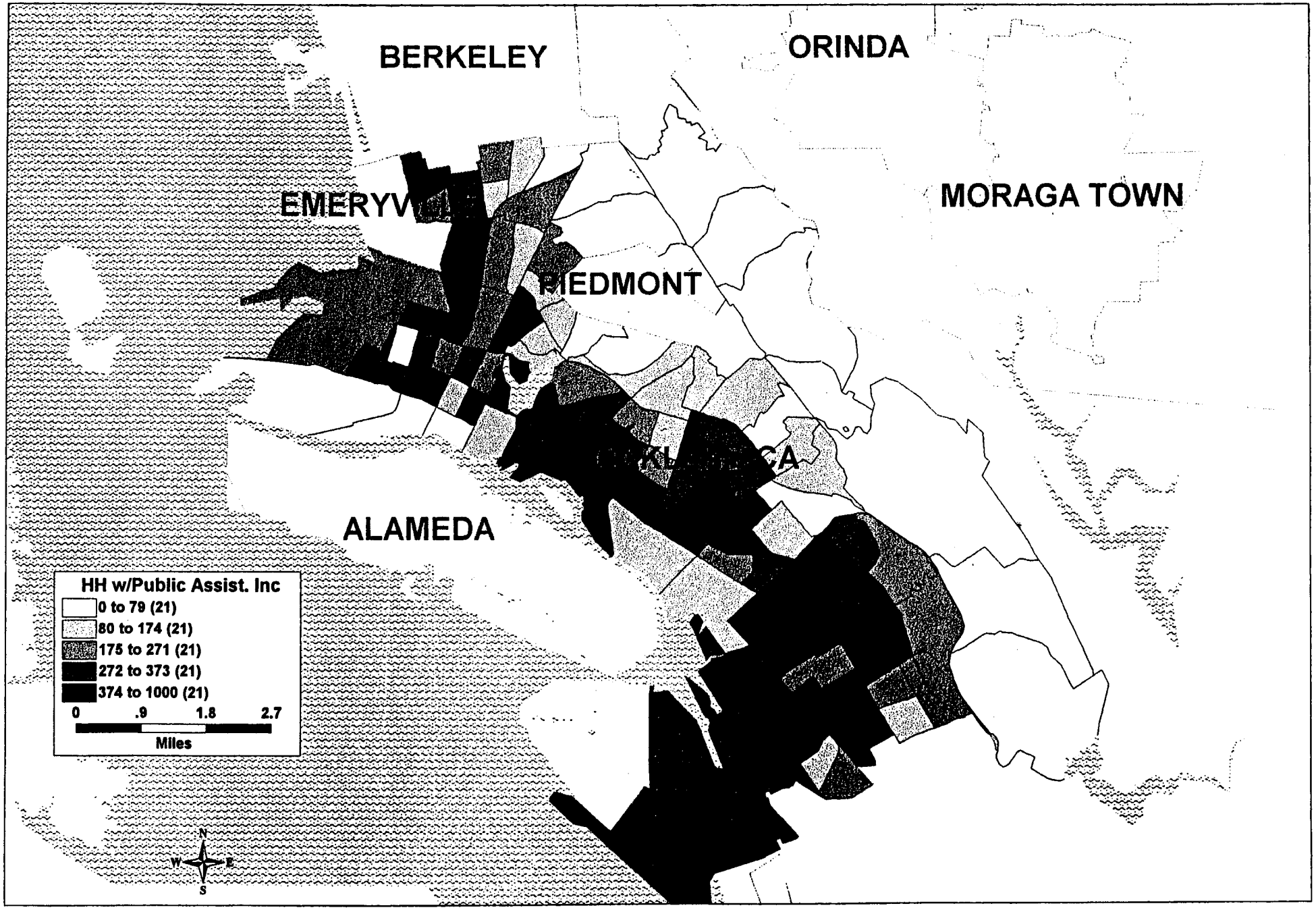
City of Oakland
Household Income in 1989 (< $5,000)



City of Oakland
Median Household Income (1989)

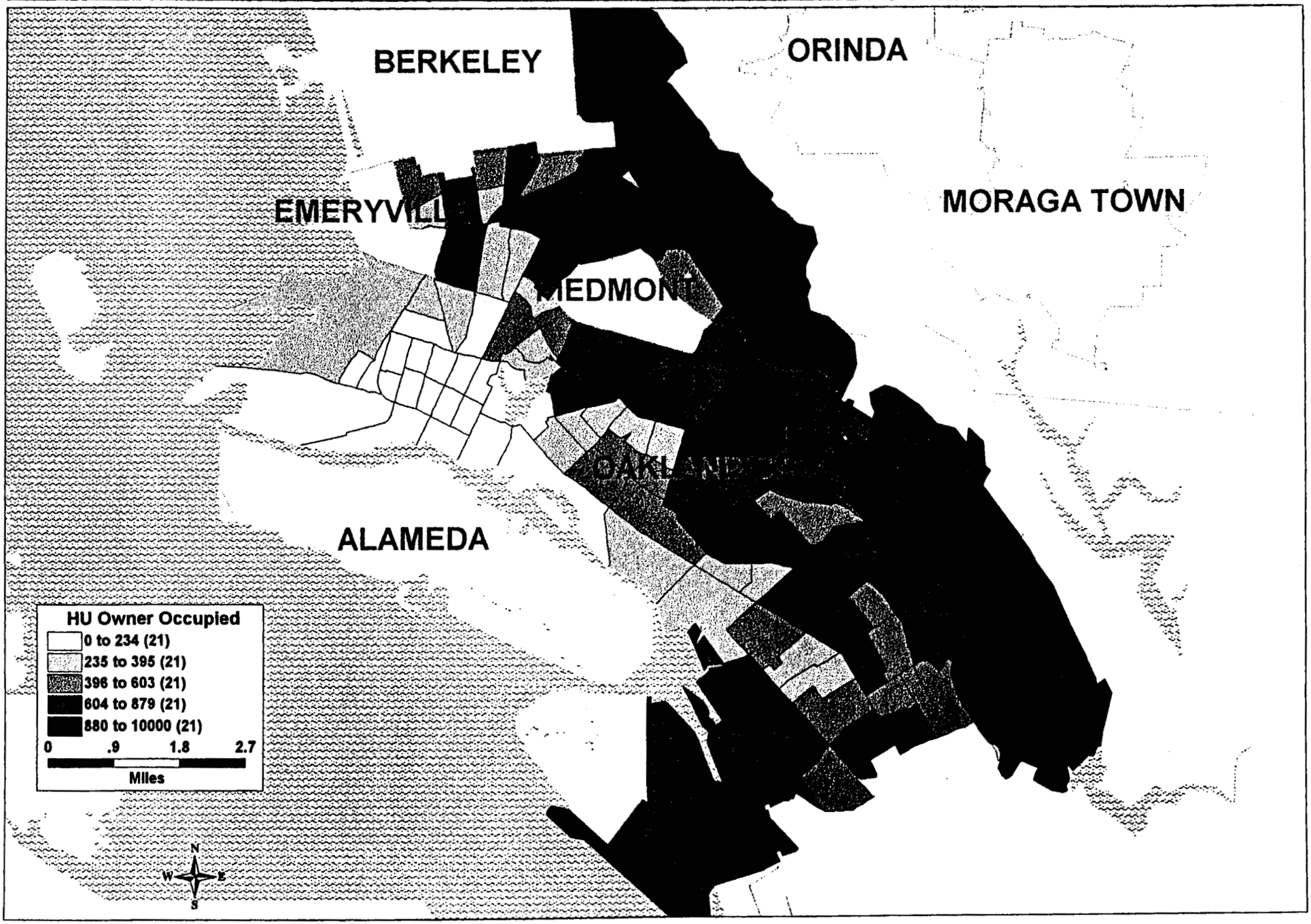


City of Oakland
Households Receiving Public Assistance in 1989

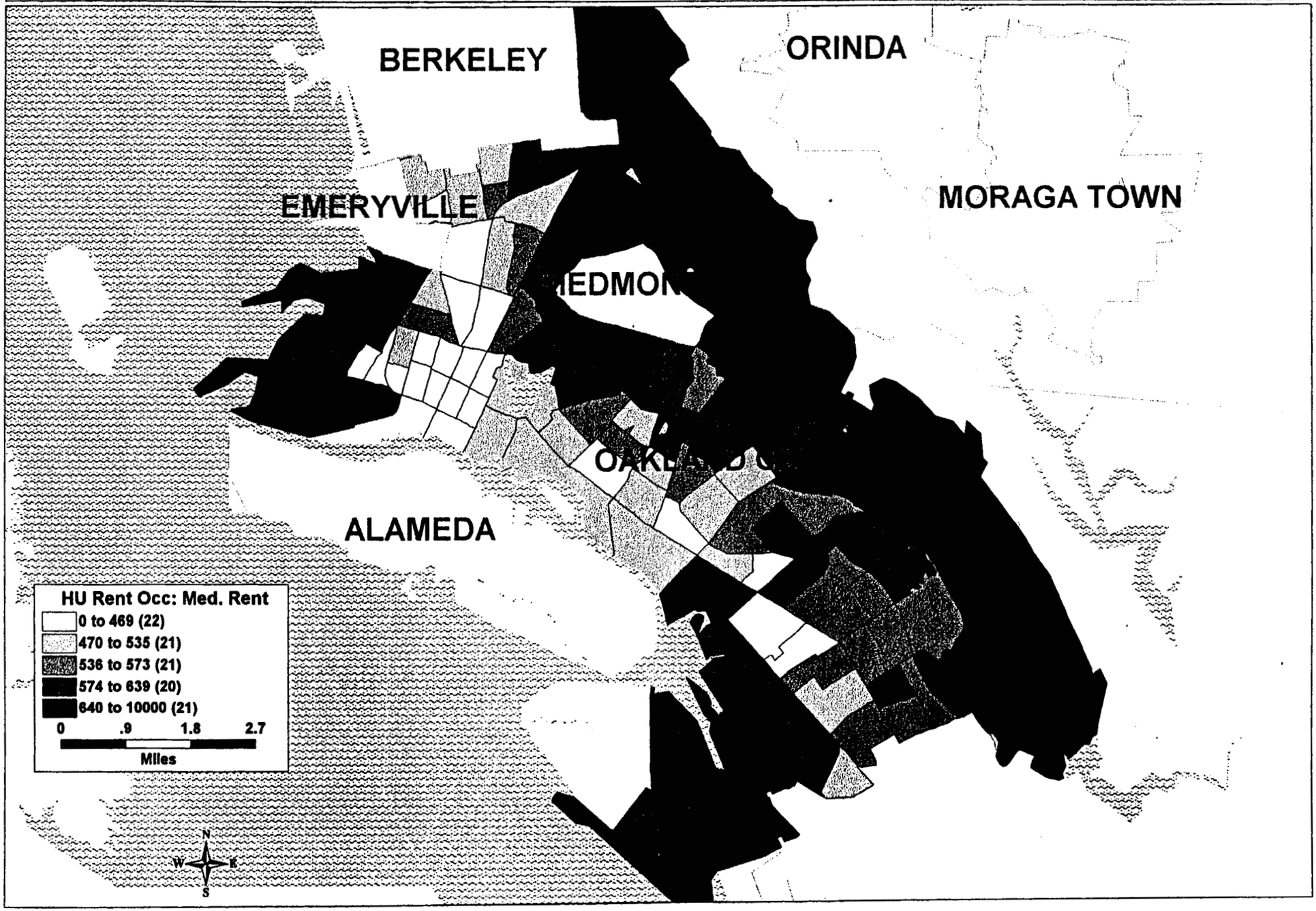


City of Oakland

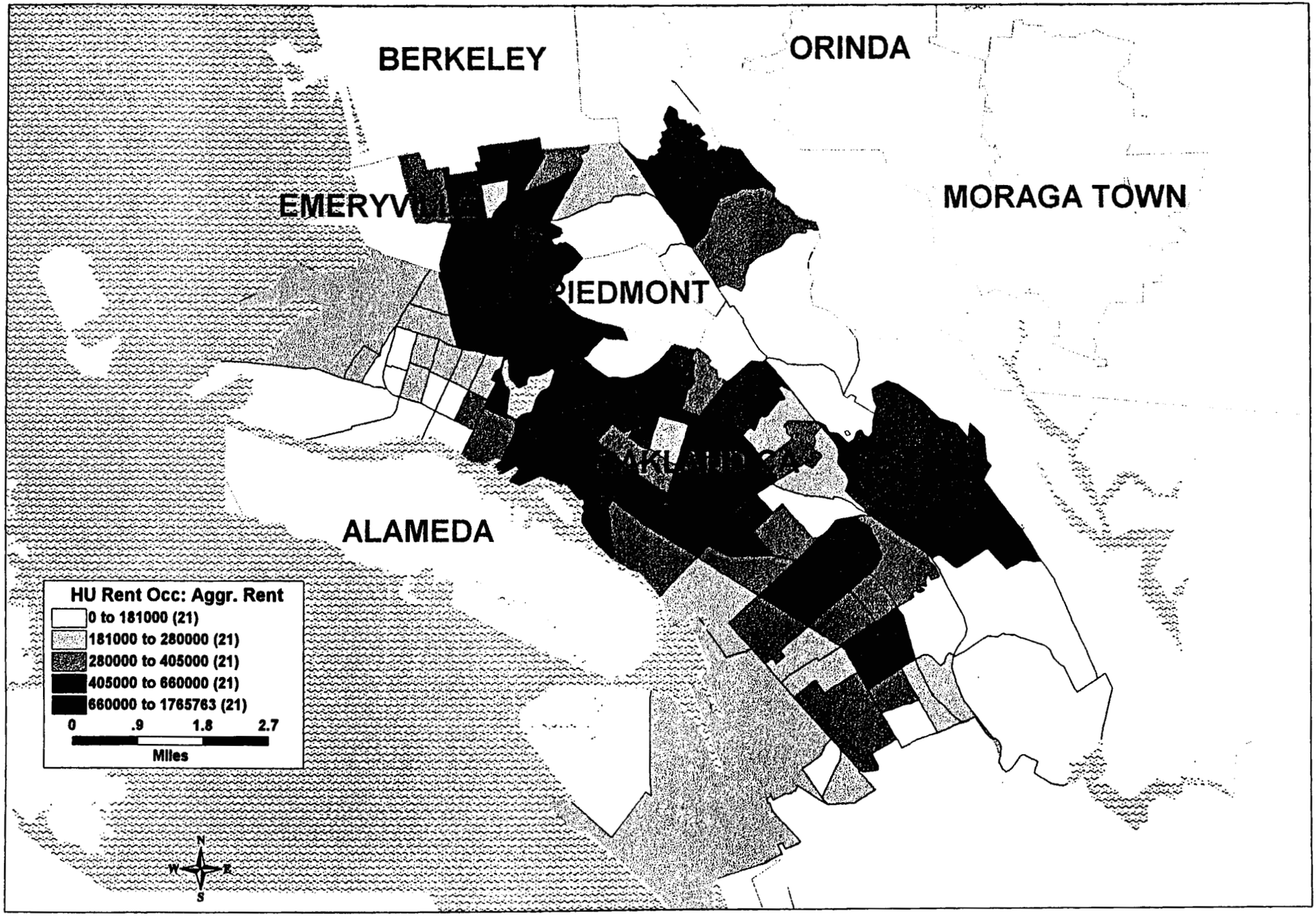
Owner Occupied Housing Units



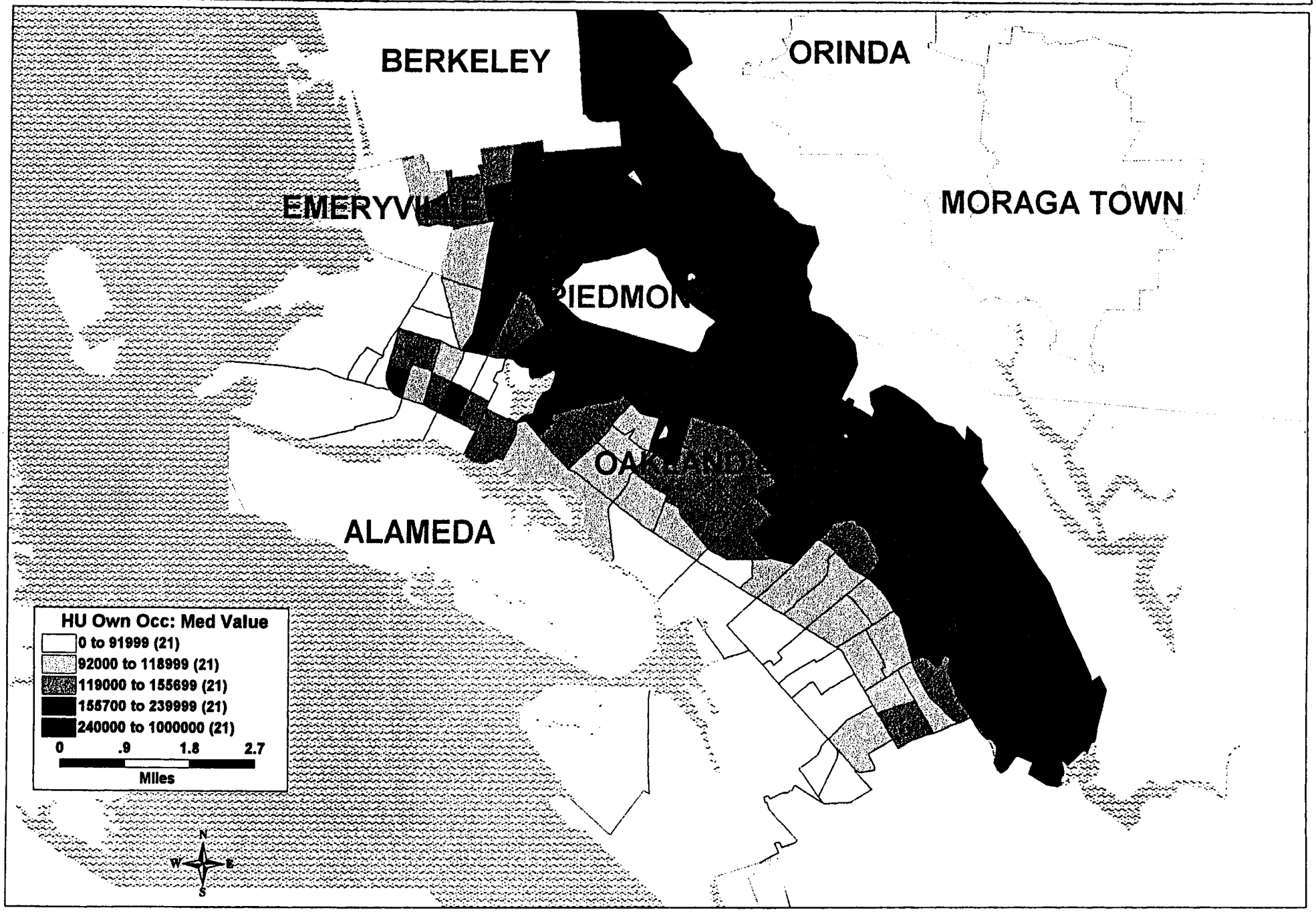
City of Oakland
Median Gross Rent (Renter Occupied Housing Units)



City of Oakland
Aggregate Gross Rent (Renter Occupied Units)



City of Oakland
Median Value Owner Occupied Housing Unit



APPENDIX B

CODEBOOK

Beat Health Study
Community Survey

CCID	SITE	INTNO

Basic Identification Information

Interview ID No. 1-100 | E=1 C=2 | 1-5 [In 3 parts]

Target Address: ADDRESST

Case Control No. _____

Date of interview: _____

Interviewer: _____

Respondent information:
RESPINFO

1 Resident
2 Employee/worker
3 Manager/owner
4 Other:

location type bus=1 resid=2 other=3
• BUSRESR
BUSTYPER 60 - 129
• BUSNAMER

Name of business or institution: _____

Address: ADDRESSR some will be [illegible] 95-5

How respondent was identified: RESPID

1 Obvious place manager because of location
2 Complainant/reporting party
3 Identified by Beat Health officer or NSC
4 Other:

Perceptions of the Problem Location

1. How long have you lived [or worked] at this location?

~~LONG~~ MONTHSAT [enter in months]

No. of years_____ X 12
or months_____

Or since_____ [Put in year] → translate to months.
DON'T KNOW 999

2. In the last four or five months [since last October], would you say this block has become a better place to live/do business, a worse place to live/do business, or stayed about the same? Would say this block is...

BETTER

should be highly corr. w/ changsat

Better, ... 3
Worse, or 1
About the same? 2
DON'T KNOW 9

3. In general, how satisfied are you with this block as a place to live/do business?

SATIS

Very satisfied, ... 4
Somewhat satisfied, ... 3
Somewhat dissatisfied, or . 2
Very dissatisfied? 1
DON'T KNOW 9

4. Compared to four or five months ago [since last October], how satisfied are you now with this block as a place to live/do business? Are you more satisfied, less satisfied, or do you feel about the same as you did in October?

CHANGSAT

More satisfied, ... 3
Less satisfied, or 1
About the same? 2
DON'T KNOW 9

Neighborhood Safety and Use

5. In general, how safe do you feel out alone on this block during the day? Do you feel...

SAFEDAY

Very safe, ... 4
Somewhat safe, ... 3
Somewhat unsafe, or 2
Very unsafe? 1
DON'T KNOW 9

6. Compared to four or five months ago [since last October], do you now feel more safe, less safe, or about the same being alone on this block during the day? Do you feel...

CHANGDAY

More safe, ... 3
Less safe, or 1
About the same? 2
DON'T KNOW 9

7. How safe do you feel about being out alone on this block after dark today? Do you feel...

SAFENITE

Very safe, ... 4
Somewhat safe, ... 3
Somewhat unsafe, or 2
Very unsafe? 1
DON'T KNOW 9
DON'T GO OUT AT NIGHT .. 7

8. Compared to four or five months ago [since last October], do you now feel more safe, less safe, or about the same being alone on this block after dark? Do you feel...

CHANGNIT

More safe, ... 3
Less safe, or 1
About the same? 2
DON'T KNOW 9

9. How often would you say you do the following things -- would you say you do them often (daily, or several times a month), occasionally (several times a month), seldom (once a month or less), or never?

		Often	Occas.	Seldom	Never	N/A
DOA	a. Park your car on the street on this block.	4	3	2	1	7
DOB	b. Walk in the neighborhood.	4	3	2	1	7
DOC	c. Visit a neighborhood park or playground.	4	3	2	1	7
DOD	d. Stop and talk to neighbors on the street.	4	3	2	1	7

Victimization

10. In the past several months [since last October], has your car -- or a car belonging to one of your family members or employees -- been broken into on this block?

CARBROKE
Yes 1
No 2
DON'T KNOW 9

CARTIMES
No. of times:_____
N/A=77

11. In the past several months [since last October], has your house -- or business/institution -- been broken into (i.e., burglarized)?

BURGLARY
Yes 1
No 2
DON'T KNOW 9

BRGTIMES
No. of times:_____
N/A=77

Victimization, Continued

12. In the past several months [since last October], have you -- or a member of your family or one of your employees -- been a victim of one of the following crimes while on this block? [*Check if yes*]

2= No (no check)
1= Yes (checked)

VICA__ a. Threats or insults: No. of times:_____ TIMESA
VICB__ b. Robbery: No. of times:_____ TIMESB 2 digit
VICC__ c. Assault: No. of times:_____ TIMESC
VICD__ d. Other crimes: Specify: No. of times:_____ TIMES D
N/A=77 Daily=90

Perceptions of the Problem Location

13. Are you aware of any problems at or immediately surrounding ...[the problem location -- describe by address, name, description, or indication]?

PROBLEMS
Yes 1
No 2
DON'T KNOW 9

14. Next, I am going to mention several crime and disorder problems. Please tell me whether each of them is currently a big problem, a small problem, or no problem at all at or immediately surrounding the [location just identified]:

		Big problem	Small problem	No problem	
PROBA	a. People "hanging out"	1	2	3	
PROBB	b. Drug dealing	1	2	3	
PROBC	c. Drug use	1	2	3	
PROBD	d. Blight -- trash, junk, graffiti, etc.	1	2	3	
PROBE	e. Nuisances (noise, barking dogs, etc.)	1	2	3	
PROBF	f. Fights, arguments	1	2	3	
PROBG	g. Violence -- shootings, assaults	1	2	3	
PROBH	h. Prostitution	1	2	3	
PROBI	i. Other problems Specify:	1	2	3	9 if blank (NA)

22. Since October, how many times have you seen:

[Circle number of times]

SEENA a. A police car drive by the problem location? 0 1 2 3 4 5 6 7 8 9 10+

SEENB b. A police officer stop at the problem location to talk to someone? 0 1 2 3 4 5 6 7 8 9 10+

SEENC c. A police officer arrest someone at the problem location? 0 1 2 3 4 5 6 7 8 9 10+

SEEND d. A city agency official stop at the problem location to talk to someone? 0 1 2 3 4 5 6 7 8 9 10+

23. Have you been aware of any organized activity or efforts to try to resolve the problems at the problem location?

AWARE

Yes 2
No ..... 1 [Skip to Q28]
DON'T KNOW ..... 9 [Skip to Q28]

24. Please describe the organized activity or efforts you are aware of:

ACTIVITY

25. How effective has this organized activity (or efforts) been in resolving the problem?

EFFRESOL

Very effective, ... 4
Somewhat effective, ... 3
Somewhat ineffective, or .. 2
Very ineffective? 1
DON'T KNOW 9

NA -7

26. Have you been involved in these organized activity or efforts?

RINVOLVE

Yes 2
No ..... 1 [Skip to Q28]

NA -7

27. Please describe your involvement in these organized activities or efforts:

YOURINV

Satisfaction with Police and City Services

28. In general, how responsive are the police in this immediate area to community concerns? Are they...

RESPONSE

Very responsive, ... 4
Somewhat responsive, ... 3
Somewhat unresponsive, or .. 2
Very unresponsive? 1
DON'T KNOW 9

29. How good a job are the police doing in controlling the sale and use of illegal drugs in this immediate area? Are they doing a...

GOODJOB

Very good job, ... 4
Good job, ... 3
Fair job, or 2
Poor job? 1
DON'T KNOW 9

30. Since October, have you talked to a police officer in this immediate area about block issues or concerns?

TALKED

Yes 2
No ..... 1 [Skip to Q32]

31. How often have you have talked to an officer about block concerns in the past four or five months [since October]? Would you say...

OFTTALK

Several times a week, ... 6
Once a week, ... 5
Every other week, ... 4
Once a month, ... 3
Two or three times, or 2
Once? 1
DON'T KNOW 9

NA=7

32. Have you heard of the Oakland Police Department's Beat Health Unit?

BHU

Yes 2
No ..... 1 [Skip to Q34]
DON'T KNOW ..... 9 [Skip to Q34]

Perceptions of the Problem Location, Continued

15. In the last four or five months [since last October], would you say these problems have gotten better, gotten worse, or stayed about the same at or immediately surrounding the problem location?

DID NOT LIVE/WORK HERE IN OCTOBER 9 [Skip to Q16] [enter 9 in CHANGE A-I]

		Better	Worse	Same
HANGEA	a. People "hanging out"	3	1	2
B	b. Drug dealing	3	1	2
C	c. Drug use	3	1	2
D	d. Blight -- trash, junk, graffiti, etc.	3	1	2
E	e. Nuisances (noise, barking dogs, etc.)	3	1	2
F	f. Fights, arguments	3	1	2
G	g. Violence -- shootings, assaults	3	1	2
H	h. Prostitution	3	1	2
I	i. Other problems Specify:	3	1	2

16. To your knowledge, have any tenants (or business owners) left or been evicted from the problem location in the past four or five months [since last October]?

EVICTED

Yes, problem tenants have left or been evicted 4
Yes, but no real change resulted 3
Yes, "good" tenants have left 2
No 1
DON'T KNOW 9

17. In your own words, please summarize any and all changes you have noticed at this location in the past four or five months [since October]:

CHANGSUM

Knowledge and Involvement in Problem Solving

18. In the past four or five months [since October], have you done any of the following to try to resolve the problems at the problem location [use address, name, or description again]? [*Check if yes. If none, skip to Q22*] 1 = checked (yes) 2 = no check (no)

RESOLVEA
- ___ a. Called the police using 911.
- B___ b. Called the police drug hotline.
- C___ c. Spoken to the owner/manager of the problem location.
- D___ d. Spoken to the tenants of the problem location.
- E___ e. Confronted the buyers/dealers/criminals loitering at the problem location.
- F___ f. Called a city agency (other than the police) regarding the problem location.
- G___ g. Done something on your own to resolve the problem (e.g., evicted tenants, boarded up windows).
- H___ h. Called or met with a community organization to try to resolve the problems.
- I___ i. Worked with police or other city agencies to resolve the problem.
- J___ j. Attended landlord training or other training program.

19. Why have you tried to resolve problems at this location -- what has motivated you? [Probes: Do the problems hurt your business? Threaten you or your famiiy?]

WHYRESOL

20. How effective do you feel your efforts have been? Have they been...

EFFECT

Very effective, ... 4
Somewhat effective, ... 3
Somewhat ineffective, or 2
Very ineffective? 1
DON'T KNOW 9

Not applicable/blank = 7

21. Which of your efforts have been most effective, if any?

WHICHEFF

Satisfaction with Police and City Services, Continued

33. What can you tell me about the Beat Health Unit?

34. How satisfied are you with the following city services on this block? Would you say you are very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with...

	Very Satis.	Somewhat Satis.	Somewhat Dissat.	Very Dissat.
EA a. Street cleaning	4	3	2	1
B b. Garbage pick-up	4	3	2	1
C c. Sewer and sidewalk maintenance	4	3	2	1
D d. Building inspections for safety violations	4	3	2	1
E e. Rodent/roach inspections and control	4	3	2	1

35. Compared to four or five months ago [since last October], in general are you more satisfied, less satisfied, or do you feel about the same about city services on this block?

CHANGSRV

More satisfied, ... 3
Less satisfied, or 1
About the same? 2
DON'T KNOW 9

Informal Social Control and Community Involvement

36. In some neighborhoods, people do things together and help each other. In other neighborhoods, people mostly go their own way. In general, what kind of neighborhood would you say this is? Is it one in which...

OWNWAY

People help each other, or . 2
People go their own way? .. 1
DON'T KNOW 9

Informal Social Control, Continued

37. In general, if some 12 year old youth were spray painting a wall in this neighborhood, how likely is it that residents would tell them to stop? Would you say it was...

ISC

Very likely, ... 4
Somewhat likely, ... 3
Somewhat unlikely, or 2
Not likely at all? 1
DON'T KNOW 9

38. If there was a problem needing some services from a city agency today, how likely is it that residents would take steps to get the problem solved? Would you say it would be...

EMPOWER

Very likely, ... 4
Somewhat likely, ... 3
Somewhat unlikely, or 2
Not likely at all? 1
DON'T KNOW 9

39. During the past year, have you attended or participated in any of the following events in this immediate neighborhood? [*Check if yes*]

1 = checked (yes)
2 = no check (no)

PART A ___ a. Meetings of a community group concerned with local problems.
" B ___ b. Community fair.
" C ___ c. Anti-drug rally, vigil, or march.
" D ___ d. Neighborhood clean-up project.
" E ___ e. Citizen patrol.
" F ___ f. Organized observations of drug activity.
" G ___ g. Neighborhood or block watch program.

Respondent Information

Finally, I would like to ask a few questions about you.

40. In what year were you born?

YEAR

Year_____
Refused 8

41. Are you presently employed full-time, part-time, a student, a homemaker, or unemployed? [Circle one or two categories as needed.]

EMPLOY1, EMPLOY2

Working full-time 1
Working part-time 2
Homemaker 3
Unemployed 4
Retired 5
Disabled 6
Full-time student 7
Part-time student 8
Other 9
REFUSED 88
DON'T KNOW 99
NA= 77 (use for EMPLOY2 if only one is circled)

[ANSWER Q42 AND Q43 BY OBSERVATION, ONLY IF OBVIOUS]

42. What is your racial or ethnic identity? Are you...

RACE

Black/African-American, 1
White, ... 2
Hispanic/Latino, ... 3
Asian/Pacific Islander, .. 4
American Indian, or 5
Something else? 6
REFUSED 8
DON'T KNOW 9

43. Respondent sex:

SEX

Male 1
Female 2

44. Finally, my supervisor checks my work by calling a small number of those I interview, to confirm the interview was done. Could I please have your first name only, and phone number, for this purpose?

Name_____Number_____

Refused 8
No phone 2

THANK YOU! YOU HAVE BEEN VERY HELPFUL.