Preventing Crime and Arson:
A Review of Community-Based Strategies

Royer F. Cook
Janice A. Roehl

Institute for Social Analysis

Preventing Crime and Arson:
A Review of Community-Based Strategies

Royer F. Cook
Janice A. Roehl

Institute for Social Analysis

Preventing Crime and Arson:
A Review of Community-Based Strategies

Royer F. Cook, Ph.D.
Janice A. Roehl, M.S.

Institute for Social Analysis
Reston, Virginia

July 1983

Prepared under Purchase Order HUD 7174-82
from the Department of Housing and Urban Development

TABLE OF CONTENTS

		Page
I.	Introduction	1
II.	Urban Crime: Roots and Current Trends	3
	Dynamics and Causes of Urban Crime	3
	Crime and Neighborhood Deterioration	4
	The Special Case of Arson	5
III.	Approaches to Neighborhood-Based Crime and Arson Prevention Efforts	7
	Basic Roots of Approaches to the Prevention and Control of Crime and Arson	7
	Existing Approaches to Neighborhood-based Crime Prevention Efforts	8
	Existing Approaches to Neighborhood-Based Arson Prevention Efforts	10
IV.	How They Work: Issues and Central Dynamics of Neighborhood-Based Crime and Arson Prevention Efforts	13
	Conceptual Framework and Key Issues in the Operation of Neighborhood-Based Anti-Crime Efforts	13
	Conceptual Framework and Key Issues in the Operation of Neighborhood-Based Anti-Arson Efforts	18
V.	Community Crime Prevention Models	25
	Neighborhood Watch: Generic Model	25
	Neighborhood Watch Case Study: The Northwest Neighborhood Federation	29
	Crime Prevention Through Environmental Design: Generic Model	32
	Crime Prevention through Environmental Design Case Study: The Hartford Neighborhood Crime Prevention Program	35
	Other Models of Community Crime Prevention	39
VI.	Models of Neighborhood-Based Anti-Arson Efforts	46
	Arson Prediction: Generic Model	46
	The Arson Prediction Case Study: The North Flatbush Arson Research Project	48
	The Development of the Arson Prediction System	48
	Neighborhood Organizing: Generic Model	53
	The Neighborhood Organizing Case Study: The People's Firehouse	54
	The People's Firehouse Arson Prevention Project: Orientation and Approach	54
VII.	Research and Demonstration Agenda	57
	Methodological Issues	57
	Neighborhood-Based Crime Prevention	59
	Neighborhood-Based Arson Prevention	62
	Footnotes	67
	Bibliography	68

I. INTRODUCTION

During the past 25 years urban neighborhoods have become increasingly plagued by crime and the fear that it provokes. In most urban communities, crime is a major worry of residents, a constant concern which undermines feelings of personal security and strains the social fabric of the neighborhood. Indeed, not only does crime exact a terrible toll on its victims, but by spreading fear in a neighborhood, it can alter the daily lives of citizens. It may not always keep them off the streets, "imprisoned in their homes", as the rhetoric suggests, but fear of crime operates in a broad, if sometimes subtle, fashion to shape the behavior of urban residents. A resident of South Philadelphia described the impact of crime on her neighborhood in the following terms:

> People used to sit on their steps in the evening, doors were open. Now the streets are deserted early in the morning and after dark. My mother used to go to church every morning -- she stopped doing it -- she is afraid of having her purse snatched. Many church and social activities here have stopped -- people won't go out at night. (Skogan and Maxfield, 1981, p. 48.)

It is the personal crimes of violence that most frighten citizens -- the rapes and muggings that can strike anyone and can turn tranquil neighborhoods into fearsome alien territory.

The crime of arson is especially pernicious. It not only destroys the homes -- and sometimes the lives -- of residents, but it represents a most dramatic rending of the social fabric. Once underway, arson can spread rapidly to lay waste entire neighborhoods. Indeed, the devastation in areas of the South Bronx as well as parts of Harlem and Brooklyn give the appearance of an air-raid aftermath: block upon block of gutted buildings and blackened brick, dotted with heaps of rubble and ash.

But arson and other crimes need not be uncontrollable. In recent years, notable strides have been made in the prevention and control of crime and arson, and the collective efforts of neighborhood residents have been at the vanguard of these advances.

These neighborhood-based efforts signify a recognition by citizens that it is within their power to halt crime, arson, and neighborhood deterioration. In fact, the evidence of late strongly suggests that citizen activities are as effective--in some cases more so -- than the actions of public safety agencies in stemming such problems. These changes are analogous to the recent shift in peoples' perceptions of health and sickness: just as we have learned that the maintenance of one's health rests mainly in the behavior of the individual (diet, lifestyle, etc.) rather than in the technology of the physician, so are we beginning to realize that the social "health" and safety of the neighborhood rest mainly in the hands of its residents rather than in the response of public safety agencies (although it seems clear that the most effective approaches are those involving citizens in cooperation with public agencies).

Neighborhood-based efforts to prevent crime and arson have two strong characteristics to recommend them. There is accumulating evidence that they can make a definite impact on the problem. Demonstration efforts in various cities have been evaluated, in some cases by fairly rigorous research methods, and although these strategies are not without their weaknesses, the results have generally been positive: residential burglaries have been decreased, citizens

made more secure, torching landlords have been brought to justice. Moreover, most of these strategies are not very costly, an especially significant characteristic in this era of shrinking public revenues. Because they typically rely on the labors of volunteers, operating costs are often negligible.

But of course our story is larger and more complex than that. The activities housed under the rubric of neighborhood-based crime and arson prevention are broad and varied, and although the basic operations of most efforts are fairly simple, some of the approaches have become quite sophisticated. And there is little doubt that the phenomena addressed -- crime and its social correlates -- are complex in their roots and their dynamics. Nonetheless, neighborhood-based citizen-controlled crime prevention efforts offer the tantalizing promise that cost-effective means for controlling crime and arson are within our grasp. If such efforts could be mounted on a large scale (they seem to be mushrooming), the potential impact could be stunning. But as promising as these approaches appear to be, they are no easy panacea: some neighborhoods are distressingly resistant to citizen-based crime prevention efforts (a resistance made all the more disturbing in that the reluctant neighborhoods are often those most in need), and once launched, they are not easy to sustain.

In order to understand both the promise and the pitfalls of neighborhood-based crime and arson prevention efforts, we will begin by presenting a brief discussion of the roots and dynamics of urban crime, including consideration of the complex relationship between crime and neighborhood deterioration. The current strategies for attacking the problems of crime and arson -- and they are varied and numerous -- are then described, followed by conceptual analyses of the strategies. We present models of effective neighborhood-based crime and arson prevention, both generic models and actual case studies of exemplary programs. The paper closes with the presentation of a recommended research and development agenda.

II. URBAN CRIME: ROOTS AND CURRENT TRENDS

Dynamics and Causes of Urban Crime

Although there have been significant yearly fluctuations in crime rates, the general trends during the past 25 years have reflected an overall increase in urban crime. The particular roots of crime have been a matter of debate in academic and political circles for many years. The major theoretical perspectives developed to date may be classified into three global categories:

- The individual-based (psychological) perspectives
- The society-based (sociological) perspectives
- The system-based perspectives

The individual-based (psychological) theories of crime emphasize the identification of the types of people who become criminals. This perspective has its roots in the century-old attempts to associate all manner of human characteristics with criminal behavior, from the Lombrosian ideas of skull shape and the criminogenetic notions exemplified by the multi-generation analysis of family records to the recent, more sophisticated physiological and psychological profiles of criminal "types." But the search for that particular combination of chromosomes, neural structures, or personality profiles that leads to crime has been rather fruitless. Its more enlightened vestiges remain in the efforts to identify the prolific offender ("career criminal") for stiffer prosecution and in the work on offender classification. As the power of these individual perspectives waned in light of the recognition that criminal behavior seemed more highly associated with the individual's environment than his particular mix of nucleic acid, the sociological theories began to emerge, tying crime to social conditions. The view that one turns to crime as a function of general social and economic deprivation has become the dominant one in criminology (Silberman, 1978). This view does not discount the influence of individual characteristics in the movement toward delinquency and crime -- psychological traits such as rebelliousness and low impulse control are clearly implicated in the development of criminal behavior -- but the ultimate roots of these traits as well as the subsequent deviant behavior are located in the environment -- the family, the neighborhood, and the peer group.

Despite the relative dominance of the sociological theories, the bulk of attention and resources of the past 15 years (exemplified at the federal level by the now-defunct Law Enforcement Assistance Administration) has been directed toward improving the operations of the criminal justice system. By bolstering the police forces, streamlining prosecution, and increasing the efficiency of the courts and correctional systems, we can (so the rationale went) bring down the crime rates. Although the billions of dollars pumped into the criminal justice system have undoubtedly improved the overall operations of most systems around the country, the impact of these improvements on the crime rate has been slight or nonexistent. And yet there remains some "common sense" appeal to the system-based perspective: to the extent that criminals perceive little risk of apprehension and punishment they are not likely to be deterred. Moreover, it is a much simpler proposition to place a cop in a neighborhood than to bring about a massive improvement in the social and economic condition of that neighborhood.

These theoretical perspectives are rarely mutually exclusive; rather, they locate the major causal roots of crime in a particular set of dynamics -- in the flaws of the individual, in the failure of society and its principal institutions, or in the deficiencies and inefficiencies of the criminal justice system. Although each perspective has had its heyday (and each retains its hard core of devotees),

it is probably safe to say that there is a growing recognition that all play roles of more or less significance in virtually any criminal act. Of course, neighborhood-based anti-crime initiatives (or "community crime prevention", as it is more generically labeled in the literature) are most relevant to the sociological theories. They assume that much crime is a function of the social dynamics and physical/economic condition of the community. And although there are differences of opinion about how to prevent and combat crime, most astute observers agree that the roots of crime lie in the social environment.

Crime and Neighborhood Deterioration

The relationship between crime and neighborhood deterioration is a complex one. It seems clear, however, that the causal avenue is rarely a one-way street: increases in crime doubtless contribute to the erosion of the social and economic foundations in the community, and even the most subtle deterioration of the neighborhood -- litter, incivil behavior, unrepaired buildings -- seems to serve as an invitation to crime.

This issue was addressed by James Wilson and George Kelling in a recent article appropriately entitled "Broken Windows":

> At the community level, disorder and crime are usually inextricably linked, in a kind of developmental sequence. Social psychologists and police officers tend to agree that if a window in a building is broken and is left unrepaired, all the rest of the windows will soon be broken. This is as true in nice neighborhoods as in run-down ones. Window-breaking does not necessarily occur on a large scale because some areas are inhabited by determined window-breakers whereas others are populated by window-lovers; rather, one unrepaired broken window is a signal that no one cares, and so breaking more windows costs nothing... (Wilson and Kelling, 1982, p. 31).

Wilson and Kelling further suggest that untended property becomes fair game for people out for fun or plunder, and that:

> ..."untended" behavior also leads to the breakdown of community controls. A stable neighborhood of families who care for their homes, mind each other's children, and confidently frown on unwanted intruders can change, in a few years or even a few months, to an inhospitable and frightening jungle. A piece of property is abandoned, weeds grow up, a window is smashed. Adults stop scolding rowdy children; the children, emboldened, become more rowdy. Families move out, unattached adults move in. Teenagers gather in front of the corner store. The merchant asks them to move; they refuse. Fights occur. Litter accumulates. People start drinking in front of the grocery; in time, an inebriate slumps to the sidewalk and is allowed to sleep it off. Pedestrians are approached by panhandlers (Wilson and Kelling, 1982, p. 32).

At this point it is not inevitable that serious crime will flourish, but, say Wilson and Kelling, such an area is certainly "vulnerable to criminal invasion."

> Though it is not inevitable, it is more likely that here, rather than in places where people are confident they can regulate public behavior by informal controls, drugs will change hands, prostitutes will solicit, and cars will be stripped. That the drunks will be robbed by boys who do it as a lark, and the prostitutes' customers will be robbed by men who do it purposefully and perhaps violently. That muggings will occur (Wilson and Kelling, 1982, p. 32).

But although most agree that crime and neighborhood deterioration are linked (indeed, when a citizen remarks that "the neighborhood is deteriorating", crime is often a part of that deterioration), "deterioration" has many definitions. Its manifold meanings range from physical deterioration (e.g., crumbling housing stock) to social hostilities and "incivilities" to the individual's sense of alienation from his neighbors and loss of community. Skogan and Maxfield (1981) have explored the specific issues of physical deterioration and crime as well as the broader issue of disorder and crime:

> ...in our field investigations we learned that an abandoned building is a source of considerable distress to residents of a community. People believe that tramps will break into empty buildings to escape the cold and sleep; then "drug dealers" will ply their trade in them, marketing among youths in the area. Criminals of various sorts are thought to base their operations there, making it dangerous even to walk near an abandoned structure. At the very least vandals will deface an empty building, and perhaps loot it. Finally, abandoned buildings become targets for casual arson, and seem to have a high chance of being set afire. This threatens neighboring homes as well. It may not take much abandonment to constitute a community problem (Skogan and Maxfield, 1981, p. 92).

Skogan and Maxfield's survey of neighborhoods in ten cities found high correlations (between .76 and .90) between the number of abandoned buildings perceived by residents and other "signs of crime": drug use, vandalism, and teenagers "hanging out" on the streets.

As a methodological note it is interesting that these investigators used survey reports to assess deterioration. It is also possible to utilize more objective indices of abandonment and deterioration; e.g., official occupancy rates from municipal housing records, actual counts of abandoned buildings, observers' ratings of the physical condition of buildings and homes in the neighborhood, and trends in assessed value as gathered from municipal housing records. Any of these indices may then be correlated with crime and arson rates.

Finally, there is further support for a substantial link between the physical and social condition of a neighborhood and crime (and fear of crime) in the data from several field experiments where the physical (and sometimes the social) environment was experimentally manipulated (Heinzelmann, 1981).

It seems evident that the general relationship is fairly strong, but that the causal dynamics are complex. Physical deterioration, a breakdown in informal social controls, and crime appear tightly intertwined, each feeding off the other. And no one has yet identified (it may not be feasible) the specific type and strength of social-environmental indicators which signal that serious crime is imminent. Further research should explore these issues, utilizing several of the measurement approaches mentioned above.

The Special Case of Arson

Arson is a crime quite unlike other felonies. It may be viewed as the property-crime equivalent of homicide: it occurs relatively infrequently but with devastating effects that are often "terminal." In some contrast to other crimes which appear to contribute to neighborhood deterioration in an oblique fashion, arson strikes directly and dramatically at the physical and economic condition of the neighborhood.

Although the scope and incidence of the arson problem are very difficult to estimate precisely, available data indicate that the crime of arson accounts for billions of dollars in property losses as well as thousands of deaths and injuries each year (Boudreau, et al., 1977; LEAA, 1980). Moreover, the incidence of arson seems to have increased rather dramatically in recent years, although it is not known how much of the increase is due to improved detection strategies and how much is attributable to increases in the actual incidence of arson. The official statistics probably underrepresent professional arsons, and overrepresent vandalism and amateur arsons, since the latter are easier to detect and prosecute. Efforts to combat arson have been hampered by several obstacles, including the interrelated problems of the complex nature of the crime and the difficulties of prosecution.

Arson involves a broad diversity of motivations, targets, and actors covering acts of vandalism, insurance frauds, etc. A recent report classified the major types of arson as the following, presented with rough estimates of the percent of arsons attributable to each type (LEAA, 1980):

- Pyromania - Data suggest that 6 to 25 percent of all arsons fall into this classification.

- Vandalism - Estimates of the magnitude of this problem range from 35 to 50 percent of all identified arson.

- Revenge - Data indicate that between 18 and 30 percent of incendiary fires are motivated by spite or revenge.

- Arson-for-profit - No reliable information is available on the incidence of specific types of arson-for-profit, such as stop-loss or insurance fraud. Taken as a whole, however, arson motivated by economic gain may account for 3 to 19 percent of incendiary fires, depending on the source of information used. Yet because economic gain may motivate substantial numbers of undetected arson, many observers speculate that the rate of arson-for-profit may be as high as 40 percent in some jurisdictions. And frequently, the dollar losses from this type of fire may account for a disproportionate amount of a community's total arson losses.

- Crime concealment - According to most estimates, crime concealment is the motive for approximately 7 to 10 percent of all arsons.

Response strategies include a variety of approaches to prevention and enforcement. Unfortunately, in contrast to the costly and complex nature of the crime, the arson control budgets of most municipalities are small -- even those cities that have developed the most sophisticated anti-arson programs usually allocate no more than one percent of their fire department's budget to these efforts (LEAA, 1980).

III. APPROACHES TO NEIGHBORHOOD-BASED CRIME AND ARSON PREVENTION EFFORTS

Basic Roots of Approaches to the Prevention and Control of Crime and Arson

Until recently, the chief response to the crime problem has come in the form of attempts to improve the operations of the criminal justice system -- improved law enforcement practices, more efficient prosecution, changes in the courts, correctional reform, etc. But there is scant evidence that these system-based responses to crime have had a significant impact on crime rates. Jacob and Lineberry (1982) analyzed police, courts, and corrections expenditures and crime rates in ten cities over a 31-year period, 1948 to 1978, and found that enormous increases in police expenditures (controlling for inflation and other relevant factors) had little effect on continually rising crime rates. And although some observers contend that law enforcement practices can affect crime rates (Wilson and Boland, 1979), most agree with Silberman (1978) that crime is primarily a function of social dynamics and economic conditions. As municipal law enforcement budgets are trimmed, hopes fade that changes in the criminal justice system will significantly affect crime rates; thus, cities have increasingly turned toward community and neighborhood-based crime prevention strategies.

These neighborhood strategies have also been bolstered by the growing recognition that crime and its control are closely linked to the social dynamics of our neighborhoods and communities. The Reactions to Crime project conducted by researchers at Northwestern University concluded that fear of crime was strongly related to signs of disorder or incivilities (abandoned property, loitering teenagers, litter, etc.) and not to the crime rate itself (Skogan and Maxfield, 1981; Lewis, 1981). Wilson and Kelling (1982) concurred and traced the cycle onward. As neighborhoods become disorderly or undergo unacceptable change, residents think crime is on the rise because they see unruly children, public drunkenness, unkempt lawns, deteriorating property, etc. (i.e., the signs of disorder or incivilities), and not because serious crime is actually flourishing. Their fears result in their withdrawal from neighborhood life and a failure to exercise control over neighborhood events, thus perpetuating the decline of the area and leading to an increase in crime. Community crime prevention efforts have subsequently focused both on crime directly and on the neighborhood conditions which encourage crime.

Roots of the neighborhood-based anti-crime efforts. Not only municipal governments, but citizens and community groups as well are now recognizing the need to work collectively to fight crime. DuBow, et al. (1979), attribute the emergence of collective responses to crime to four general processes: rising levels of crime and fear, a sense of the limits of the criminal justice system, the criminal justice system actively encouraging citizen involvement, and the contribution of the community movement, particularly the major growth of community organizations. Neighborhood-based crime prevention has its roots in what DuBow and Emmons (1981) have labeled "the community hypothesis":

(a) Neighborhood residents can be mobilized by community organizations to participate in collective crime prevention projects.

(b) Involvement in these activities creates a stronger community because people will take greater responsibility for their own protection and local problems, and interactions among neighbors will be increased, both formally, through the activities of the

crime prevention projects, and informally, as a byproduct of these activities.

(c) A stronger sense of community and increased social interaction leads to more effective informal social control.

(d) Aside from the direct effects of community crime prevention activities in reducing crime or the fear of crime, these activities may also reduce crime or the fear of crime by rebuilding local social control in the neighborhood.

Roots of neighborhood-based anti-arson efforts. In the past the tasks of arson prevention and control were restricted largely to the municipal fire department. With the recognition that the roots of arson are complex and that an effective response would involve the coordinated efforts of diverse agencies and groups in the community, arson task forces were formed in many cities (LEAA, 1980). These independent, interagency task forces typically embrace a broad set of purposes and fairly sophisticated functions, from the development of an arson early warning system, to the improvement of arson prosecution. The movement toward coordinated efforts to combat arson has been accompanied by the development of grass-roots community-based arson prevention projects, perhaps exemplified by the Symphony Tenants Organizing Project (STOP) in Boston, which was responsible for the apprehension of an arson-for-profit group that had destroyed $6 million worth of property. These community-based programs employ multi-faceted intervention strategies (discussed below), and are based upon the notion that a small band of concerned and committed citizens, working with many more tenants and volunteers, can effectively reduce the incidence of arson in their community. This approach has added appeal in that it can directly address the neighborhood deterioration/revitalization dynamics that are associated with the spread of arson by meaningfully involving the residents themselves in efforts to save their neighborhoods and homes. Evidence for the effectiveness of this approach comes not only from STOP, but from similar organizations in Hartford and Chicago (LEAA, 1980).

Existing Approaches to Neighborhood-based Crime Prevention Efforts

The basic approaches to neighborhood-based anti-crime efforts may be categorized in several different ways: (a) the activities which are engaged in, (b) the degree to which law enforcement agencies are involved in planning and execution, (c) the extent to which efforts are aimed directly at crime reduction or at the underlying socio-economic conditions, or (d) the degree to which the conditions and the design of the physical environment are targets of the effort.

Crime prevention activities. The types of community crime prevention activities are numerous; the major activities are briefly described below.

(1) Neighborhood watches, often formed by block clubs or community organizations, aim to reduce crime and increase communication and cohesion among residents. At the core of watch programs is the simple idea of knowing one's neighbors, and watching one anothers' homes and neighborhood activity in general. In addition to this surveillance function, watch programs usually encourage target hardening through home security surveys and improvements and property marking. These target hardening measures have been shown to be effective in reducing victimization among participants (International Training, Research, and Evaluation Council, 1977; Heller, et al., 1975). Neighborhood watch programs involve citizens as "eyes and ears" for the police, encourage increased crime reporting, and often spin-off into other crime prevention activities

such as foot patrols and neighborhood clean-up. Neighborhood watch programs have proven effective in reducing burglary (Cirel, et al., 1977).

(2) Mobile patrols, organized by residents in areas larger than a block or two, attack crime problems by surveillance and patrol from vehicles. The mobile patrols also serve as "eyes and ears" for the police, and maintain contact with each other or a base station through citizen band radios. Most neighborhood patrols tend to be operated from automobiles rather than on foot, yet their effectiveness in reducing crime or increasing residents' sense of security is uncertain (Yin, et al., 1977).

(3) Advocacy forms of citizen participation effect change in law enforcement policies or practices through interactions between citizens and agencies. Through community meetings or other forums (particularly neighborhood watch meetings), citizens may press for increased patrol, enforcement in particular areas, or better treatment from officers (Sharp, 1981). Court monitoring is conducted by neighborhood residents to inform judges and court officials of neighborhood concerns, influence sentencing in particular situations, and improve victim/witness treatment.

(4) Special crime prevention projects focus on particular groups or problems. Such projects include high-rise tenant organizing for security, escort services, alternative activities for youth, victim/witness assistance, housing code enforcement, job development, activities to eliminate insurance redlining, community mediation services, consumer fraud education, and neighborhood improvement.

Involvement of law enforcement. The variation in the level of law enforcement involvement in community anti-crime efforts is illustrated by recent federally-funded national programs. The Community Anti-Crime Program of LEAA awarded grants to community groups with the intention of encouraging the involvement of community groups and neighborhood organizations in crime prevention; law enforcement agencies were only marginally involved in these efforts. In some contrast, the Comprehensive Crime Prevention Program (also LEAA-funded) emphasized a pooling of resources from the community and the criminal justice agencies in the development of anti-crime efforts. The goals of the program were to increase citizen crime reporting, increase citizen awareness of crime prevention, improve police responsiveness to crime problems, and improve police/community relations. The crime prevention activities were operated primarily by local governmental agencies in 16 jurisdictions rather than community groups.

With the recent launching of the Urban Crime Prevention Program (jointly sponsored by LEAA and ACTION), the focus was shifted back to small neighborhood-based groups, who were awarded grants to develop and conduct anti-crime efforts. These efforts are often assisted by, and coordinated with, law enforcement agencies, but the major responsibilities and activities reside with the neighborhood groups.

This effort has two primary goals: (1) to build strong unified neighborhoods by encouraging citizen participation in local crime prevention and building the capacity of neighborhood groups, and (2) to forge working partnerships among neighborhood groups, city officials, criminal justice system agencies, and other public and private organizations. In nine cities, 84 neighborhood-based organizations (including social agencies, established community organizations, and grass-roots groups) have designed and implemented innovative crime prevention projects

to meet these goals. The four primary crime prevention models are property crime victimization (including the issue of insurance unavailability), arson prevention, community dispute settlement, and victim/witness assistance (Roehl, Berger, and Cook, 1982). Police department involvement may benefit the crime prevention efforts in several ways, by providing crime statistics and an analysis of patterns and trends, training, technical assistance, and materials. Police involvement may legitimize the activities, facilitate police-community interaction, and bolster attendance at meetings.

Focus on underlying conditions. Another way of classifying crime prevention efforts is by the degree to which they are aimed at the underlying conditions or at the immediate control of crime. Most existing neighborhood-based anti-crime programs are aimed directly at crime reduction, especially at residential burglaries. In some contrast, the Interagency Urban Initiatives Anti-Crime Program (sponsored mainly by HUD), recognizes the need to attack the multiple roots of crime, particularly the two-way casual link between crime and neighborhood deterioration. The 39 public housing sites may approach the crime problem from many angles, including management, facility rehabilitation, tenant organizing, employment, anti-crime services, use of city police, and linkages with local government programs and other sources (HUD, 1980). Similarly, the projects of the Urban Crime Prevention Program focus on neighborhood revitalization and the preservation of housing stock, particularly the property crime and arson prevention strategies. These projects are not chiefly designed to have an immediate impact on crime, but to address the conditions of low neighborhood cohesion and a deteriorating physical environment which contribute to crime.

Focus on the physical environment. Neighborhood anti-crime efforts also vary in the degree to which they address the conditions of housing stock and the design of the physical environment. Environmental design changes alter the built environment to increase natural surveillance, secure areas and buildings, deter offenders from entering areas, and increase residents' use and control over neighborhood areas. Crime prevention through environmental design strategies include street alterations to control traffic, the design of secure buildings with easy surveillance (Oscar Newman's defensible space concept), improved street lighting, marking of property boundaries, landscaping, building renovation, and neighborhood clean-up and improvement activities. At the national level, the HUD and UCPP programs contain examples of neighborhood-based anti-crime efforts aimed, in part, at the physical environment. Two individual, local efforts are the Portland Crime Prevention through Environmental Design Program and the Hartford Neighborhood Crime Prevention Program. In the Portland program, a commercial area was revitalized in part by changing its abandoned and dilapidated appearance and increasing access control and surveillance (Kushmuk and Whittemore, 1981). The physical design changes included improved street lighting, the installation of new bus shelters with good surveillance characteristics, and constructing a "safe street" by modifying the curbs, traffic pattern, landscaping, and lighting; a massive street reconstruction phase is underway. In addition to positive and lasting changes in the physical and social environments, commercial burglaries were reduced. The Hartford program also concentrated on changing the physical environment to stimulate local control and reduce crime, and is discussed in detail in Chapter V.

Existing Approaches to Neighborhood-based Arson Prevention Efforts

The basic approaches to neighborhood-based anti-arson efforts have also taken several forms, but somewhat unlike the anti-crime efforts, the components and activities of these services are just beginning to emerge. (Indeed, ten years ago virtually none existed.) Thus, the major differences in anti-arson efforts are

mainly differences in emphasis rather than in broad strategies and techniques. The major approaches follow.

Predicting arson -- the development of arson early warning systems. An arson early warning system is a general label for any set of procedures which compiles information on buildings, correlates that information with the incidence of arson, and yields a formula for identifying arson-prone buildings (Abt, 1981). The working hypothesis in the development of such a system is that arson risk is associated with certain structural, economic and demographic characteristics of buildings, owners, tenants and neighborhoods, and that by determining those associations, arson-prone buildings can be identified. Arson early warning systems have been developed in New York City, New Haven, and Boston. Most neighborhood anti-arson projects employ some form of prediction system, but it may range from personal judgment based on knowledge of the neighborhood to very sophisticated computer-based prediction models.

Tenant organizing strategies. Tenant organizers assist the tenants of a high-risk property in forming a tenants organization (if one does not exist) and provide continuing guidance to the organization. These organizations may then negotiate with the owner for improved services and maintenance in the building. In severe cases, the tenants' organization may succeed in gaining control of the building (through the appointment of an independent administrator); then they become directly responsible for improving the condition of the building. The purpose is to halt the general deterioration which invites arson and, at the same time, to help make tenants aware of possible arson threats and the steps that can be taken to prevent arson -- building watches and patrols, monitoring of vacant apartments, installation of smoke detectors, etc.

Activities directed toward owners. The anti-arson program may engage in any of several different activities designed to reduce the opportunities for owners of arson-prone buildings to commit arson. The owner is typically informed that the property is being carefully monitored. If the owner is under economic stress, assistance and advice might be offered. If the building already has a serious fire record, the Fire Marshal may be asked to contact the owner as well. The owner's insurance company may be contacted and asked to conduct on-site inspections. If the owner is applying for a government rehabilitation loan, the housing agency may be asked to inform the owner that a loan would not be provided if arson occurs at the property. Fire Marshals may be asked to inspect the high-risk properties on a regular basis. For those owners who exhibit a serious fire record (perhaps across several properties) the press may be contacted to publicize the situation. Where there is evidence for an arson-for-profit ring, the facts may be presented to a law enforcement agency for investigation and possible prosecution.

Cooperation with insurance companies. Insurance companies are seen as potentially critical elements in the fight against arson. To date, the insurance companies have not taken an active role in preventive efforts, apparently preferring to absorb the losses (passed on to subsequent consumers) of the arson damaged properties. Many arsons are committed specifically to collect insurance money. Others are committed to force tenants out of a building, so that owners can procure rehabilitation loans, improve the property, and increase rents and/or sale price -- "gentrification fires". These arsons can also be inadvertently supported by insurance money. It is hoped that more insurance companies will actively enter the fight against arson. (For example, Aetna has provided funds for anti-arson activities, and the Insurance Committee for Arson Control has organized several seminars and conferences, developed educational materials, etc., all designed to bolster the activity level and the effectiveness of insurance companies in the fight against arson.) Recently, some anti-arson programs have attempted to gain

their cooperation by offering to supply the insurance companies with information (in some instances quite detailed) on arson-prone properties. In exchange, the insurance companies are asked to conduct inspections of the properties and consider termination of coverage as appropriate.

IV. HOW THEY WORK: ISSUES AND CENTRAL DYNAMICS OF NEIGHBORHOOD-BASED CRIME AND ARSON PREVENTION EFFORTS

Conceptual Framework and Key Issues in the Operation of Neighborhood-Based Anti-Crime Efforts

As described above, community crime prevention has grown out of a recognition that system-based responses cannot control crime alone and that the community can band together to reduce crime and improve neighborhood life. Community-based preventive approaches to crime may address all three of the major theoretical perspectives identified in Chapter II. Citizens may help families and assist individuals in a variety of ways; they may influence the actual workings of the criminal justice system through, for example, court monitoring or offering alternative programs for the mediation of disputes; and may improve the social and physical environment of the neighborhood.

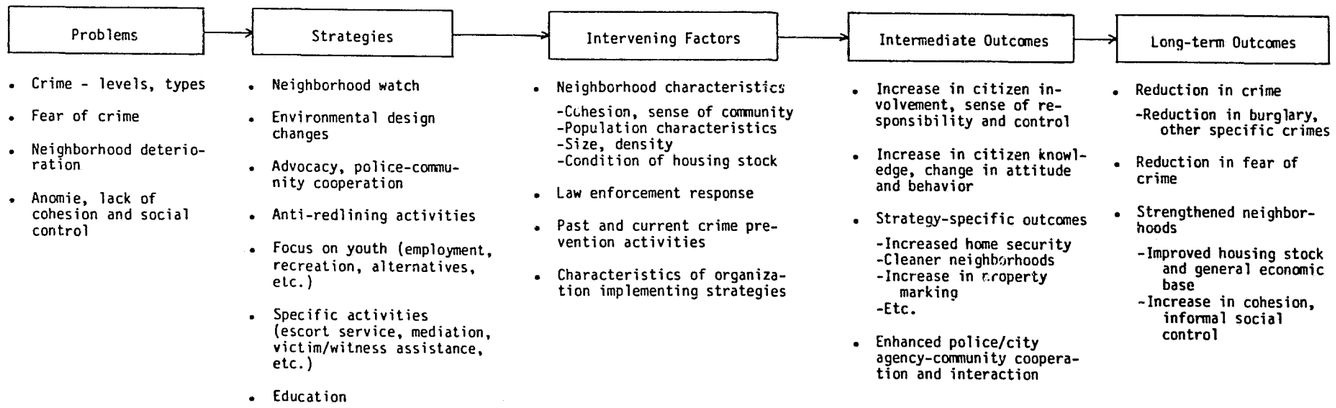
Figure 1 displays a conceptual framework for neighborhood-based crime prevention efforts. This framework shows crime prevention strategies as responses to the problems of crime and the physical and social deterioration of the community. The particular strategy (or strategies) which a neighborhood adopts depends upon the problems it has. The effectiveness of a given strategy, both in the short run and the long term, is determined not only by the selection and operation of the particular strategy, but by a variety of intervening factors as well. (Indeed, the strategy should be selected and developed with careful attention paid to the probable intervening factors that characterize the neighborhood. These factors could have been logically placed between the problems and strategies in Figure 1.) This framework recognizes that most neighborhood-based crime prevention efforts have potential impact on at least two levels: (1) some fairly rapid outcomes (labeled "intermediate") that result rather directly from the processes of the effort, and which are, in many instances, precursors to the longer term outcomes; and (2) the reduction of crime and/or fear of crime and the strengthening of neighborhoods, outcomes which typically require longer periods of time to reach.

Central issues in the development and implementation of anti-crime efforts are discussed below.

Diversity of neighborhoods and crime prevention strategies. Neighborhoods vary greatly in terms of their population size and make-up, economy, type and quality of housing stock, etc., and in the type of crime problems they experience. The local situation should determine which crime prevention strategies are selected.

Once a neighborhood organization, ad hoc group of concerned citizens, or other individual or group recognizes a problem, the first step in implementing a solution should be to conduct a needs assessment, formally or informally, which analyzes the crime problems (through resident surveys and discussions, and an analysis of reported crime patterns), identify appropriate prevention strategies, and consider the probable ease and/or obstacles in their effective implementation (these considerations are represented in the first three columns of the conceptual framework in Figure 1). The needs assessment may include public education and involvement in the issues and technical assistance may be obtained. A needs assessment process is important, whether the problem is a broad one such as neighborhood deterioration or rising crime, or more specific, such as a high burglary rate, gang problems, or a street assault. For example, if residential burglary is the immediate problem and organizing a neighborhood watch is one

Figure 1
Neighborhood-Based Crime Prevention
Conceptual Framework



obvious prevention step, knowledge of the burglary method (day or night, forced entry or unlocked doors, mode of forced entry, etc.) will help develop effective security measures for use by citizens and appropriate outside agencies. The Hartford case study in Chapter V is an excellent example of a careful needs assessment process prior to program implementation; in this case, the problems and proposed solutions were generally known prior to the needs assessment, which helped refine the implementation procedures.

While this paper is not a how-to-do-it manual, certainly all the issues discussed below should be considered when designing crime prevention strategies for a given neighborhood. If the neighborhood is in a general state of decline and crime is high, a multi-faceted approach combining environmental design changes, community organization, and special attention from law enforcement and other city agencies may be necessary. High burglary rates naturally suggest neighborhood watch organizing combined with target hardening, yet neighborhood characteristics must be considered. A high income neighborhood with a high degree of home ownership may opt for increased home protection and hired security guards, while a renters community may organize a watch and negotiate with landlords for better security. Concern over incivilities may promote the development of jobs or recreational opportunities for youth, neighborhood clean-up activities, or negotiations with the city for vacant lot clean-ups, demolitions, board-ups, or code enforcement. In short, crime prevention activities should be tailored to local neighborhood conditions. McPherson and Silloway (1981) promote community involvement in the planning as well as the operational stages of crime prevention efforts, and warn against attempts by funding sources (notably the federal government) to implement their own preferred solutions.

Citizen involvement. The success of many neighborhood-based crime prevention efforts is a function of the extent to which residents actively participate in the activities. With the possible exception of pure environmental design strategies, the participation of citizens is critically important for community crime prevention. Many, such as all forms of the neighborhood watch, rely totally on citizen involvement. Often it is those neighborhoods most in need of crime reduction that lack the resources and cohesion to launch and sustain an effective anti-crime effort (Skogan, et al., 1981; Cook and Roehl, 1982). Generally, residents with communal and financial interests in the neighborhood have higher participation rates in community crime prevention measures. Lavrakas (1981) concluded that homeowners are much more likely than renters to take household-based protection measures. Skogan (1981) reports those active in crime prevention efforts tend to be males, blacks, and higher income, middle-aged homeowners in more cohesive neighborhoods. Active participants tend to be those with several neighborhood social and residential ties (Skogan and Maxfield, 1981), and those involved in other multi-purpose community organizations (DuBow and Emmons, 1981; Podolefsky and DuBow, 1982). It makes sense that renters and others with few community roots (for example, adults with no children), may be less inclined to participate in resolving neighborhood problems. They may also have more mobility and be able to leave an area should problems become egregious. Homeowners, residents with children, and those with social ties have a stake in the neighborhood's future, and will be more apt to want to protect their financial and human interests and participate in rehabilitative and preventive efforts.

This is not to say that neighborhoods which lack cohesion or social integration or are populated with residents with little vested interest in the community (renters particularly) cannot develop effective crime prevention strategies. Rather, it is to stress that special strategies, appeals, and skillful organizing may be necessary to reach the more transient or withdrawn residents. Before attempting to implement a crime prevention program, emphasis must first be placed

on building cohesion and a sense of community in neighborhood residents. Involving residents in a multi-purpose neighborhood organization first and then encouraging crime prevention participation may be effective (Podolefsky and DuBow, 1982). However, there are no proven ways to organize and maintain citizen involvement in crime prevention. Crime, by itself, does not appear to be an effective motivation for citizen participation. The best mechanism for involving citizens in crime prevention certainly varies from neighborhood to neighborhood, with no one approach viewed as universally effective. Extensive commitment to community organizing (around many salient issues including crime) may be necessary to launch crime prevention efforts, and may strengthen the neighborhood in the process.

Role of law enforcement agencies. The role of law enforcement agencies in these efforts varies greatly. In many programs, the police are active supporters and participants in the effort; in others, their participation may be nominal. The degree of law enforcement participation sougnt and obtained varies according to the characteristics of the neighborhood, type of strategy employed, the stance of the police regarding such efforts, and the quality and history of police-citizen interactions in the neighborhood.

McPherson and Silloway (1981) discuss the "inherent tension between the police and citizens perspective in community crime prevention programs," based on the view that the police experts regard citizen involvement as amateur expansion onto their turf. This view is increasingly changing, as police realize they cannot and should not be the sole actors in crime prevention, and have recognized the value and effectiveness of an alert and active citizenry. As recognized by the mandates of the Urban Crime Prevention Program, a working partnership between police and citizens is an effective way to combat crime. While some police officers are apt to fear citizen vigilantism, most welcome citizen participation in crime prevention.

Police departments fully support neighborhood watch programs and often implement them themselves, through crime prevention units found in most major police departments. Crime prevention officers will provide training, materials, presentations, etc., to community groups implementing watch programs. While the police advocate personal and home security measures, they tend to stress that citizens should not actively intervene in criminal acts or suspicious situations, but should call the police immediately. Even more controversial groups -- such as the Guardian Angels -- have gained police acceptance and support over the years (for example, police officers assist in the training of Guardian Angels) but the predominant view is that citizen patrols and watches should harbinger police action, not replace it.

In some crime prevention projects (e.g., providing youth with recreational activities, neighborhood clean-up, etc.), police involvement is simply not necessary. In others, such as victim assistance and dispute settlement projects, it is desirable and often crucial. Gaining police cooperation, like increasing citizen involvement, requires certain skills and tenacity in making contacts and explaining and promoting the effort. Police and citizens should both be included in the planning process if their participation is desired.

The predominant view is that police support will enhance the community crime prevention effort and encourage citizen participation as well as other agency support by legitimizing the activities. There is a minority view that citizen involvement in some neighborhoods may be strengthened by adopting an adversarial advocacy approach which city officials may find threatening (Sharp, 1981). This advocacy form of citizen participation (including political organizing, protest, and pressure-group tactics) was a significant part of citizen involvement in the

1960s' urban programs and contrasts with the cooperative, self-help approaches typically promoted in community crime prevention efforts such as the block watch. Today, as in the 1960s, citizens seek to make the system sensitive and responsive to their needs; when successful, confidence in local authorities may be strengthened or restored. DuBow and Emmons (1981) also discuss the style of community organizations that rely on confrontation when they are in conflict with institutions, including criminal justice agencies. Accepting funds from certain sources (such as the federal government) may place constraints on the tactics community groups use, and may weaken groups which rely on conflict to some extent in the pursuit of neighborhood empowerment.

Resources required. The major crime prevention strategies differ considerably with respect to the resources needed for implementation and maintenance. For example, neighborhood watches can be established with little or no funds, while environmental design changes may require a sizable amount of funds. The three main areas of resources fall into (1) financial requirements, (2) manpower needs, and (3) skill levels.

Neighborhood groups typically rely on minimal financial and paid staff resources in implementing crime prevention efforts and depend instead on volunteers and in-kind contributions. The small amounts of funds required may be carved out of existing organizational budgets or raised separately. In the recent past, crime prevention monies have filtered down to neighborhood groups from LEAA, community development block grants, and other federal agencies (HUD, ACTION), or come from foundations or United Way contributions. Local public revenues are increasingly leveraged by community groups for environmental design changes and other crime prevention strategies. More emphasis is being placed currently on private sector funds -- businesses are encouraged to support community crime prevention efforts in their own best interest. Similarly in the field of arson prevention, insurance companies are being approached for financial support. At this point, while crime prevention may be a recent addition to the agendas of neighborhood groups, no new reservoirs of funding have appeared. Fiscal support for neighborhood organizations and activities is elaborated elsewhere in this series of papers.

Manpower needs and skill levels are related also. While crime prevention activities can survive and flourish on voluntarism alone, the ongoing presence of paid staff may be the critical element in implementing or sustaining efforts. The greater the pertinent skills of that staff, the better the result will be. Neighborhood-based crime prevention activities are enhanced by expertise in community organizing, communication, public relations, etc. Special areas of expertise (e.g., urban planning) may be hired or recruited as necessary.

Technical assistance. Although there are obvious improvements in the capabilities of neighborhood groups to develop anti-crime activities, many lack the skills and knowledge to mount an effective effort (see Cook and Roehl, 1982). These deficiencies are especially evident in groups which attempt the more complex approaches; e.g., insurance redlining or mediation. In developing these and other anti-crime efforts, technical assistance, delivered early and expertly, can be critical.

Technical assistance may be in the form of training, provision of information and materials, expert consultation, or hands-on guidance. Experts may be recruited locally, from universities, neighborhood organizations, social service and city agencies, and myriad other places, or may need to be recruited nationally. Costs will vary depending on the task and the source of technical assistance.

Impact of particular strategies on halting neighborhood deterioration. Virtually all the neighborhood-based anti-crime strategies have some impact on the physical and social condition of the neighborhood, from environmental design approaches (impact relatively high and direct) to block watches (impact relatively low and indirect). The choice of strategy will therefore have distinct implications for the probability of wider neighborhood improvement. In selecting strategies, there is probably an inverse relationship between the probability of impact on crime in the short term and the chances for eventual improvement of the broader conditions in the neighborhood.

Relationships to other efforts aimed at halting neighborhood deterioration. As discussed earlier, the relationship between crime and neighborhood deterioration is complex and cyclical. Crime prevention efforts go hand-in-hand with other strategies to halt deterioration and improve the neighborhood. Lewis and Salem (1980) underscore the relationship between crime and neighborhood deterioration by postulating that the way to deter crime is to build community generally, and not focus on specific crime prevention activities. The cause-effect cycle is uncertain: neighborhood improvement strategies such as business development, housing rehabilitation, and re-investment programs may be enhanced by crime prevention activities, or alternatively, they may in and of themselves work to prevent crime. Crime prevention efforts which make a neighborhood safer and more attractive, increase social cohesion, and decrease the signs of disorder will undoubtedly aid other efforts at halting neighborhood deterioration.

Extent and form of partnerships and networks. Few neighborhood anti-crime efforts operate in a solitary fashion; most derive support (political, emotional, technical, etc.) from a network of agencies and organizations. The most important relationships tend to be formed with law enforcement agencies as previously discussed. Community groups also find it desirable to develop working relationships with other city agencies to assist in their crime prevention efforts. These are apt to be one-way relationships rather than true partnerships -- the community makes requests for city services which appear to be lacking or insufficient in their neighborhood -- although reciprocal arrangements are possible. City agencies concerned with safety, for example, may welcome the assistance and "street" information community groups are able to provide.

Networks may be developed among community organizations for mutual support and assistance, and between these groups and social service agencies, universities, non-profit organizations, etc., depending on their shared purposes and needs. Crime prevention efforts sponsored by community groups are assisted by the established contacts, partnerships, and networks the groups have; assistance may be provided in a variety of ways (see Roehl and Cook, forthcoming in the UCPP final evaluation report).

Conceptual Framework and Key Issues in the Operation of Neighborhood-Based Anti-Arson Efforts

As mentioned above, the roots of arson are imbedded in the broad deterioration of neighborhoods, a decline in the quality of the physical and social environment, fueled by patterns of disinvestment. The motives for arson are correspondingly complex, ranging from the economic to the psychological. As arson has increased, the revenues of public agencies have typically decreased, and the adjudication of arson cases has continued to be fraught with serious problems. This situation has created several opportunities for neighborhood-based groups to fulfill important and rather unique roles in anti-arson efforts. Rather than remaining passive observers of decline and disinvestment, citizens can act to improve the condition of their homes, even when their home is owned by an absentee landlord. Neighborhood-based groups can organize tenants into action groups for such purposes. If law enforcement officials cannot maintain 24-hour surveillance of arson-prone buildings, residents can conduct arson watches to prevent fires. Residents who know their neighborhood well can serve as valuable sources of information for the fire department. When developed into sophisticated arson prediction mechanisms, these neighborhood-based information systems can help citizens, fire officials, and insurance executives to concentrate their efforts. Thus, the appropriate roles of neighborhood-based anti-arson groups are many and varied -- and still expanding.

The conceptual framework for neighborhood-based anti-arson efforts is shown in Figure 2. As depicted in this framework, anti-arson strategies are developed in response to arson in particular and to a more general deterioration in the neighborhood and its housing stock. Neighborhood-based anti-arson efforts typically combine the strategies listed in Figure 2, emphasizing certain strategies depending upon the perceived nature of the problem and the skills and orientation of the neighborhood organization. The intermediate and long-term outcomes are moderated by several intervening factors, particularly the characteristics of the neighborhood. Because virtually any anti-arson effort must first identify which buildings (among hundreds, perhaps thousands, of buildings in the neighborhood) are most arson-prone, the initial outcome is typically the selection of a particular set of buildings toward which their prevention/intervention efforts will be aimed. The precision of this identification will typically vary with the sophistication of the prediction (early warning) system, which ranges from the judgmental to complex, computer-based statistical models. Several intermediate outcomes are intended to follow the application of the anti-arson strategies, the most central of which are improvement in tenant organization and building conditions. Potential impacts of the anti-arson efforts include decreases in arson and other structural fires, along with broader neighborhood revitalization. Most neighborhood-based anti-arson programs also hope to improve (or at least halt the degeneration of) the housing stock in the neighborhood.

Central issues in the development and implementation of anti-arson efforts include the following:

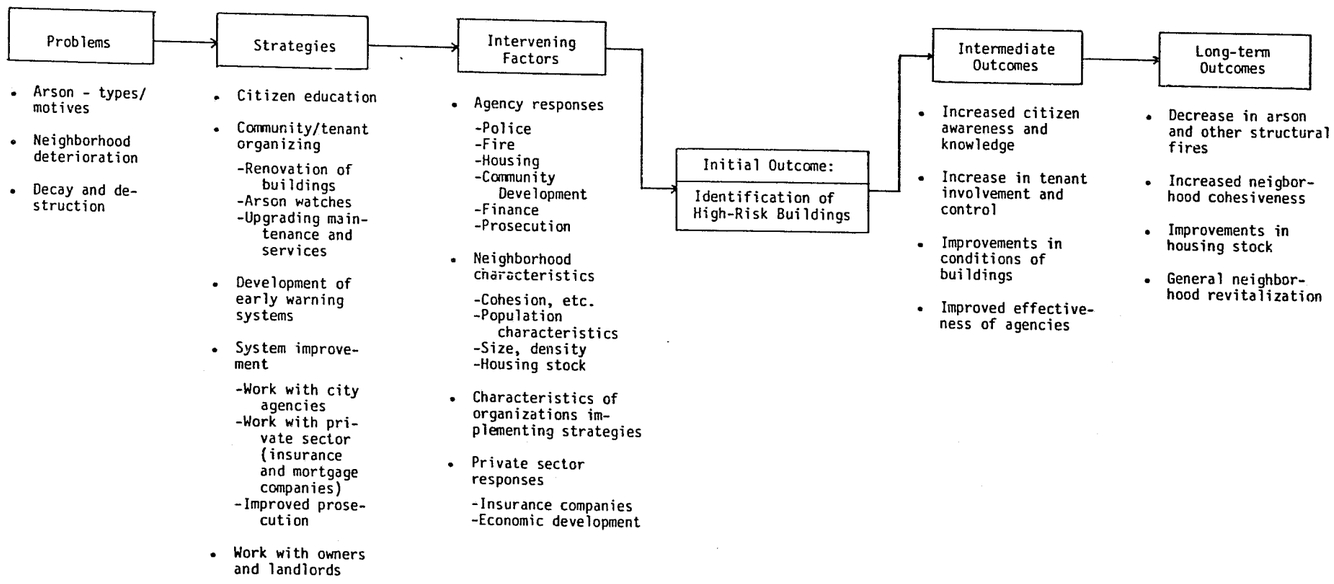
- Complexity of the arson risk prediction system.
- Diversity of neighborhoods and approaches.
- Tenant organizing and citizen involvement.
- Gaining cooperation of insurance companies.

These central issues are discussed below.

Complexity of the arson risk prediction system. Most neighborhood-based anti-arson programs make some attempt to identify the most arson-prone buildings in their neighborhood so they can concentrate their efforts on these high risk structures. These prediction procedures vary from staff judgments to computer-based predictions. The latter appear more accurate, but require skills and resources which may be beyond those of most neighborhood groups.

The essence of a computer-based prediction system is the correlation of specific housing variables with indices of arson (using multiple regression or its dichotomous criterion variant, discriminant analysis). Statistical weights are given to the housing variables in relation to their empirical association with arson, resulting in an "arson risk index" for each property. The creation of a system that produces this index requires both the commitment of a considerable amount of staff time and a working familiarity with certain techniques of statistical analysis and computer programming. The development of a system involves three broad steps: (1) the collection of data on property characteristics

Figure 2
Neighborhood-Based Arson Prevention
Conceptual Framework



and fire data, (2) the merging of data sets from different sources, and (3) the development and application of the statistical analysis software which yields the desired arson risk index.

The first step requires the establishment of data files containing detailed information on every property in the neighborhood -- tax data, assessed value, sales transactions, fire history, etc. Because these data are collected from municipal agencies, the amount of time and effort involved depends upon the state of the agency's (housing, finance, etc.) records; how accurate and well-organized they are, and, in particular, the degree to which their records are automated. If, as in most large cities, the agency's records are available on computer tape, the data collection activity involves little more than the acquisition of the tape. But if the records are not automated, staff must manually extract the data -- a laborious, time-consuming task. Even in those instances where the records are automated, some manual extraction is required if the data are to be current and accurate.

The second and third steps involve the application of computer programming skills and the regression analysis techniques. Because these procedures are fairly sophisticated, groups contemplating the development of a system must be prepared to meet some fairly rigorous technical demands. On the other hand, with the recent proliferation of computer technology and statistical/software expertise, such tasks may well be within the capabilities of neighborhood groups. Of course, these systems require access to a computer facility with a sizable storage capacity (typically in the range of five megabytes or more).

Given the time, effort, cost, and technical requirements of such a system, an anti-arson group may decide to eschew the computer-based system and develop a less sophisticated method of predicting arson. Perhaps the simplest procedure involves the reliance on staff knowledge of the neighborhood to identify high risk properties. Through familiarity with individual properties, visual inspection of structures, and word-of-mouth information from residents, organizers, fire officials, etc., many at-risk properties may be identified. Indeed, it is not uncommon for organizers to express the view that they do not need sophisticated systems to identify arson-prone buildings. By knowing neighborhood residents, the landlords, and the general state of housing and security in the neighborhood, these organizers claim that they can often identify the arson-prone structures. Although that is probably so, the computer-based systems will doubtless uncover some properties which are not detected by other informal approaches. Moreover, if the target areas are large -- i.e., covering several thousand properties, or more -- there are obvious limits to the number of arson-prone structures that can be identified through personal knowledge alone.

Diversity of neighborhoods and approaches. Neighborhoods in which arson is a problem vary considerably. It is not simply the deteriorating neighborhood where arson occurs; often it is the neighborhood on the way to recovery. Other arson-plagued communities may be teetering on the brink of deterioration, and still others may have already burned beyond help. The particular anti-arson strategy (or combination of strategies) will vary according to the characteristics of the neighborhood and the general nature of the arson problem.

Anti-arson groups must carefully analyze the nature of the arson problem in their neighborhood. The analysis can begin by assessing both the character of the neighborhood and the type of arsons which are most prevalent. For example, if the neighborhood is generally deteriorating and fires are occurring in properties where landlords are behind in mortgage payments or taxes, some form of financial assistance may be offered (e.g., through a development corporation), to owners

along with various pressures, legal and others, to deter arson. If vandalism arsons seem prevalent, some emphasis on youth programming may be warranted. If the neighborhood is in transition toward improvement -- the gentrification syndrome -- landlords may be setting fires in order to vacate properties and obtain rehabilitation loans to improve the building so that they can greatly increase the rent or sell the property at a considerable profit. In such cases, the appropriate anti-arson strategy would involve tenant organizing (with security improvements, arson watches, and perhaps wresting control of the building from the landlord through court order) and law enforcement pressures -- alerting fire marshals and the prosecutor's office. In any given anti-arson group, all these tactics -- and more -- may be employed; the particular mix and balance should, however, be determined by the nature of the neighborhood and its arson problem.

Tenant organizing and citizen involvement. Most anti-arson groups engage in tenant organizing to improve the arson-prone buildings and protect them from arson. However, the task of organizing tenants in the typical high-risk dwelling is a formidable one. Tenants often exhibit both a general resistance to developing a tenants organization, and they usually experience a variety of difficulties in sustaining their operations in an effective way. And even when a working tenants organization is under way there is often a reluctance to focus specifically on the problem of arson: as destructive as the act of arson is, it is usually an infrequent event in the life of a citizen (even in the most arson-plagued neighborhood), not the sort of recurring event that motivates a continued vigilance.

The difficulties of getting citizens involved in a tenants organization are not unlike those encountered in crime prevention programs. The tenants are typically disadvantaged, often to a severe degree. Many are unemployed and supported, meagrely, on some form of public assistance; they are often less concerned with crime and arson than with the basic survival needs for food, clothing, heat, and hot water. How, one might ask, can people be convinced of the seriousness of an arson threat when there is no food on the table, no heat in the apartment? How can individuals attend to collective concerns when so many individual and family needs require attending? The organizer's answer to this dilemma is to bring the tenants together around those issues of immediate concern. By banding together, the landlord can be presented with a chorus of united voices demanding an improvement in maintenance and other services. Those problems which the landlord does not address, the tenants can attack themselves. Furnaces may be repaired, windows replaced, etc., through tenants' collective efforts. If the landlord remains unapproachable or intransigent, the tenants organization may take legal action to gain control of the building. In such a case, the city can appoint an independent administrator to whom the rent is paid. In turn, the rent (or some substantial portion of it) is allocated toward building improvements. These types of actions are understandably often of greater appeal than the immediate establishment of an arson watch. (Although in some instances where the building is clearly in imminent danger of being torched, the tenants can be persuaded to conduct an arson watch, if only temporarily.)

After tenants are organized and addressing their basic needs, the organizer may then propose the establishment of direct anti-arson activities -- improving the security of the building, conducting arson watches, engaging in collective action to pressure the landlord through official channels, etc. Of course, it is also true that those activities designed to address the basic needs of housing improvement --repairs, clean-up, etc. -- are important deterrents to arson. The likelihood of arson decreases where there is a sensitized, united, active group of tenants in a building which is steadily improving.

Still, the steps toward the establishment of an effective tenants organization addressing the housing and arson problems are fraught with obstacles and pitfalls. They require persistence and commitment on the part of organizers, and even the most dedicated and able can find themselves defeated by the powerful forces working against them.

Gaining cooperation of insurance companies. With the exception of the efforts noted above (e.g., Aetna's activities), the insurance industry has been conspicuous by their absence in the fight against arson. A few neighborhood-based anti-arson groups appear to be making progress in gaining the cooperation of insurance companies; e.g., having the insurance company inspect high-risk properties and drop coverage where appropriate. But most of the insurance industry remains a passive participant in the dynamics of arson. The central question here is twofold: What is preventing the insurance industry from becoming more active, and what steps can be taken by neighborhood-based groups to enlist their participation in anti-arson efforts?

The position of the insurance industry is that the industry is doing its share to fight arson but is prevented from doing more by competitive market forces and by consumer-oriented state insurance departments (Ku, 1981). They also feel that arson control is primarily a law enforcement responsibility, not an industry obligation. The tremendously competitive nature of the insurance market is clearly a serious problem because it leads to careless, "business-at-any-cost" underwriting. The Insurance Committee on Arson Control contends that most companies simply cannot afford to screen or inspect every property applying for coverage. The company that asks too many questions might lose business because of the inconvenience -- the customer will simply go elsewhere. And there is almost always some company that will supply coverage without an inspection. Added to this competition-driven problem are (a) the practice of "reinsurance" and (b) the "surplus lines" insurers. Reinsurance is the insurance that companies procure on the risks that they write. For a percentage of the premium income, a reinsurer will assume part or all of the risk on a block of business. Surplus lines insurers are not directly regulated by state insurance departments and are theoretically allowed to provide coverage that is not available from other markets. In the high arson areas of New York City, most of the insurers are surplus lines companies.

In his review of these problems, Ku (1981) concluded that the problems posed by reinsurers and the surplus lines markets are "real and serious. They deserve further study by the insurance industry and by regulatory bodies (p. 141)." He further noted that suggestions for improved underwriting have centered on proposals for the use of a standardized uniform application procedure to relieve the competitive pressures that lead to high-risk underwriting. The industry is reportedly considering such a proposal (ICAC, 1980).

Clearly, many of these dynamics are the proper purview of legal and regulatory bodies and of the industry itself. While they can play an important role in this area, neighborhood-based groups are not likely to take the lead in major industry reforms. What, then, can they do? First, they can help to inform their communities about these issues and problems and, through various mechanisms, pressure legislators and the industry to push through reforms such as the standardized application procedures. This general strategy is probably especially suitable for neighborhood groups with a community-organizing approach (see "Neighborhood Organizing Model" below). Second, those anti-arson groups who maintain comprehensive, detailed information systems (especially computer-based arson risk prediction systems as described above) can routinely supply insurance companies with information on the high-risk properties, thus eliminating the company's costs of screening. This approach is currently being tried by the North Flatbush Arson

Research Program (see "Arson Prediction Model" below).

V. COMMUNITY CRIME PREVENTION MODELS

In this chapter, the basic strategies of several types of community crime prevention efforts will be described, and illustrated by case studies of recent and current projects sponsored by neighborhood organizations. Two models, the neighborhood watch and crime prevention through environmental design, will be covered in detail through a generic description followed by a case study. These two models have been selected because they have been shown to be effective and are related to neighborhood revitalization. The neighborhood watch (synonymous with block watch) is probably the form of community crime prevention most familiar to citizens, and is often the core from which other neighborhood-based anti-crime activities emerge. Models of crime prevention through environmental design run the gamut of neighborhood clean-up activities (at the most basic level) to macro-changes in the neighborhood's physical environment. The model and case study will demonstrate how citizens, independently and in conjunction with city officials and planners, can alter the physical environment to make streets and homes in the neighborhood safer.

To offer a broad, varied picture of the range of neighborhood initiatives in crime prevention, a series of "mini" case studies follow the presentation of the two major models. These mini-models are examples of actual crime prevention projects -- citizen patrols, youth activities, negotiating with police and city agencies, insurance redlining, and victim/witness assistance. They are included to illustrate the diversity and innovation of community crime prevention.

Neighborhood Watch: Generic Model

The central strategy of a neighborhood watch is quite straightforward: a group of neighbors come together to get to know one another and agree to watch one another's homes and neighborhood activity in general. Simple collective surveillance of the neighborhood, combined with the reporting of incivilities, suspicious behavior, and crimes to appropriate authorities, aims to deter neighborhood crime by increasing the likelihood of detection and apprehension and thus discourage potential trouble-makers from entering the neighborhood. In addition to collective surveillance, neighborhood watches typically encourage individual crime prevention efforts by providing education and training at watch meetings. Property marking, often referred to as Operation Identification; increased home security through security inspections and the installation of safety devices; and increased personal safety through education tend to be integral components of neighborhood watch programs. This increased residential security aims to prevent burglary as a complement to the indispensable watch program. After addressing the basic concepts of surveillance, home and personal security, a neighborhood watch program may branch out to tackle some of the contributors to crime -- insurance unavailability, youth problems, and so on. Finally, by bringing neighbors together, the watch programs may strengthen or begin to rebuild the social fabric of a neighborhood, increasing cohesion and control.

Neighborhood watches are designed to be proactive -- to prevent crime before it occurs. Unfortunately, many watches are reactive -- neighbors come together only after the neighborhood reaches a low point of deterioration and crime or after a particularly alarming crime or disturbance. It is probably easier to organize a neighborhood watch after a publicized crime, but preferable to do so to prevent one. Neighborhood watch programs are becoming more commonplace, in part because of the national attention in recent years. The National Sheriff's Association has strongly promoted the watch program since 1972 (Brenner, 1975), and has disseminated materials and ideas throughout the country. The relatively recent "Take a

Bite Out of Crime" campaign using McGruff the detective dog as a mascot, promotes neighborhood watch programs along with other prevention tactics to avoid being victimized (Mendelsohn and O'Keefe, 1982).

Implementation and activities. Neighborhood watch programs are often initiated by neighborhood organizations or block clubs which address a variety of neighborhood issues, but may be started by an individual resident, the police department, or any other group. Implementation of a neighborhood watch is simple in concept, but considerably more complex in execution, since it involves basic community organizing and the obstacles inherent in increasing citizen participation.

Although the steps of implementing a watch program vary depending on the neighborhood, its problems, and the organizer's approach, the basic steps are described below (drawn from Cirel, et al., 1977, and Wegener, 1979):

1. Initial contact with residents. The target area encompassing a neighborhood watch usually consists of a face block or two -- the residents of houses facing each other across a street are included. Where appropriate (particularly in neighborhoods where break-ins at the rear of houses are common), neighbors whose back yards connect are organized. The first step is to alert residents in a target area that a watch program is being initiated, provide them with a brief description of the program, and encourage their participation. Common methods of initial contact are mailings or flyers distributed door-to-door which outline the block watch concept and components.

2. Second contact with residents. A week or so after the initial contact (which informs residents that an in-person contact will be made), the organizers make a door-to-door canvass of the target neighborhood, answering residents' questions, reminding them of the watch program, and encouraging participation. During this face-to-face presentation of the watch program, the organizers try to identify a resident willing to hold a meeting in their home and/or serve as a neighborhood watch captain -- someone who serves as the ongoing organizer for the watch. If the organizer is a neighborhood resident, the meeting place is usually their home and that person typically becomes the watch captain (often referred to as a block captain). If necessary, the watch meeting(s) may be held at a local church, school, or other neutral meeting place.

3. The first meeting. After the initial contacts with neighborhood residents, the time and place of the first meeting are disseminated by mail, flyers, posters, phone, and/or door-to-door contact (generally, the closer the contact, the larger the turn-out). This first meeting is conducted by the organizer, who may be assisted by a police officer or crime prevention expert.

   The organizer or crime prevention officer presents the basic strategy of the neighborhood watch. Information covered includes:

   (a) Description of neighborhood crime in recent months, drawn from surveys of residents or police statistics. Special attention may be focused on burglaries, particularly the time and method of entry.

   (b) A block watch map is created which presents the participants' names, addresses, and phone numbers.

   (c) The watch strategy: being alert to suspicious behavior, and calling the police and nearby residents when such behavior is observed. Crime reporting and alerting the neighborhood are the core strategies of neighborhood watch. The use of 911 procedures are reviewed, and cooperation with the police is encouraged.

   (d) Other "good neighbor" ideas are discussed -- checking unusual activity at a neighbor's house by phone, keeping a watch on the house when neighbors are on vacation, etc.

   (e) Security training is provided in property marking and home security. Household inventory lists and property marking tools may be passed out, and demonstrations of ways to secure doors and windows may be made.

   (f) An open discussion of neighborhood problems, possible solutions, and future directions the group might pursue is encouraged.

   (g) The meeting ends with the election of a block captain (if not already identified), setting of the time and place of the next meeting, and possibly a social hour.

4. The role of the police. Neighborhood watches can and do exist without any police involvement, but the more typical and desirable situation is to have the police department aware of and involved in the watch program. The police department is an excellent resource for knowledge and materials. Part of a crime prevention officer's job is to attend neighborhood meetings, providing crime statistics, security demonstrations, and training in home, personal, and street safety. The police presence at a meeting legitimizes the activity in the eyes of many residents, and may increase attendance and participation. It will also pave the way for future police-community interaction, additional training at future meetings, and citizen input into police matters.

5. Immediate follow-up. In the weeks following the initial meeting, the safety plans are implemented. A final schematic map of names, addresses, and phone numbers is distributed. Property marking tools are loaned and valuables are marked. Police officers or other trained experts conduct home security inspections and advise residents on locks and other safeguards. Operation ID and neighborhood watch signs should appear in the windows of participating homes, to let intruders know the neighborhood is organized and alert. If the police department is involved and strongly supports the program, neighborhood watch street signs may appear in the neighborhood. These visible signs of an active, concerned community enhance the safety of the neighborhood.

6. Subsequent meetings and maintenance. After the initial meeting, some mechanism is needed to keep the watch viable. The block captain will serve as a focal point for information and organization; a brief neighborhood newsletter may be created by the captain. Ideally, monthly meetings will be held regularly, to discuss neighborhood issues and provide residents with ongoing information and training in crime prevention.

Neighborhood watch programs with active participants often branch out into

other crime prevention and related activities. The neighborhood watch serves as the center of discussion of local problems and how residents might deal with them. Perhaps the most effective way to encourage community crime prevention is to begin by organizing the neighborhood, perhaps within the basic structure of a neighborhood watch, and allow other needed activities to evolve as deemed appropriate. Single issue anti-crime efforts are generally short-lived; it is typical for watch meetings to become less and less frequent and surveillance activities to nearly cease without additional activities or a (bad) event to reactivate the group. Some neighborhood watches begin social activities to increase neighborhood cohesion.

The number and types of activities a neighborhood watch group may become involved in are nearly limitless, and include all the crime prevention activities mentioned earlier in Chapter III. One common activity is neighborhood clean-up, which includes landscaping, graffiti cover-up, and trash removal, and may become an annual or bi-annual event followed by a block party. The residents may become more involved, beyond the clean-up level, in crime prevention through environmental design. In neighborhoods with substantial nighttime or street crime, mobile walking or driving patrols may be instituted. Residents may also organize to work on special problems such as insurance unavailability, housing rehabilitation, lack of recreation facilities for youth, elderly crime or isolation, gangs, etc.

A common activity of neighborhood watch groups is periodic communication with city officials, usually the police. The communication should be two-way, to enable citizens to relate their concerns about neighborhood life to appropriate officials and learn from them about their roles, policies, and resources. From the citizens' viewpoint, the goal is improved neighborhood services and conditions and a responsive city government. Police staff may be invited to meetings to talk to citizens about their concerns; citizens often negotiate for increased police presence at trouble spots or discuss police actions. The citizens' group may also work with city agencies (housing, public works, fire department, etc.) for improved services such as street cleaning or code enforcement. The mini-case studies below illustrate some of the expanded activities which may emerge from a neighborhood watch.

Another way to keep neighborhood watches active is to form an umbrella group comprising representatives from each watch. This umbrella group, in effect, becomes a block association, which serves an information sharing function and builds a coherent community-wide picture. The block association can use their combined knowledge to negotiate with city officials, initiate special projects, or take other action as necessary. Another form of umbrella group may include city officials and commercial representatives as well as neighborhood residents. An example of such a group is an Arson Task Force which becomes organized to coordinate anti-arson activities in a city.

Resources needed. Very few resources are required to initiate and operate a neighborhood watch. The most important requirement is that a substantial portion of the residents in an area take some time and interest in helping to provide surveillance. An active resident serving as a block captain is usually required to keep the group viable; one paid staff person for ongoing coordination and assistance is invaluable. Beyond the need for citizen involvement, a neighborhood watch requires a minimum of special skills and facilities.

Strengths and weaknesses. The strength of the neighborhood watch is twofold: it is relatively easy to establish in most neighborhoods and it has been shown to be effective in reducing residential burglaries. The neighborhood watch concept was rigorously evaluated in Seattle's community crime prevention program, started

in 1975 (Cirel, et al., 1977). The Seattle program was implemented by a city department with strong police support, under an LEAA grant. The neighborhood-based program was carried out by community organizers and safety technicians and was highly focused: the goal was to prevent residential burglaries by systematically organizing block watches augmented by property marking and home security checks. Thorough victim surveys indicated that burglary was reduced in the program areas, particularly in participating residences, crime reporting increased slightly, crime displacement did not occur to any significant extent, and burglary-in-progress calls significantly increased. This evaluation provides hard evidence for the effectiveness of watch programs in reducing burglaries; other potential benefits were not measured. A weakness of the neighborhood watch is that it may not, by itself, be particularly effective in deterring crimes other than burglary.

Another weakness of a watch program is that it may be difficult to develop in certain neighborhoods where cohesion is very low and neighbor distrust is high. In attempting to organize a neighborhood watch in a Cincinnati public housing project, the organizer found the residents to be fearful of retaliation, assuming that much of the crime was perpetrated by youthful residents themselves (Roehl, Berger, and Cook, 1982). The residents were reluctant to attend meetings or display Operation ID decals, in fear that they would be burglarized or vandalized for their participation (aiding and abetting as it were). With tenacity and organizing skill, this attitude can be overcome, particularly when it is stressed that such an attitude aids crime and is exactly what the collective neighborhood watch program is designed to overcome. The watch concept works best in homogeneous neighborhoods with existing lines of communication and one- and two-family homes (Cirel, et al., 1977) -- where residents have a stake in improving their neighborhood. Other neighborhoods, while not impossible to organize, require additional tactics, skills, and time.

Neighborhood Watch Case Study: The Northwest Neighborhood Federation

The Northwest Neighborhood Federation (NWNF) is a coalition of six neighborhood groups in the northwest section of Chicago.[1] This young group was formed in August 1979 to combat escalating insurance rates and reduced availability. Collectively, the groups have worked on numerous issues, from street safety to blocking the building of an expressway to improving recreational facilities. NWNF is committed to full community participation in organizational activities and decision-making; each participating group defines its membership as all residents 18 years of age or older and insists on membership mandate (determined through community meetings and door-to-door balloting) for all organizational programs. Communication is assisted by mailing a newsletter (formulated by an editorial board composed of representatives from the six groups) every two months to 25,000 Northwest households.

The neighborhood watch program was started under the federally funded Urban Crime Prevention Program (Roehl, Berger, and Cook, 1982), and was designed to prevent property crime and increase the availability of insurance. Nearly all NWNF's UCPP activities concentrated on organizing block watches. The target area for these activities consisted of about one-quarter of NWNF's total area -- it contains 100 residential blocks, 6,400 households, and over 18,000 residents. The population includes varied ethnic groups, with Polish (33%) and Italian (23%) dominating. Over half the population are homeowners; single-family, duplex, and three-family flats comprise the housing; and the average income is moderate. The neighborhood has undergone a transition in recent years, with many long-time residents moving out. A sense of isolation has grown as new residents moved in, exacerbated by language differences. A brief survey of residents documented a growing concern for crime and fear of venturing outside the home; property crime,

especially garage break-ins and vandalism, appeared to be on the rise.

A major UCPP goal of the NWNF was to organize block watches on all 100 blocks in the target area, with 30% participation of residents on each block. Several elements characterize NWNF's approach: (1) a professional, systematic approach to community organizing, (2) the success of organizing and effectiveness of the watch program, and (3) the lack of police involvement in the program.

The staff of the block watch program numbers five: two director/trainers who supervise and train the organizers, and three community organizers, one full-time stipended UCPP/ACTION volunteer and two staff drawn from member organizations, who are each assigned to an area. Prior to the initial block watch meeting, the following steps take place:

(a) An organizer canvasses the block, leaving brochures with each resident which include a pitch for the program (basically stating that law-abiding citizens can control crime by working together), outline the block watch concept, introduce the UCPP and the target area, and provide information from the Seattle program indicating a watch program can work. The contact with residents at this stage is minimal.

(b) A second contact is made a week or two later, with the organizer trying to meet and talk to each resident in detail about the block watch program. The organizer tries to identify a leader who might serve as a block captain and locates a place for the first meeting.

(c) A third contact is made with each resident once a time and place for the first meeting have been settled. A meeting notice is left with each household. The notices are mimeographed flyers, neatly done, which again outline what the block watch is, what will take place at the meeting, and announcing the time and place (e.g., "The Smith's, 815 W. Main"). The program's motto, "Keep a Lid on Crime," is printed under a picture of a masked burglar in a garbage can.

(d) Immediately before the meeting, the organizer goes back to the most interested residents to encourage their attendance. Thus, three to four contacts per household are made over several weeks before the first meeting is held.

Each initial meeting follows the same pattern. A package of materials is provided to each resident which includes:

1. A list of emergency numbers.
2. A Do-It-Yourself home security checklist.
3. Instructions on the use of an electric engraving pen for property marking and a household inventory list.
4. Recent NWNF newsletters about the UCPP, which contain articles on police reponse, guidelines for using 911, etc. These are written in English and Polish.
5. A survey of auto and home insurance to be completed.
6. The results of a pre-program victimization survey conducted for UCPP in the target neighborhood.

7. Maps of the target area.
8. Suspicious activity and monitoring sheets, to be used to record the date, time, and place of suspicious activity, and the police response to it.

At each initial meeting, usually attended by 10-15 neighbors, a NWNF staff person discusses the block watch concept, a watch map is completed (and given only to participants), and home security and property marking procedures are reviewed. A "phone chain" is introduced to the residents; when suspicious behavior is sighted, the neighbor calls the police and the next neighbor on the block watch map, who in turn calls the next, and so on, until all watch participants have been alerted.

A second, follow-up meeting is always organized by the NWNF staff, to include additional residents and reinforce the watch principles covered at the first meeting. Subsequent meetings are held by the block captains, which may or may not be attended by NWNF staff. Meetings are held until 30% of the block are involved. To keep the block watch active, the suspicious activity and monitoring sheets are collected monthly through the block captain and used by active residents and NWNF staff when negotiating with the police.

A Monitoring Committee was formed of representatives from each block watch (elected at the second meetings), to monitor police statistics and use them in combination with the suspicious activity and monitoring sheets to look for crime patterns and trouble spots. The Monitoring Committee, composed of nearly 50 residents drawn from the 30 block watches which had been organized between June and November 1981, also assesses the ongoing progress of the watch program. At the first meeting, two subcommittees were formed. The Logistics Committee will work on developing stronger communication networks among blocks and the Neighborhood Statistics Committee will concentrate on compiling the crime statistics from residents and police to guide collective security measures.

By July 1982, when UCPP funds ended, approximately 70 block watches had been formed, the Monitoring Committee had met seven times, and both subcommittees were active. Frequent newsletters reported the growing success of the block watches and described critical incidents. Unlike many block watches, there was little police involvement in NWNF's efforts. No police officers attended block watch meetings -- the crime prevention training was provided by NWNF staff. The Monitoring Committee, in an effort to obtain neighborhood-based crime reports from the police department, organized several meetings with high police command staff which involved considerable (often dramatic) confrontation. This issue had also been addressed by an advisory council set up for the city-wide UCPP. The police department refused to release daily police statistics to the community groups, saying the cost in time and staff was too great. Community residents representing the block watches met several times with the police superintendent, at one point holding a press conference in the police station lobby wearing handcuffs. The NWNF newsletter contained several articles about this issue, openly criticizing the police department. By the end of the UCPP project, the police superintendent had agreed to formulate a comprehensive policy governing the release of police statistics.

It should be noted that this adversarial stance with the police is an exception rather than the rule in neighborhood watch programs. It is also not necessary and possibly counter-productive; interviews with Chicago police and police officials in the other eight UCPP cities indicate they heartily approve of watch programs and are quite willing to cooperate. A confrontative community group draws ire from an overworked, underappreciated police force and cooperation is not

apt to be forthcoming.

The Northwest Neighborhood Federation conducted a pre- and post-project survey of a portion of the target area to evaluate the effectiveness of the block watches. Fifty respondents were randomly selected from a 14-block area; all of the blocks had active watches at the end of the year-long project and 48% of the respondents were program participants. The survey results indicated:

- a 12% reduction in crime victimization, as reported by citizens.
- a 22% reduction in the perception that crime is on the rise in the neighborhood.
- a 26% reduction in the fear of being burglarized when leaving the home unattended at night.
- a 26% increase in confidence that residents personally can do something about preventing crime in the neighborhood.
- a 23% increase in the affirmation that neighbors working together can help control crime in the neighborhood.

As of this writing, NWNF's federal grant had ended but their crime prevention activities were to continue under support from the Ford Foundation.

Crime Prevention Through Environmental Design: Generic Model

Environmental design approaches to crime prevention intervene to break the cause-effect cycle of environmental conditions and crime which lead to neighborhood deterioration (Gardiner, 1978). The cycle is kicked off by environmental conditions which promote outsiders use of an area, leading to increased crime and residents withdrawing behind locked doors. As the situation worsens, residents lose their feelings of commonality and territoriality and the ability to distinguish between residents and strangers, fail to keep up their property, and decrease their contact with other residents. As fear of crime and isolation increase, residents use their neighborhood less and feel less responsible for its condition; crime may indeed rise and encourage further neighborhood deterioration. Environmental neglect contributes to the neighborhood deterioration cycle. Indicators such as houses in disrepair, abandoned or deteriorated structures, unkempt lawns, graffiti, and broken street lights (similar to the incivilities discussed by Lewis and his associates) are signals that social cohesion and feelings of territoriality which deter crime and vandalism have broken down. This cycle of environmental neglect and conflicting use by strangers and residents, crime, and neighborhood deterioration can be broken by changes in the physical and social environment.

The concept of crime prevention through environmental design has gained increasing impetus in the past two decades. Jacobs (1961) first introduced the ideas of community cohesion, feelings of territoriality, and responsibility for one's "turf" as essentials for crime prevention, and suggested that neighborhood land uses could develop these community constructs and create opportunities for natural surveillance. Oscar Newman developed the concept of "defensible space" in public housing projects (Newman, 1972), showing that building designs such as the number of common entries, lobby visibility, and site layout could affect both residents' use of the area and their victimization. Recently, the basic premises that there is a definite relationship between the physical design of an area, its use and crime rate, and that the physical design can be altered -- in minor as well

as major ways -- to impact positively on an area's use and crime rate, has been expanded and tested in Westinghouse's concept of crime prevention through environmental design (Tien, et al., 1975; Westinghouse, 1978) and Gardiner's environmental security model (Gardiner, 1978).

The three basic principles of crime prevention through environmental design are access control, surveillance, and resident's use and feelings of territoriality. These three principles are interrelated and involve both the physical and social environment. Each is defined below, and a number of examples of physical and social changes which may achieve their objectives are provided.

Access control. The principle of access control is to keep potential offenders out of the neighborhood, primarily through physical or mechanical means augmented by social changes. It includes the remedy of target hardening -- locking and securing entranceways to prevent unauthorized entry. More macro design changes are made to reduce the amount of non-resident use of a neighborhood. Physical changes in street design and traffic patterns are major ways to achieve the desired end; streets may be made one-way or narrowed, and traffic may be slowed, redirected, or blocked by the addition of signals and signs. Barriers such as fences may be used to define public versus private areas to control intruders. Some barriers are more psychological than physical -- Operation ID and neighborhood watch signs, bushes, and other landscaping are signals that an area is private and protected.

Surveillance. The objective of increasing opportunities for natural surveillance is not to keep intruders out, but to increase the ability of residents to observe their actions and heighten the potential offender's perceived risk of being observed and apprehended. Simple physical design changes can improve natural surveillance -- removing visual barriers such as tall hedges, installing windows, increasing lighting, and channeling pedestrian and traffic flow past occupied areas. Surveillance may also be organized (as opposed to natural surveillance) in the form of citizen patrols, electronic devices, and neighborhood watches. Defining private and semi-private areas through physical means (borders, etc.) to convey a sense of ownership and territorial concern also conveys a sense of surveillance (whether it actually exists or not) to intruders.

Resident's use and feelings of territoriality. In addition to keeping intruders out of an area, it is desirable to increase residents' use of the neighborhood and their feelings of territoriality -- their sense of pride, ownership, and responsibility for their turf. Territoriality results in residents sharing a proprietary interest in their neighborhood, perceiving when the territory is threatened and demonstrating a willingness to defend it, and forcing outsiders to recognize and respect the territory and refrain from criminal behavior within it. Increasing residents' use naturally enhances surveillance. Feelings of territoriality can be increased by fostering community spirit through organizing, promotion of neighborhood events, and encouraging participation in crime prevention and other community activities. The social environment may be enhanced by environmental changes, beginning with neighborhood clean-up efforts which have the dual purpose of making the area attractive to users and thus conveying territoriality to outsiders, and bringing residents together in a cooperative endeavor. Defining private spaces enchances resident use, and physical changes may be made to provide safe and attractive areas for residents. Changes may be simple (placing benches in a grassy area) or complex (building a recreation area). Landscaping and lighting improvements may also increase residents' use.

Neighborhood-based environmental design strategies. Crime prevention through environmental design is most effective when a comprehensive approach is taken,

combining the three principles outlined above. All of the physical changes may be capably implemented or guided by neighborhood residents, although the comprehensive approach is best executed by involving law enforcement and city agencies in the process, as demonstrated in the case study which follows.

Neighborhood organizations or groups of concerned residents can implement the environmental design principles through the following strategies:

(a) Neighborhood clean-up. Graffiti may be removed or painted over by volunteers (preferably youth); paint stores are often willing to provide the cover-up paint needed. Block clean-ups can be accomplished by an organized one-day effort of residents. Public works departments are often willing to deliver and pick up a dumpster to facilitate trash removal, and may allow the street to be closed for a block party after the work is done. Building improvements -- painting, landscaping, repairs, and clean-up -- can be carried out by organized residents, with the support of landlords and owners as necessary.

(b) Physical changes. With minimal costs and a substantial amount of volunteer time, neighborhood residents can make a number of important design changes in the physical environment (or negotiate with landlords to do so). Such design changes include defining private and semi-private areas with physical or psychological barriers and increasing lighting around houses and carports.

(c) Participation in policy-making. Neighborhood residents should learn how decisions affecting their neighborhood are made, particularly in land use design, and participate in them, by attending meetings and speaking out. Zoning decisions, street design, traffic patterns, building projects, and urban renewal efforts all have an effect on neighborhoods. The citizens must study how a proposed change may affect their area, and exert influence in the planning process.

(d) Negotiation with city agencies. Neighborhood residents can develop contacts with city officials to obtain services that should be available in their neighborhoods but are less than adequate. Citizens may negotiate with city agencies to obtain regular trash pick-ups, clear vacant lots, demolish or board up vacant and burned out buildings, and enforce housing codes. At a higher level, citizens can leverage public resources to make major changes in their immediate environment -- improved street lighting, changing of traffic patterns (the simple addition of a stop sign may deter outsiders), and street redesign.

(e) Organizing. Neighborhood residents may organize block watches and other forms of community crime prevention, and develop activities designed to increase social cohesion and informal control.

Resources required. The basic activities of the environmental design strategy -- clean-up, graffiti removal, negotiating with city agencies, etc. -- require little more than the time of committed citizens. However, major design/alteration work such as building rehabilitation, street redesign, etc., can be quite costly. These changes require considerable skill and experience in leveraging public or private funds.

Strengths and weaknesses. The major benefits of this approach are that a few changes in the environment can make some impact on crime and, at the same time, directly improve the physical environment in the neighborhood. Its chief drawback

is that the major design changes can be very expensive and difficult to implement. Another weakness is that environmental design strategies are not well-known to citizens nor are the principles readily understood (in contrast to neighborhood watches). Technical assistance from urban planners or environmental design experts (ideally with those whose expertise is in crime prevention) is needed.

Crime Prevention through Environmental Design Case Study: The Hartford Neighborhood Crime Prevention Program

Although the Hartford Neighborhood Crime Prevention Program was not initiated by the community, various elements of the program make it an excellent case study of neighborhood-based environmental design for crime prevention. The program demonstrates the need for a comprehensive, integrated approach using physical design changes, community organization, and the police; it was carefully documented and evaluated, including a follow-up study three years after its initiation. The program is unusual in that it was implemented in a primarily renters community. Two principal documents have been used in the development of this case study -- the original program report (Fowler, McCalla, and Mangione, 1979) and the follow-up study (Fowler and Mangione, 1982). The program planning and evaluation was funded by the National Institute of Justice (then the National Institute of Law Enforcement and Criminal Justice), physical design changes were made by the city of Hartford, and additional monies and assistance came from LEAA and CETA. The coordination of program funding and development was carried out by the Hartford Institute of Criminal and Social Justice, a non-profit institute outside of city government. This program, or specific elements of it, could be designed and carried out by community groups, with assistance from the police and city agencies; citizens would serve in the same capacity as the Hartford Institute staff.

North Asylum Hill, a residential neighborhood less than one square mile in area located near downtown Hartford, was the site of the crime prevention program. The neighborhood boundaries were well-defined by three busy commercial streets and a railroad track. When the program began in 1973, the 5,000 residents were mostly unmarried adults living in low-rise apartment buildings or two- and three-family homes. Sixty percent were white, 30% black, and the remainder were hispanic, although the black and hispanic population was increasing. Education and income levels were higher than average for the city of Hartford.

The first step of the program was to conduct a thorough needs assessment in order to plan the intervention strategies precisely. An interdisciplinary team analyzed the way residents, potential offenders, police, and the physical environment interacted to create criminal opportunities. Their principal conclusion was that several features of the physical environment worked to destroy the residential character of the neighborhood -- outsiders passing through the area dominated and depersonalized the streets and the residents felt little ownership of the area. The specific problematic features of the physical environment were:

(a) There was a conflict between the residential neighborhood and non-residential areas around it. The neighborhood was surrounded by "generators" of activity -- several large insurance companies, a hospital, and three schools -- which brought a flow of people in and out of the neighborhood, left cars parked on residential streets, and encouraged loitering of outsiders in a central neighborhood park. Few residents used the park for fear of crime.

(b) The population was almost solely composed of renters. Although the housing stock was sound, it was not new and there were signs that routine maintenance was being deferred by some landlords.

(c) Four residential streets were used as major traffic arteries by 10,000 cars each day. This contributed to an unusual circumstance, that most street crimes occurred on residential side streets rather than main streets.

(d) Transition zones separating residential and commercial land use were not clear.

(e) Semi-private spaces (defined by the urban designers) -- sidewalks, parking lots, and residential streets -- were used as public spaces and residents did not take an active part in controlling them.

(f) There was little visual definition of private and semi-private spaces and private space was porous -- backyards were easily passed through to the railroad tracks, parking lots, and vacant lots. Pedestrian traffic, particularly of students, was not restricted to public ways.

Police operations, crime rates and patterns, and the resident and offender populations were also analyzed as a part of the needs assessment. Police activities were centralized and the lack of a good record-keeping system inhibited crime analysis and strategic patrol deployment. Four important findings resulted from a survey of Asylum Hill residents. A high proportion of the population was relatively transient, the heterogenous neighborhood had a growing minority population, and there was a low level of social cohesion. The residents did not use public spaces enough to distinguish residents from outsiders. The crime analysis indicated offenders were outsiders for the most part, who committed crimes of opportunity rather than planning them. Burglaries and purse snatches occurred in daytime hours while robberies took place in the evenings. Street crime was more of a problem than burglary, although rates of both were relatively high. Residents were more fearful about street crime than burglary, and were also concerned about the problems of prostitution, teenagers and loitering men, particularly in the large central park.

This thorough needs assessment identified multiple problems, and led to a multi-faceted intervention strategy. The initial step of redesigning the physical environment of the neighborhood to restore its residential character was to be complemented by changes in the community organization and police. All three components were viewed as essential and the program was hoped to be an enduring intervention.

The plan for environmental design changes was extensive; obstacles prevented the implementation of the entire plan. The four goals of the physical design program were (1) to decrease the use of the neighborhood by non-residents, both in cars and on foot; (2) to force remaining traffic onto a small number of selected streets; (3) to define neighborhood spaces more clearly; and, thereby, (4) to increase residents' use and control of their neighborhood. The beginning constraints included time (the changes had to be implemented in a relatively short time), cost (both public and private), and political acceptability (proposed changes had to be agreed on by residents, business, and city officials). There were five specific targets (underlined in the paragraph below) of the physical design changes.

In the original plan, vehicular traffic was to be decreased by reducing the four through streets to one or two, by creating several cul-de-sacs at intersections. Several side streets were to be re-designed to make them unattractive as short cuts by creating cul-de-sacs, changing two-way streets to one-way, and creating "gateways" by narrowing street entrances. It was hoped that traffic would

be reduced on most streets in North Asylum Hill as well as reducing the total number of cars passing through the area. Designs to reduce pedestrian traffic (removing a bridge over the railroad tracks, putting up gates and barriers) were found to be infeasible -- it was difficult to reduce non-resident pedestrian traffic without inconviencing residents as well. It was hoped that reduced vehicular traffic on certain streets would lead residents to use their streets more and create an environment in which outsiders would feel less welcome. The definition of neighborhood spaces was to be accomplished in two ways. One was to create "entrance ways" on neighborhood streets by narrowing the streets with attractive landscaping, providing a visual sign that one was entering a residential area. Second, the long blocks were to be broken up by islands of landscaping, to create smaller areas with more resident identification. Open spaces were to be dealt with by encouraging landlords to fence private parking lots, encouraging owners to upgrade vacant lots and abandoned property, and encouraging residents to clean up the central park and define spaces for use by children and elderly persons. The porosity of private spaces would be closed by encouraging private fencing by landlords and the railroad.

In addition to these environmental design changes, the proposed police program would permanently assign officers to North Asylum Hill, decentralize command of the neighborhood team to tailor to the needs of the area, develop a formal relationship between residents and police, and provide police with better information about crime patterns in the area. The community organization plan called for the creation of a new organization representing the residents of North Asylum Hill. Only one group existed and it was not representative of the resident population. The community organization would participate in the planning and implementation of the physical design changes and establish a relationship between police and residents. It was also hoped that the organizations, on their own, would initiate anti-crime activities such as block watches to increase neighborhood control, communication, and cohesion.

It is important to reiterate that Hartford Institute staff coordinated the program, managed the NILECJ grant, brought in the expertise of urban planners and criminologists, negotiated with city officials, and most importantly, worked within the community to implement the program. While it is more typical for a community group to tackle only a component or two of such a comprehensive program (e.g., forming block watches and negotiating with city departments for street changes), it is certainly feasible for a community organization to develop and carry out such a program. Residents would have to leverage funds, identify experts, negotiate with the city, gain police cooperation, etc. -- and could and should do so if desired. All or any part of Hartford's program could be developed at the community level.

After the extensive planning, negotiations, meetings, and decision-making took place. Two new community organizations were created: the Central Asylum Hill Association, representing young professionals, predominantly renters, and the Western Hill Organization, composed of older renters who were long-time residents. The existing Sigourney Square Civic Association (SSCA), comprising middle-aged and older homeowners, was rejuvenated. These groups undertook a variety of activities, including participation in planning and implementing the physical changes, the formation of a police advisory group, a street patrol, a burglary prevention program (similar to a neighborhood watch), and social events. The actions of the organizations were supportive of the program goals and they continued to work on the neighborhood problems beyond the program period.

The police component was implemented in two major areas. The first involved decentralizing the police command and assigning a stable neighborhood policing

team to North Asylum Hill. Crime analysis meetings between the police command staff in the neighborhood and Hartford Institute staff helped deploy resources strategically. One negative note is that the patrol officers (not the command staff) never seemed to understand the purpose or value of the street changes; most disapproved of them. The second major component of the police program was the relationship between police and citizens. The police advisory committee was successful as a vehicle for constructive communication. Over time, citizens moved from voicing vague concerns about crime to affecting police decisions and priorities about patrolling and crime enforcement. Police made their limited resources understood to the citizens, and responded as much as possible. Nearly all the neighborhood police team attended community social events and some meetings. The police actively supported the block watch program by training volunteers, providing materials, and establishing a base location for receiving calls.

The street changes required a long period of negotiation and compromise, primarily to accommodate business interests; although it was hoped that private sector funds would be available, public funding became the only possibility for making the physical changes. In the end, eleven street changes were made. Four cul-de-sacs and seven gateways were constructed, and one street was restricted to one-way traffic. Two through streets remained running north-south and east-west. Entranceways into North Asylum Hill streets were built along with the street redesign, by narrowing the streets, expanding the sidewalks, and landscaping. The efforts to break up the long blocks were not implemented for reasons of economy. The Sigourney Square Civic Association cleaned up the central park, but plans to create spaces and add facilities were not implemented during the evaluation period. Private fencing was encouraged but no significant results appeared during the experimental year. In summary, the environmental design changes primarily consisted of the street changes, originally thought to be the most important elements. Since all the plan's components which were designed to help residents control their neighborhood were not implemented, the basic question of the evaluation became whether the street changes, in combination with the expanded efforts of the police and community organizations, could accomplish the original goal.

One year after the program was implemented as described, evaluation measures were made (resident surveys, police surveys, crime data analysis, vehicle and pedestrian counts, etc.). Broadly stated, the program was a success -- crime and fear of crime were reduced. More specifically, it was found that:

- There was a marked reduction in the rate of burglary, and it is likely there was some decrease in street crimes against residents as well.
- There was an impact on the pattern of street crime, shifting the occurrence of these crimes from residential to main streets.
- No displacement of burglary to other areas was found, but there was some evidence that street crime was displaced to South Asylum Hill.
- There were parallel findings in fear of crime -- fear of burglary was reduced, but changes in the fear of street crime were not significant.
- The street changes had the desired effect of reducing the total amount of traffic through the neighborhood and directing more traffic to the remaining two through streets. Non-resident pedestrian traffic also become more concentrated on the main streets.

- There were positive changes, although statistically non-significant, in residents' use of their neighborhood. Fundamental changes in residents' attitudes about their neighborhood did not change.
- Some evidence pointed to an increase in residents' control of their neighborhood -- more arrangements existed for house watching and residents felt they could better identify strangers.

These impact measures were taken one year after program implementation, a relatively short time to expect changes to occur (or be measurable). The evaluators concluded that all three program components -- the design changes, police, and community -- were contributors to program success and that the physical changes were essential.

Three years later, a follow-up evaluation study was conducted in North Asylum Hill (Fowler and Mangione, 1982). In 1979, the community organizations were still active, the street changes remained in place, and through traffic was clearly reduced. The police program implemented in 1976 had changed; significant manpower reductions coincided with a sharp decrease in arrests for burglaries and robberies. The program had significant long-term effects on informal social control -- residents reported using the neighborhood more, a better ability to recognize strangers, a higher incidence of intervening in suspicious situations, and an increase in viewing neighbors as resources against crime. Although the rates of burglary and robbery rose, returning approximately to the level of city-wide rates, fear and concern about crime were similar to or better than the preprogram levels. Residents felt the neighborhood was improving and would continue to improve.

The evaluators concluded that environmental design changes can strengthen a neighborhood, and that making a neighborhood more residential can have positive effects on cohesion and informal social control. Strengthening informal social control can decrease fear of and concerns about crime, but does not, by itself, necessarily decrease actual crime. Fear of crime appears more related to the character of the neighborhood than actual crime rates. Effective police activity in combination with other elements of social control may deter crime in a neighborhood.

Other Models of Community Crime Prevention

Neighborhood watches and environmental design changes are two major forms of community crime prevention with proven success. Community crime prevention, however, takes many different forms, as illustrated by the brief case studies below.

Beyond the neighborhood watch: Citizen band patrols and youth activities. As discussed in the generic model description, neighborhood watches often expand their activities beyond the basic watch and home security measures. The community residents involved in the watch may initiate expanded activities themselves and/or receive guidance and impetus from a neighborhood organization.

The Northeast Austin Organization (NAO), a community organization in Chicago, is an example of a group which has assisted block associations in expanding their activities. NAO serves a neighborhood close to and similar to the Northwest Neighborhood Federation's target area. NAO's crime prevention program is older than NWNF's, and presents quite a contrast to it in the way NAO and the block associations work cooperatively with the local police department. The local police command and line officers provide a multitude of services: meeting frequently with citizens, to listen and negotiate resolutions to neighborhood problems; providing

crime statistics for the target areas; providing training and assistance in crime prevention; and assisting with workshops and presentations.

NAO has organized and maintained about 100 block associations since 1978, implemented an active citizens band radio patrol, and conducted numerous crime prevention workshops. The citizens band (CB) patrol was organized by NAO after the organization studied other CB patrols in neighboring communities; technical assistance was received from the police department and two community groups experienced in organizing similar patrols, and financial support came from a local savings and loan, NAO members, banks, and local businesses. Ten 23-channel CB units and a base station were purchased. Fifty active members patrol the neighborhood two nights a week in five hour shifts, acting as eyes and ears for the police to alert them of potential or actual crime on the streets. Suspicious activities are reported to the base station, and then phoned into the police. The patrol members are licensed and registered and attend ongoing workshops offered by the police department.

The block watch program continues to expand, and includes the activities of Operation ID, insurance redlining activities, victim/witness assistance, phone chains, youth activities, newsletter distribution, and neighborhood clean-up. Security, youth, and insurance committees are active. The youth committee organizes a variety of activities for the local young people. Some are directly related to crime prevention and neighborhood improvement, such as cleaning up graffiti and vandalized areas, while other activities aim to provide positive alternatives for the youth, including the formation of a neighborhood volleyball league, a zoo outing, and social activities (even a disco roller skating party!). On Halloween, over 100 youth attended an "Anti-Vandalism Halloween Party" supervised by adult volunteers; no vandalism reports were received. The youth committee, composed of youth and adults, also organized and presented a drug abuse prevention seminar for the neighborhood. In mid-1982, plans were underway for a Family Day picnic, jumprope marathon, and softball league.

Advocacy with police and city agencies. Several neighborhood organizations in Cleveland work with street clubs to improve their neighborhoods and reduce crime by working through police and city agencies to obtain needed services. The active organizations include the Buckeye-Woodland Community Congress, St. Clair-Superior Coalition, Union Miles Community Coalition, Near West Neighbors in Action, Citizens to Bring Broadway Back, and Tremont West Development Corporation. The neighborhoods they serve were generally settled by European immigrants in the 1800s; Hispanic and Appalachian populations have moved to the neighborhoods in recent years. The housing is primarily one- and two-family homes built prior to 1900 and the neighborhoods are low to moderate income. The tactics of the community organizations are similar, and aimed at crime prevention, arson prevention, and neighborhood improvement.

Over the years, these groups have been instrumental in organizing hundreds of street clubs composed of active residents within a three or four street area. The basic crime prevention strategy has been the formation of block watches; the most active residents have formed committees to focus on specific issues. At this time, safety, arson, insurance, and youth committees are active. The organizations provide staff support to the street clubs, study issues and possible strategies, and promote maintenance activities.

Members of the street clubs work together to obtain services from city agencies which are needed in their neighborhoods. Through meetings with officials (primarily police and housing), discussions, and correspondence, the street clubs have achieved the following:

1. Increased scooter, foot, and car patrols in designated areas.
2. "Special attention" status for certain streets when increased patrol has not been possible.
3. Board-ups and demolitions of vacant houses.
4. Assignment of a community response team to a neighborhood.
5. Repairs of scores of fire hydrants, curbs, and street lights.
6. Removal of abandoned vehicles.
7. Police agreements to enforce curfew, investigate "hot spots", etc. "Hot spot" cards were originated by one Cleveland organization; residents note crime and safety problems on small cards anonymously given to the police. Officers have agreed to respond, also on a card, about the problem and report back to the appropriate street club about any action taken.
8. Enforcement of housing code violations.

The community organizations and street clubs are known by the Director of Public Safety, police chief, and fire chief, down through the hierarchy to the beat officers. It appears that most of the officials appreciate the work and perseverance of the residents. The strategies for first of all getting the ear of officials and then having requests met vary depending on the problem. Part of the official support for the street clubs comes from the amount of work they do to help themselves and assist the officials (particularly the police) in important ways. Street club members implement their own solutions when possible -- they run a volunteer arson hotline, conduct vacant house watches when arson appears likely, organize block watches, work with owners and businesses on safety programs, and operate a tipster reward program for arsonists. The organizations have obtained funding for Project Secure, a program to board-up vacant houses, which is highly valued by the fire department. Residents are also credited with influencing the city to buy an arson investigation van. At times, the groups have also used confrontative tactics such as picketting juvenile court, monitoring court cases, and publicly denouncing police actions. In general though, their approach is firm but cooperative. They tend to work from the top down, enlisting the help of city council members and organizing neighborhood tours and large public meetings for the police chief and Director of Public Safety. Patrol officers and their command staff are invited to street club meetings and usually do attend. At these meetings, residents present the problem (these "presentations" are often planned in advance, in terms of who will say what when and in what tone) and request specific help. An answer is requested, either on the spot or later, and letters will be sent if necessary to remind police officials of their agreements. Neighborhood residents also try to show their appreciation -- as a police lieutenant said, "they tell us what we're not doing well, but they also let us know when we've done a good job." Fun events, such as a picnic and softball game, are also used to bring police and neighbors closer together.

Combatting insurance redlining. Insurance redlining is a form of urban disinvestment related to neighborhood deterioration, crime, and crime prevention. Insurance redlining is defined as cancelling, refusing to insure or renew, or varying the terms under which insurance is available to individual home and business owners because of the geographic location of the property (Insurance Redlining, 1979). Redlining is a contributing part of a vicious cycle of crime and

neighborhood deterioration. The cycle begins with an actual or perceived high incidence of crime and/or arson in an area or other signs of neighborhood deterioration, followed by redlining practices theoretically due to the high risk of loss. Insurance unavailability is not based on the condition or safety records of particular buildings, but on the location of the building. The term "redlining" comes from the practice of encircling areas in red on a map. High rates or unavailability of insurance lead to home and business owners leaving the neighborhood and the reluctance or inability of new owners to settle in the area. The result is further neighborhood decline, perpetuating the cycle.

Buckeye-Woodland Community Congress (BWCC) in southeast Cleveland has tackled the insurance redlining problem from two directions. First, they have organized street clubs in their target area to conduct neighborhood watches and other forms of community crime prevention. Second, an insurance committee of active residents has been formed to focus on insurance problems; the committee negotiates with major insurance companies to address insurance problems directly and keeps them aware of the community-wide safety measures which have been taken.

Buckeye-Woodland Community Congress is a coalition of 200 neighborhood groups, street associations, and local agencies which was formed in 1975.[2] The target area is an eight and one-half square mile area of southeast Cleveland with 40,000 residents. It is an older residential community populated by ethnic groups (Hungarians, Slovaks, and Italians) and a growing black community. The neighborhood may be on the decline -- proverty, crime, and abandoned properties are on the rise.

For the past ten years, insurance companies have been pulling out of the Buckeye-Woodland neighborhood -- the number of cancellations and non-renewals has climbed, along with sky-rocketing premiums for those remaining in effect. Systematic information on the extent of the problem has been difficult to obtain. Insurance companies are unwilling to disclose their policies and procedures. Surveys of residents through the street clubs have been unproductive; residents are neither knowledgeable about their insurance nor willing to discuss them. However, BWCC has received over 300 calls from residents with insurance problems, test calls have revealed redlining practices, and the number of Fair Plan policies (the insuree's last resort) written have increased. The first activity of the insurance committee was to meet with the major insurance companies and the Ohio Fair Plan to persuade them to send representatives to community meetings. Negotiations have continued with individual companies in a variety of areas. The negotiations consist of many strategy meetings with insurance officials to convince them of the safety measures being taken and the injustice of redlining practices. These meetings are not easy to arrange and take great perseverance. Company responsiveness varies greatly.

BWCC developed a ten-point legislative program to protect insurance consumers (Insurance Redlining, 1979):

1. Requiring insurance companies and the Ohio Fair plan to disclose the number of cancellations and non-renewals by zip code on a quarterly basis and to file such information with the insurance commissioner.

2. Requiring insurance companies and the Ohio Fair plan to disclose the number and dollar amount of new policies written and renewals and to file such information with the insurance commissioner.

3. Requiring the State insurance commissioner to compile a report on a quarterly basis and to make that report available to the public.

4. Prohibiting cancellation or non-renewal of policies because of: geographic location, cancellation of an agent within a territory, previous cancellation, previous rejection by another company, age of dwelling, previous filing of a claim.

5. Prohibiting rate increases based on the fact that a claim had been filed.

6. Requiring that a written explanation and a notice of the right to appeal to the insurance commissioner be supplied with each cancellation and non-renewal.

7. Requiring any insurance company licensed to sell within the State of Ohio to sell in all areas and prohibiting such companies from refusing to sell in certain areas.

8. Making homeowners insurance available on a market value basis and prohibiting companies from requiring insurance to replacement value.

9. Prohibiting discrimination on the basis of age and sex in the sale of automobile insurance.

10. Requiring the insurance commissioner to establish an office in Cleveland and to be in that office at least once each week.

A variety of arrangements to increase the availability of insurance to neighborhood residents have been negotiated. Residents negotiated with one company to provide a low rate homeowners "basic policy" to neighborhood residents, and obtained an agreement with another to place an agent in the Buckeye-Woodland neighborhood and advertise their low rate homeowners policy in a local newspaper. A third insurance company recently agreed to increase the availability of conventional insurance. BWCC has successfully negotiated with several companies to obtain disclosure rates (number of cancellations, non-renewals, new policies, etc.).

The necessary hard work, tenacity, and frustration of combatting redlining is illustrated by the insurance committee's experience with a fourth insurance company. After numerous contacts with company representatives, an agreement was obtained in early October 1981. The company agreed to provide aggregate figures for cancellations and non-renewals, send a memo to local agents stating the company policy of writing policies in all neighborhoods and not refusing insurance based on the age of the building, look into placing an agent in the neighborhood, make conventional insurance available, and have the district office investigate all resident complaints about insurance. This victory was short-lived. In November 1981, the insurance company's management changed and officially dissolved the established relationship and agreement. The community residents naturally felt deceived and frustrated, and their insurance activities consequently slowed.

BWCC and its insurance committee do feel some success has been achieved although no real change in availability of insurance can be documented. As yet there has been no change in the number of agents in the target neighborhood. Although few new policies are being written, there are apparently fewer cancellations also; the insurance drain in the community has been stabilized. Insurance education continues at street club and community meetings, citizens are referred to the companies BWCC has had success with working on insurance problems, and negotiations have recently begun with one company to increase re-investment in the community.

Victim/witness assistance: Direct services and court monitoring. The Oceanfront Development Corporation (ODC) is a community organization serving the largely elderly population of Brighton Beach, at the southern most tip of Brooklyn, adjacent to Coney Island. In early 1981, ODC began a victim/witness assistance program with a small federal grant under the Urban Crime Prevention Program. The victim/witness program includes direct services to victims of crime, crime prevention, and court monitoring.

The individuals served by ODC are mostly senior citizens who have been the victims of burglary, robbery, or minor assault. The 20 to 50 victims helped each month come to ODC directly since the organization is well-known in the community or are called by the staff, who receive the names and addresses of crime victims from the local police precinct on a weekly basis. Assistance is provided primarily by one staff person; although twenty seniors were trained in victim assistance, few are able to volunteer more than an hour or two each month.

Victims are helped in a variety of ways, depending on their needs. Crisis intervention counseling -- mostly providing a sympathetic ear -- is common, and is often followed by information on reporting the crime, filing for victim's compensation, the court process, how to replace important documents, etc. For individuals needing longer term support, ODC has arranged for ongoing group counseling at Coney Island Hospital. Referrals are often made to two neighborhood social service agencies for Meals on Wheels, health care, etc. The ODC services are practical and preventive; for burglary victims, home security inspections are conducted, and locks and burglar alarms are provided, windows are repaired, and window gates are installed if necessary. ODC solicits contributions to their Victim's Assistance Fund to pay for the security hardware. Follow-up interviews conducted as part of the UCPP evaluation found that victims were very pleased and grateful with the services they received from ODC.

ODC sponsors two types of court monitoring projects with the help of the Fund for Modern Courts, a non-profit organization formed for court improvement. The projects are designed to improve court treatment of victims and witnesses and make court officials more responsive to community viewpoints. One project is case-oriented, in that a group of elderly volunteers attend particular court hearings en masse (about 50 court watchers are involved, with 8-10 attending a hearing at any one time). The group selects cases that are of concern to them and by making their presence known to the district attorneys and judges, hopes to communicate the community's desires. The handful of cases monitored to date include drug dealing charges and a purse snatching -- generally, the court monitors want harsher sentences. The impact of the court monitoring on the outcome of cases is unknown; the ODC staff feels it has been helpful to the volunteers. There are concerns, however, that the court monitoring may be discriminatory, aimed particularly at young minorities.

The other court monitoring is system-oriented and is aimed more directly at court improvement, particularly in improved treatment of victims and witnesses. Nearly 50 high school students took part in a two-month project observing and rating the performance of 43 judges in Brooklyn Supreme Court. Their observations will be provided to the judges and government leaders in a written report designed to effect changes if necessary. This project had the support and assistance of the head judge of the court.

A different approach to victim/witness advocacy with the courts is taken by the Jamaica Service Program for Older Adults, which serves the elderly in Jamaica, Queens, north of ODC. JSPOA staff work with the local district attorney's office to explain the special needs of the elderly and improve the DA's treatment of them

in court. To prepare elderly victims and witnesses for court, mock trials are performed to familiarize them with the court processes. Public attorneys and judges role-play in these mock trials. JSPOA, like ODC, also provides comprehensive direct services to elderly victims of crime.

VI. MODELS OF NEIGHBORHOOD-BASED ANTI-ARSON EFFORTS

Two anti-arson models have been selected for presentation below. These models, as implied above, are distinguishable less by the overall elements contained in them than by the emphasis which they place on particular elements. The models selected are the following:

- The Arson Prediction Model. This model allocates a large proportion of its resources toward the accurate identification of arson-prone buildings, although it also employs prevention/intervention strategies.

- The Neighborhood Organizing Model. This model emphasizes the organizing of the neighborhood -- especially tenants -- over precision in arson prediction.

Arson Prediction: Generic Model

Overview. The arson prediction model is based on two major premises: (1) that it is neither wise nor feasible for an anti-arson program to devote its attention to all the buildings in a neighborhood (especially if there are several thousand structures in the neighborhood), so it must identify the small percentage of buildings which are most likely to be torched; and (2) that arson risk is associated with certain structural, economic, and demographic characteristics and can therefore be predicted.

Because arson is a relatively rare event, the identification of arson-prone buildings requires all the buildings in the neighborhood to be sorted through and some small percentage of them labeled as high risk structures. The effort required for such a task depends, of course, on the number of buildings in the neighborhood which may range from a few hundred to several thousand. As the number of structures in the neighborhood increases, it may become very difficult to assess accurately the arson risk associated with each one based only upon staff knowledge of the neighborhood; a more systematic approach is required. In the advanced form of this model, housing characteristics data for each structure are entered into a computer and statistically weighted according to the strength of the empirical association of the characteristic with the incidence of arson. For each building, an index is thereby produced which predicts the degree of arson risk associated with the building. The high risk buildings then become the targets of the anti-arson program's intervention efforts, which may include tenant organizing, working with the fire marshals and insurance companies, and various forms of pressure exerted on the owners of the building.

Although the development of an arson prediction system (also called an arson early warning system) is a central focus of this model, it is important to remember that the prediction system is only a means to the end (albeit a sophisticated one) -- the prevention of arson.

Moreover, a good arson prediction system will also generate information on properties that is crucial to eliciting an effective response from insurance companies, law enforcement agencies, city agencies, and the owners of the high-risk properties. For example, an insurance company can be convinced to reinspect a property they insure if they are told that the property is seven quarters in tax arrears, has 120 code violations and is 25% vacant, the vacant apartments not having been secured. This information is also essential in analyzing the nature of the arson potential for individual buildings, and thus to develop prevention strategies appropriate for that situation.

Studies in Boston, New Haven, and New York City have identified tax arrears, fire history, liens, code violations, vacancy rates, property sales activity, building type, and location to be most closely associated with arson. Each of these studies have produced formulas for predicting arson fires and these formulas provide the basis for an arson prediction system.

There are four phases involved in developing an arson prediction system. First, an analysis of the neighborhood and the fire history should be undertaken. The second phase involves building a data base for all properties in a targetted area. Then, using this data base, arson-risk properties are identified, providing a risk list. The final phase involves intensive research on the high risk properties and owners. Typically, the high risk list contains 20 to 30 buildings, but its length is a function of the size of the neighborhood, the severity of the arson problem, and the resources of the group.

Resources required. If the more sophisticated prediction models are used, the group must have access to the necessary computer and statistical capabilities. The statistical skills required are knowledge of standard multiple regression computations (actually discriminant analysis, the dichotomous criterion form of multiple regression). Virtually any statistician or social scientist will exhibit these capabilities, but they are not common among neighborhood organizations. Sophisticated computer programming skills and the requisite hardware/software facilities are also not typically found in community organizations. However, it is not essential that the organization's staff actually have these skills, but that the organization have access to individuals who do -- and that they have the resources to compensate them, either through direct remuneration or through some other arrangement. In fact, in the organization described in the case study below, the computer facilities were originally provided by a local university and the statistical/programming capability was largely external, a combination of paid consultants and city-donated expertise.

With the recent technological advances in the computer field, these arson prediction systems can be developed on micro-computers (with the addition of bolstered storage capacity through the addition of hard disk drives with 5 to 10 megabytes of storage capacity). The hardware for a total computer-based system can now be purchased for under $10,000.

Other types of resources are also required for this model, but they are the kinds of resources more commonly found in neighborhood organizations -- staff with community organizing skill and experience, and the ability to coordinate efforts with, and gain the support of, relevant municipal agencies.

Strengths and weaknesses. The obvious strength of this approach is its ability to identify accurately arson-prone buildings across large neighborhoods. Reliability and validity studies conducted by the New York City Arson Strike Force found that their arson risk index correctly classified 78% of the arson and non-arson buildings in a sample of more than 20,000 buildings. The information base developed by the system is also a valuable aid in gaining the cooperation of other agencies. It is most appropriate in fairly large neighborhoods (more than 1,000 buildings) where it may be difficult to detect the arson-prone buildings simply from knowledge of the neighborhood.

On the other hand, it drains considerable staff time and effort which might otherwise be applied to the prevention/intervention efforts. Indeed, some arson prediction systems have taken as long as two years to develop, although this time span is at least partly a function of the newness of the technology.

The Arson Prediction Case Study: The North Flatbush Arson Research Project

The North Flatbush Arson Research Project is housed in the Flatbush Development Corporation (FDC), a neighborhood-based organization in Brooklyn, New York. The project has four full-time staff members: a Project Director, a computer specialist, an analyst/assistant, and a community organizer. The project also utilizes the support staff and, occasionally, additional organizers from FDC.

Background. In the mid-1970's, large areas of New York City -- the South Bronx, Bushwick, and East New York had experienced the destructive forces of arson and disinvestment. Not wanting to repeat the tragedy of those arson-plagued communities, the Flatbush community took action at the earliest signs of housing deterioration and arson. Community residents established the Flatbush Development Corporation in 1975, a non-profit corporation designed to preserve housing and neighborhood stability. At the same time, the Flatbush Avenue Task Force, a coalition of residents and merchants, researched and confronted owners of fire-prone buildings along Flatbush Avenue. The arsons continued, spreading from the commercial strip of Flatbush Avenue to the surrounding residential areas on East 21st Street and Ocean Avenue. From 1975 to 1978 structural fires in Flatbush increased 43% from 292 to 417 fires. In response, the Flatbush Development Corporation and the local Community Board sought community development funds to develop a state-of-the-art arson prevention program. Funding was secured in February 1980 and the North Flatbush Arson Research Project was begun.

The Development of the Arson Prediction System

As indicated above, the North Flatbush Arson Research Project is a comprehensive anti-arson program which includes multiple arson prevention strategies, including tenant organizing and cooperative efforts with fire officials and insurance companies. But the Flatbush arson early warning system (its arson prediction system) is its unique strength; indeed, it is generally recognized as representing the state-of-the-art in this area. For this reason, this case study concentrates on the development of the arson early warning system.

The development of the Flatbush system covered four major phases; these are described below.[3]

Phase I: Fire history/neighborhood analysis. Background information is important in determining what the nature of a neighborhood's fire problem is. A neighborhood which is declining is more likely to have disinvestment/insurance-fraud type fires whereas a neighborhood on the upswing may experience displacement fires. General background information collected by Flatbush included the following:

(a) population characteristics, ethnic composition and trends, income levels.

(b) extent of housing stock deterioration.

(c) basic housing characteristics -- percent owner-occupied, building types, extent of abandonment and vacancies, etc.

(d) identification of property owners who own multiple buildings.

(e) patterns of investment or disinvestment.

(f) existing housing strategies employed by community groups and city agencies.

Census data and city agencies in New York were the sources for much of this information.

The next step in this phase was to identify a target neighborhood that could feasibly be researched. Although the Flatbush staff was small, much of the housing information in New York City is on computer tape, greatly facilitating the usually time-consuming data collection activity.

The area selected was North Flatbush, located in the geographical center of Brooklyn, with a population of 55,390. A majority (76%) of the population is black or Hispanic. The area includes approximately 2,000 buildings; 57% are one- and two-family dwellings, 30% are multiple dwellings, and the rest are largely commercial/industrial.

An analysis of the fire history data showed structural fires and arsons to be on the increase during the period from 1975 to 1978. In analyzing fire data, it is important to research a period of at least two years (so that trends can be detected), and to look at suspicious fires, not just arsons. Fires labeled "suspicious" are probably a better indicator of the arson level, since the number of arsons as labeled by the fire department are often mainly a function of the number of fire investigators available in an area.

Phase II: Building a data base. The housing characteristics data were drawn from several sources, including the Real Estate Register, the Department of Housing Preservation and Development, the Department of Finance, and the Fire Department. The types of data collected and the data sources are displayed in Table 1.

Phase III: Predicting arson. Using available software programs to merge the data tapes and conduct the discriminant analysis, the Flatbush project produced a risk list of properties. The initial sets of data were merged and stored on the computer system of a local university (Brooklyn College), and the risk prediction analysis (using three different weighted formulas) was performed by Urban Educational Systems in Boston, a pioneer in the development of risk prediction systems. The top 30 properties on the risk list were targetted for arson prevention measures.

At this writing, the Flatbush project is in the process of buying a microcomputer and has hired a computer specialist to develop their own risk prediction software package. Within a few months, they expect to have a fully self-contained, computer-based arson early warning system. For groups developing a manual arson prediction system, computer printouts, available from the New York Neighborhood Anti-Arson Center, can provide a basis for scoring properties. Groups then have the option of using the New Haven formula, a relatively simple one, or the more involved New York Arson Strike Force formula.

Using the New Haven formula, buildings can be flagged as high risks when four variables exist: over $1,000 in tax arrears, structural fires, code violations and liens. The existence of three of the four variables could produce a list of moderate risks.

Using the Arson Strike Force formula a score can be calculated for each property. Starting at the top of the tax arrears list and/or the fire list, the following coefficients should be used:

Table 1
Types of Data and Data Sources for the
Flatbush Arson Early Warning System

NAME OF RECORD	SOURCE	DATA COLLECTED
Property Information	Real Estate Register	Block and Lot Number, Lot Dimensions, Building Type, Corner Locations, Street Address
Real Estate Transactions	Real Estate Register	Date of Transfer, Amount of Principal, Purchase Price, Interest Rate, I.D. Number for Grantee/Mortgagee, and Grantor/Mortgagor
Owner Information	Real Estate Register, Standard Owner's Directory	Type owner, Date of incorporation, Name, Legal Entity Type, Phone Number
Finance Department Information	Dept. of Finance	Assessed Value; Real Estate Taxes: charges, credit and arrears, Total quarters in arrears, etc.
Housing Department Information	Dept. of Housing Preservation and Development	Date of Last Inspection; Number of Complaints; Outstanding Violations by Hazard Class; Total Emergency Repair Charges, Receipts & Balance, etc.
Fire Information	Fire Department	Battalion, Admin. Company, Date of Fire, Time Out, Cause Codes, Number of Alarms, Injuries and Casualties, Property Use, Building Status, Damage to Property, etc.

Variable	Coefficient
1 or 2 family house*	-2.83
walk-up apartment*	-1.75
number quarters tax arrears	.09
elevator apartment house*	-1.30
non-residential	-1.66
vacancy rate	.01
recent suspicious fire*	1.13
number of fires past year	.33
corner property*	.74
Manhattan location*	- .55
Brooklyn location*	.12
constant**	1.84

*If yes, value of coefficient added to score; if no, nothing is added.
**Constant value is added to all scores.

The following sample calculation illustrates how one arrives at a risk score:

Building type:	large elevator apartment	-1.30
Tax arrears:	10 quarters in tax arrears 10 x .089	.89
Vacancy rate:	25% 25 x .01	.25
Fire history:	recent suspicious fire	1.13
	5 fires past year 5 x .33	1.65
Location:	street corner	.74
	Brooklyn	.12
Constant:		1.84
	score	5.32

By calculating scores for each property which has tax arrears or fires, potential arsons can be identified, producing a risk list of the 20 or 30 highest positive scores. These calculations also enable the researcher to gain a sense of what variables to look for in identifying an arson risk property. Once the risk list is produced, the targetted properties should be further examined to analyze the nature of the potential arson risk and establish possible links between at-risk owners either inside or outside the target area.

Phase IV: In-depth research of at-risk properties. Once the high risk properties were identified, the Flatbush staff sought further information on them. Insurance information is very important. Insurance companies are contacted and encouraged to reinspect properties with serious code violations, large tax arrearages, unsecured vacant units and other serious problems. In case of fire, information concerning the suspicious nature of the fire is forwarded to the company. The amount of the insurance is an indicator of a possible motive for fraud where it is substantially greater than the value of the property.

Owner identification was another critical step. Most of the multiple dwellings are owned by corporations or partnerships. It is important to identify the members of the legal entity owning the property. This information is typically available through an Owners Directory or the city housing department. At the same time, a review is made to identify other properties owned by the same person or group. Once other properties by the same owner have been established and the dates of ownership verified, the fire records during the time of ownership can be verified.

Next, an economic analysis is conducted, using information typically avail-

able at city housing and finance departments. For example, a search of the mortgage will lead to an assessment of the number and amount of mortgage payments currently being paid on a property. An over-mortgaged property is an indication of a property under economic stress.

The Department of Finance records are then checked to assess overdue taxes. If a bank holds the mortgage, Flatbush attempts to find out if mortgage payments are up-to-date.

Arson prevention strategies. When these analyses are complete, the Flatbush group tailors a prevention/intervention strategy that fits the particular property. The arson prevention strategies implemented by the Flatbush Development Corporation fall into three broad categories: increasing the "threat of detection" for a potential arson-for-profit owner, removing the economic incentives for profit by arson and monitoring the responses of government agencies and insurance companies. The "threat of detection" measures consist of a series of monitoring efforts of the high risk properties as follows:

(a) Owners are directly contacted by project staff; if an owner is considered "fire-prone", this contact will be made by Division of Fire Investigation; owners with a good record but under "economic stress" will be assisted by FDC's housing staff.

(b) Division of Fire Investigation makes in-depth monthly inspections of high-risk properties.

(c) Fire insurance companies are contacted and information forwarded concerning critical problems, thus triggering a reinspection of the property and possible cancellation of property insurance if the landlord fails to remedy problems.

(d) Mortgagee is also given information on the property, prompting additional pressure on the owner to rectify critical problems.

(e) Tenants are organized, seeking to improve building conditions and to be on alert for signs of potential arson.

(f) Publicity is sought on "fire-prone" owners, especially where links have been established between high risk owners.

Removing economic incentives is attempted through several means:

(a) A lien can be applied to an insurance claim where a property is in tax arrears; fire are monitored in North Flatbush and, where taxes are owed, the City Collector is contacted.

(b) Insurance companies are contacted where the project has information that the property is no longer insurable (substantial vacancies, over two years in tax arrears, hazardous code violations, etc.).

(c) Owners interested in government rehabilitation loans are notified that a bad fire record, especially serious arson fires, will nullify his application, thus removing the incentive to displace tenants by arson.

The arson prediction system and the subsequent prevention strategies have only recently (after two years of development) become operational. A comprehensive experimental evaluation of the Flatbush project (supported by the Ford Foundation)

is expected to yield hard data on the project's effectiveness.

Neighborhood Organizing: Generic Model

Overview. In this approach neighborhood organizing, especially tenant organizing, clearly commands the attention and resources of the anti-arson effort; an arson prediction system may be developed, but it is not likely to be highly sophisticated or computer-based. The identification of arson-prone buildings comes from manual accessing of housing and/or fire information and (probably more functional) the staff's knowledge of the neighborhood. When a building is identified as arson-prone, a team of organizers visits the building. If there is no existing tenants' organization, the organizers attempt to establish one. At the same time, the organizers work rapidly to convince tenants of the potential danger of arson and the need to take measures to prevent it. These efforts take on special urgency in those instances where there is reason to believe that arson is imminent. If there is any urgency, 24-hour arson watches -- tenant patrols -- are organized to deter anyone from setting a fire. Along with arson watches, organizers also attempt to educate tenants in arson prevention and general fire prevention, provide security assistance, and help to improve the conditions and services in the building.

In some contrast to the arson prediction model, this model relies on skills and capabilities more typically found in neighborhood organizations. The group often has intimate knowledge of the neighborhood and its residents. It knows who the informal leaders and respected citizens are, what appeals to the residents and what does not. Often the familiarity and respect are reciprocated -- many of the people in the neighborhood know the group and are thankful for its presence. At a more formal level, the staff of this model possess important community organizing skills. They are experienced in helping citizens to become aware of community problems that need to be addressed, and in assisting them to address the problems. In particular, the staff is skilled at tenant organizing -- building, sustaining, and guiding effective tenants organizations in the fight to improve their living conditions.

Resources required. The neighborhood organizing model requires staff with organizing skills -- a demanding, relatively high-skill activity -- and, to some degree, social-political connections in the community. Tenant organizing requires an unusual amount of dedication and persistence in the face of difficult odds. An organizer may work with tenants for several months before they begin to function as a group (or refuse). Of course, organizing is a labor-intensive activity; as more buildings are targetted, additional organizers are required.

Strengths and weaknesses. The major strength of this approach is that it allocates most resources directly to arson prevention/intervention services, and that it appears to be effective in many cases of imminent arson. Its main weakness is that it probably does not identify arson-prone buildings as thoroughly as an arson prediction model.

The neighborhood organizing approach also offers the advantage that as more organizers are working out in the community, they can help in various ways, direct and indirect, to build neighborhood cohesiveness. They not only create and sustain tenants organizations, but establish and renew block associations, unions of tenants organizations, and other collective activities that offer opportunities to improve communications among residents, raise their awareness of mutual problems, and contribute to a sense of community. Because the roots of arson are typically imbedded in a broad pattern of disinvestment and deterioration, the varied organizing activities and their myriad effects may be more likely to reach some

"critical mass" that offers more hope of stabilizing a community than the building-focused strategies.

The Neighborhood Organizing Case Study: The People's Firehouse

The People's Firehouse is located in the Williamsburg/Greenpoint area of Brooklyn. It is a neighborhood-based organization that was established in 1975 to combat fires and prevent arson in the neighborhood. The arson prevention project is one of several activities conducted by the People's Firehouse, including the administration of a large housing rehabilitation/management contract for the city of New York. The Arson Project comprises five full-time staff; a Project Director, three organizers/outreach specialists, and a research specialist whose main responsibility is to identify the arson-prone buildings in the target area.

Background. The People's Firehouse was created in 1975 under dramatic circumstances, a set of events which to this day evoke pride and emotion among the original staff. The New York Fire Department had decided to close down the Williamsburg fire station, a decision that was the latest in a series of decisions to withdraw services from the area. A group of approximately 200 residents, led by Fred Ringler, Adam Veneski, and Ron Webster (current Administrator, President, and Deputy Administrator, respectively) demonstrated to keep the firehouse open. In light of this reaction, the city had agreed ostensibly to suspend the decision when, on Thanksgiving night, the fire department suddenly attempted to vacate the firehouse and remove the fire engine. An alarm was sounded by a friendly fireman, the residents came pouring out onto the streets, took over the firehouse and blocked the fire engine from leaving. A group of these citizens (led by the above-named three) took over the firehouse for nearly a year and actually operated it themselves. After a change in city government (election of the Koch administration), the city agreed to maintain the fire station. The neighborhood had "fought city hall" in a most dramatic fashion -- and had won. The citizens group, now called the "People's Firehouse", became a non-profit organization dedicated to improving the neighborhood with a focus on housing issues and fire prevention. Eventually their fire prevention efforts evolved toward a concentration on the arson problem, which continues to be a serious one: the Williamsburg area has one of the highest arson rates in New York City.

The People's Firehouse Arson Prevention Project: Orientation and Approach

Philosophy and orientation. The People's Firehouse anti-arson program is based on the view that arson is a resultant symptom of a broad pattern of neighborhood deterioration and disinvestment in a neighborhood that is undergoing severe economic and racial changes. Accordingly, it is their belief that no single activity will prevent arson; rather, that arson prevention revolves around five major neighborhood preservation activities: housing, arson/fire prevention education, community revitalization, economic and industrial development, and the provision of community services.

Out of this philosophy a multi-faceted strategy has developed; however, the focus of the strategy is exemplified by the Project Director's statement that "the most significant and effective weapon is the power and effectiveness of organized groups of well-informed community members living with the problem." The main weight is on organizing.[4]

Approach. The target area of Williamsburg has a total population of 64,757, of which a majority (64.6%) is Hispanic. One-third of the population (21,431) is on some form of public assistance. The buildings are 64.7% residential, most of which are multiple dwellings. The arson rate in Williamsburg has consistently been

among the highest in New York City. There were 179 suspicious fires in the area in 1980; 1982 data show approximately 22 arsons per month.

The People's Firehouse uses a three-fold strategy in its arson prevention efforts: (1) identification of blocks and buildings where arson risk is highest, (2) education, and (3) selective organizing. The main purpose is to stabilize and secure arson-prone buildings and blocks before they've been badly fire damaged. The strategy depends on creating a community consciousness about fire and arson, and the ability of the neighborhood -- the residents themselves -- to intervene in arson prevention before it has lost too much housing stock.

The identification of arson-prone blocks and buildings involves (a) periodic review of arson risk data from the New York City Arson Strike Force, (b) collection of their own data on housing characteristics and structural fires, (c) staff visits to particular blocks and buildings, and (d) word-of-mouth reputation about blocks and buildings. Their own data collection includes the following data:

- Quality of housing stock, based on code violations recorded and tenants' complaints.
- Financial stress, based on information on tax arrears, emergency repair liens, and real estate transactions.
- Fire history, based on daily reports from the fire department, which are analyzed and charted.

Using these methods, five areas within the Williamsburg target area have been identified for particular attention, and an initial list of 60 high-risk buildings has been developed. The buildings at the top of this list are receiving education and organizing while efforts continue to refine the list.

Educational sessions are conducted in every targetted area, and in every problem building that is about to start 7A Administration (a procedure the City uses to take control of tenanted properties from delinquent or absent landlords -- a court-appointed administrator becomes manager of the building). Three staff members of the Firehouse are "7A's" in buildings in the Williamsburg area. Fire prevention is a calculated blitz on each targetted building. It involves three or four presentations at tenant meetings over a period of four to six weeks, intended to raise people's consciousness about fire.

During the first meeting, the organizer organizes a meeting of tenants in one tenant's apartment (four to ten households), acts as discussion leader, distributes literature and uses visual material to start discussion on the subject of fire. The second meeting involves a mock fire drill, exercises in leaving the apartment in the dark, and information on how to report a fire (phone numbers to call, what information to give). The third meeting involves education on "Fire Services." A sample alarm box is brought to the meeting, its use is demonstrated. Information is also given on how to monitor a fire hydrant. The last presentation is on arson -- its causes and what the tenants can do to prevent it.

Selective organizing is done in targetted buildings, in buildings that request help, and in buildings that are referred to the Firehouse. Rapid changes in a building, such as tenants leaving, are an indicator of serious trouble. The first task of the organizer is to stabilize the tenancy, to get back to the situation where the building/individual apartments represent a home. Tenants are organized around a schedule of regular meetings with planned agendas. The building sets its own rules as to how disruptive tenants or rent delinquencies will be

handled. The organizer acts as supervisor. Regular agenda items include financial issues, repairs needed, social concerns, and violations of rules. It can take several months to stabilize a building.

The second task of the organizer concerns the repair work, partially dependent on how much rent is collected balanced against the physical condition of the property. Sometimes the landlord is contacted and an effort is made to mediate a solution. If little or no progress is made, there may be an 7A action, and an administrator is appointed who has the legal authority to evict tenants (for lease violations or rent arrears). This administrator is required to keep financial records (the Firehouse trains a tenant to keep the books), and can take a fee from the rent collected (the Firehouse does not).

The long-term stability of the buildings and how to actually improve them seems to be an open question. The most stabilized buildings enter the Community Management program, which manages and rehabilitates tenanted city-owned properties. Another area of involvement for the organizer is the improvement of the safety and security of the tenants. Efforts are made to organize patrols, secure doors, and contact the police or hire officials if needed.

As in the case of the North Flatbush anti-arson project, the People's Firehouse has only recently developed their approach to a point where they hope to be able to make an impact on the arson problem. As yet, however, there are no hard data on the effects of their project. With the award of a grant from the Ford Foundation in August of 1982 (coupled with a comprehensive evaluation, also supported by Ford), the People's Firehouse anti-arson efforts should soon produce results of interest to the anti-arson field.

VII. RESEARCH AND DEMONSTRATION AGENDA

Despite the spread of neighborhood-based crime and arson prevention activities during the past decade, there is relatively little hard data to guide current policy formulation and future implementation of such approaches. As it now stands, the government official or community program director interested in selecting and developing crime prevention efforts is left to rely largely on scattered evidence and hearsay. As a first step toward filling this gap, this chapter presents several proposals for research and demonstration programs designed to answer central questions about crime and arson prevention. We emphasize that the research part of the agenda is equally as important as the demonstration programs; crime and arson prevention efforts must be accompanied by rigorous evaluation research to determine their effectiveness if they are to be useful to policy-makers and to other communities. Evaluation will document how the efforts were actually implemented, assess if the efforts had the impact desired, determine if the impact can be attributed to the intervention(s) or to other neighborhood or city-wide activities, and record the processes and impact in a form to be easily used by other communities. Before presenting areas needing experimentation and further study, some important methodological considerations in community crime prevention research and evaluation will be reviewed.

Methodological Issues

Assessing the value and effectiveness of crime and arson prevention efforts is as complex and multi-faceted as the efforts themselves. Evaluation research in this field requires substantial time and money; in some cases, more of both than the program requires. A thorough presentation of methodological issues is beyond the scope of this paper, but two major areas -- designs and measures -- will be briefly discussed here. These general guidelines are appropriate for the three crime prevention program evaluations proposed below.

Evaluation design. Critical issues in evaluating crime and arson prevention projects are the use of experimental designs, the documentation of implementation and process events, the time period needed for the study, and the stance of the researchers. While pure experimental designs are often infeasible in the field, their underlying principles are important to consider. An experimental design in which treatment (crime prevention activities) or no treatment is randomly assigned to a group of similar neighborhoods is rarely possible, but the use of a matched control neighborhood is desirable. This requires the identification of a neighborhood as similar as possible to the experimental neighborhood where the crime prevention activities take place, matching characteristics such as crime rates, housing stock, socioeconomic status of residents, and so on. Identical measurements in the experimental and control neighborhoods will indicate whether any observed changes are due in fact to the intervention strategy or to other events such as inflation or city-wide policing. Effective crime prevention efforts may reduce crime in the target neighborhood but displace it to an adjoining area or a nearby neighborhood with similar demographic characteristics. Crime displacement should be considered an evaluation issue and assessed if possible. Another important and feasible element of experimental design is pre- and post-project measurements, preferably using a time series design. Neighborhood crime rates and other variables must be assessed before the intervention in order to be able to assess change accurately, and then tracked over time.

While the key question of a crime or arson prevention evaluation is always "How well did it work?", it is important to understand the dynamics of program operations -- what actually happened -- and which components were most effective.

Thus, evaluation should include the documentation and assessment of program operations as well as an assessment of the impact of a program. These processes (e.g., forming a block watch, increasing street lighting, etc.) are intermediate outcomes (as shown in the conceptual framework in Figure 1) and are essential for understanding how a program works and for replicating it. An excellent example of the use of process and impact data is the Hartford case study in Chapter V.

The effects of a crime prevention program may be immediate, but are more likely to appear slowly over time. Many strategies, such as street redesign and increasing neighborhood participation and cohesion, may take a long time to implement and even longer to have an effect. For these reasons, longitudinal studies are recommended, with periodic measurements made over several years time.

Finally, participatory evaluation research is appropriate for the crime prevention studies proposed in this paper. Rather than being completely detached, the researcher should be a participant in the process, providing feedback to the community and other key participants, and assisting in program development and direction. Of course, such feedback and guidance must be provided judiciously; the evaluator should not develop or manage the program, only assist the program staff to implement the model as intended. The goal of the proposed research and demonstration programs is not so much to provide a verdict of success or failure, but to provide ongoing research findings (on crime patterns, neighborhood participation, or whatever) to improve the program and increase its chance of success.

Measures. Multiple measures of impact are most desirable. Crime, fear of crime, attitudes toward the neighborhood, and neighborhood improvement and cohesion may all be the targets of a crime prevention effort, and should all be measured. Crime levels should be assessed in two ways: by conducting resident surveys and analyzing crime statistics as reported to the police. While crime statistics are easy to collect and important measures of trends and patterns, their validity is questionable due to reporting (or, more accurately, non-reporting) rates and police recording procedures. Not only are many crimes not reported to the police, but many crime prevention efforts aim to increase crime reporting -- thus, a rise in reported crime may indicate program success. Resident surveys are critical data collection tools. In addition to assessing victimization rates whether or not the crimes are reported to the police, survey questions can tap other important variables including fear of crime, attitudes toward the neighborhood, use of the neighborhood, participation in crime prevention efforts and other local activities, etc. Depending on the goal of the anti-crime efforts, other measures should be used. Indicators of neighborhood improvement may include an analysis of property values or business development. Many intermediate outcomes specific to the strategies implemented are precursors of the ultimate outcomes and should be measured. For example, intermediate outcomes of neighborhood watch programs might be assessed by counting the number of participating residents, confirming that home security measures have been taken and property has been marked, and analyzing police cooperation and the interaction with the community.

The measurement of arson incidence is notoriously unreliable, subject to several sources of error. Perhaps the chief source of error is the fact that the frequency of reported arsons is substantially affected by the number of fire marshals assigned to a given area. Another source of error stems from the classification procedure. Fires lacking obvious evidence for arson will be labeled "suspicious" or "cause unknown." Thus, actual arsons are probably underrepresented in the official records; and to the degree that they are professionally set arsons (more difficult to detect), they will be further underestimated. One way of compensating for these sources is to utilize several indices of arson, including

suspicious and unknown fires as well as official arsons.

Neighborhood-based Crime Prevention

There is a surprising lack of knowledge regarding the effectiveness of neighborhood based anti-crime efforts in different communities, in spite of the growth of community crime prevention in recent years. Recent research has identified some successful approaches and explicated some of the underlying issues in crime and crime prevention, but more replications, applications, and testing need to be done. Two major approaches -- block watches and environmental design -- show signs of effectiveness in Seattle, Hartford and Portland, respectively, but the results are limited. It is not known whether the approaches can be successfully transferred to other neighborhoods or what the impact of varying the approaches might be. The recently completed Reactions to Crime papers provide a wealth of information, particularly in the areas of fear of crime, citizen involvement, and the role of crime and crime prevention in overall neighborhood well-being. These recent research findings need to be applied and the applications evaluated. Three general areas in neighborhood-based crime prevention are recommended for further research and demonstration below.

Meta-evaluation and field testing in community crime prevention. In spite of the proliferation of neighborhood-based anti-crime efforts (primarily block watches) in recent years, there are no solid guidelines for "what works where." Podolefsky and DuBow (1981) found that a community's response to crime was a result of factors in the social and cultural context of the community, primarily family composition, socioeconomic status, and race and ethnicity. Yet crime prevention projects may be adopted for reasons unrelated to either the local crime problem or the social and cultural context, such as the presence of city-wide anti-crime programs. Podolefsky and DuBow recommend the development of a "menu" which would allow community groups to select appropriate responses to crime.

The research and demonstration program proposed here was also suggested by Skogan in the summary of the Reactions to Crime project:

> Surprisingly, we do not even know if widespread target-hardening programs will actually reduce burglary in a community, or if citizen patrols, neighborhood watch programs and other group activities actually can deter personal or property crime. Without reliable knowledge about the consequences of various crime prevention strategies it is premature to recommend diverting community energies into those rather than other worthy but non-crime-related efforts. We also lack the knowledge necessary to account for the costs and benefits of such activities. What is required is a careful reevaluation of the existing literature on crime prevention with an eye toward identifying reliable evidence concerning program effects. Then, a careful program of research monitoring the influence of demonstration program packages could be fielded (Skogan, et al., 1982, p. 56-57).

To assist communities in designing appropriate crime prevention strategies, an analysis and synthesis of available research on the range of community crime prevention approaches is proposed. Using meta-evaluation (also called meta-analysis) techniques (Cook and Gruder, 1978) to integrate the results of prior research into a coherent picture, the findings of a variety of crime prevention studies can be analyzed across the various approaches and neighborhoods to determine which approaches seem most appropriate given different neighborhood conditions. The range of approaches may include all the activities listed in Chapter III -- neighborhood watch, patrols, environmental design, etc. These

approaches have been implemented in neighborhoods varying in the type and extent of crime, demographic characteristics (family composition, socioeconomic status, ethnicity, etc.), and other neighborhood conditions such as housing stock.

The synthesis of research findings will provide more information about "what works where" and result in a preliminary menu, the first step in developing guidelines for communities desiring to implement anti-crime efforts. The preliminary menu could be used to guide a series of small field experiments designed to test approaches in different communities.

The approach would be somewhat similar to the National Institute of Justice's National Evaluation Program. Phase I of this program summarized the state-of-the-art in various areas; Phase I evaluations were conducted in several crime prevention areas -- street lighting, citizen patrol, Operation ID, home security inspections, and citizen crime reporting. Phase II evaluations were to field test the most promising approaches, but the Phase II tests of the community crime prevention projects were never funded. A multi-site experiment guided by the meta-evaluation findings should include natural variations of neighborhood conditions, a variety of prevention strategies, and several matched control neighborhoods for comparison purposes (the number selected would depend on the number and range of experimental neighborhoods). Multiple measures of crime prevention and neighborhood conditions would be employed in a pre/post design. The demonstration programs should be operated by neighborhood organizations, with staffing and costs dependent on the type of effort selected.

Environmental design. The Hartford Neighborhood Crime Prevention Program was a successful implementation of the environmental design approach. This multi-faceted approach holds promise for improving the physical and social environment of a neighborhood -- reversing or preventing neighborhood deterioration, reducing crime, and increasing social cohesion and informal control. A research and demonstration program is proposed to test a relatively simple, low-cost environmental design approach that is truly neighborhood-based.

The program would be implemented in at least two neighborhoods, one seemingly on the verge of neighborhood decline, where the signs of disorder are beginning to appear, and another with clear indications of deterioration. The two sites would enable the effectiveness of the approach to be tested in preventing neighborhood deterioration as well as revitalizing a declining neighborhood. Two similar matched control neighborhoods would be selected also. A third comparison neighborhood would also be studied, to test the theory that general neighborhood improvement and development will reduce crime without the presence of specific crime prevention efforts. This third comparison neighborhood should be one in which various forms of economic development and neighborhood revitalization programs are being implemented, and match the characteristics of the experimental neighborhood already in decline. The conditions of the five neighborhoods -- two making environmental design changes, two controls without any intervening strategies, and one undergoing general neighborhood revitalization -- would be evaluated in the same way.

The environmental design programs would be based within stable neighborhood organizations, whose staff would work closely with the research staff and technical assistance providers in designing and implementing the program. While local conditions will determine the precise intervention strategies, a comprehensive approach to altering the physical and social environment is proposed. The interventions should be low cost, given the economic considerations, which would probably exclude major alterations requiring substantial physical reconstruction. The program would have two major components, as described below.

(a) Environmental design changes aimed at the physical environment. The low cost but potentially significant changes fairly easily implemented by neighborhood groups listed in the environmental design model in Chapter V are recommended. This would include neighborhood clean-up, including trash and graffiti removal, building demolition or repair, and simple improvements such as painting; defining private spaces with fencing or landscaping markers; and changing traffic and pedestrian patterns with signs or barriers. Design changes to increase residents' use and surveillance should be made, such as increased lighting, removal of visual barriers, and landscaping. Participation in city agency decision-making and negotiating for services should be considered.

(b) Neighborhood organizing and community building. The neighborhood organizations would organize community residents to assist in the planning and implementation of the design changes as well as other collective crime prevention activities such as block watches or youth projects (youth should be a particular target group for involvement). The nature of the prevention activities would be left up to the residents. Other strategies to increase neighborhood cohesion and sense of community, such as social events, would be encouraged.

Funds for the demonstration program would primarily support the staff involved in organizing and guiding the effort; community volunteers would be responsible for making the design changes. The costs of the changes (paint supplies, landscaping, etc.) should probably be left to the residents to donate or raise, as part of reclaiming ownership of their neighborhoods. Technical assistance should be substantial, to guide the environmental changes and train citizens in negotiating with city agencies.

The evaluation would include process and impact measures of neighborhood change and improvement, crime reduction, and changes in residents' attitudes, cohesion, and use of the neighborhood. Pre- and post-measurements would be made in all five neighborhoods using a time series design.

Citizen involvement. The final research and demonstration program proposed is one of how to build and sustain citizen involvement in community crime prevention and neighborhood improvement efforts, and further assess the relationship between such involvement and the degree of neighborhood cohesion. The criticality and problems of involving citizens have been previously discussed. The basic research of the Reactions to Crime project has provided substantial insight into the dynamics of citizen involvement. Of special interest is how to involve citizens in neighborhoods viewed as difficult to motivate, including minority, low income, and renters communities. It appears that involvement in crime prevention is highly dependent on involvement in neighborhood activities in general, particularly membership in a multi-purpose neighborhood organization, and the degree of social integration or cohesion in the neighborhood; fear of crime and attitudes about crime have a weaker, less direct relation to involvement. While crime may be a highly motivating force for initial participation (usually in situations where a particularly bad event has occurred, such as a vicious assault on an elderly citizen), sustaining involvement is very difficult. In neighborhoods where basic life needs are paramount, crime may be a small issue in comparison to other urgent problems.

Several demonstration programs should be set up to test various strategies of citizen involvement, drawn from recent research. The program goals should include increasing social cohesion, neighborhood participation, and involvement in community crime prevention. The strategies should include:

(a) Efforts to increase participation in a neighborhood organization.

(b) Efforts to increase involvement in a variety of neighborhood improvement efforts.

(c) Direct efforts to organize crime prevention activities, possibly beginning with neighborhood watches.

The organizing techniques related to these strategies would vary, depending on the population, and would be selected after further consideration and study. The demonstration program would be implemented by neighborhood groups in a variety of neighborhoods. The groups should be well-established and capable of launching such a project. The neighborhoods should run the gamut of high to low income, declining to improving conditions, high to low crime, high to low cohesion, renters to homeowners, etc. A small staff in each organization should be supported.

The accompanying evaluation should assess citizen involvement in neighborhood organizations, general activities, and crime prevention efforts through pre- and post-measures. The number of residents involved and their type and extent of participation should be assessed over time. Neighborhood surveys should be conducted to measure cohesion, neighborhood attitudes, perceptions and fear of crime, and attitudes toward participation and neighborhood control. The pretest surveys will provide information which should be used to guide the organizing strategies.

Neighborhood-based Arson Prevention

The field of neighborhood-based arson prevention is in its infancy. In a relatively brief timespan, it has displayed glimmers of promise: in both the primary strategies employed -- the arson prediction systems and the neighborhood organizing approaches -- and in the examples of impact noted (as in the breaking of the arson-for-profit ring in Boston), impressive strides have been made. And yet many questions remain about these strategies and their ultimate effectiveness; indeed there is a glaring paucity of hard data on these neighborhood-based efforts. Among the central questions to be addressed are the following:

(a) Can a problem of the complexity of arson be effectively combatted by neighborhood-based groups?

The roots of arson are imbedded in a morass of neighborhood deterioration, disinvestment, unemployment, and poverty. Motivations for arson range from the psychopathic to the economic, deterrence is correspondingly varied and difficult, and prosecution is notoriously problematic. Is it realistic to believe that small bands of citizens--however dedicated -- can stem the tide of forces contributing to arson? A corollary question concerns the extent to which an economic development strategy, particularly one that is oriented toward improving housing stock, might be a more effective approach to preventing arson than the direct anti-arson strategies of pressure and organizing.

(b) What is the best blend of accuracy and efficiency in the development of an arson prediction system?

The development of a computer-based arson prediction system can be a formidable and lengthy task for a neighborhood group. We need to learn more about how to accelerate this process and make it feasible for more neighborhood groups and/or develop a manual system that is systematic and sufficiently accurate.

(c) Among the several prevention strategies, which are the most impactful and how are they most effectively implemented?

Current arson prevention strategies include tenant organizing, legal pressure and prosecution, coordinated efforts with fire officials and insurance companies, and publicity campaigns. We need to learn about which of these strategies are most effective in particular types of neighborhoods.

Demonstration project design. Ideally, three neighborhood-based anti-arson projects would be developed in three separate locations. These locations would be selected to provide some natural variation in neighborhood characteristics, including level of deterioration, and in the severity of the arson problem. Funds would be provided to established neighborhood groups with some experience in addressing neighborhood problems, though not experienced in anti-arson work.[5] Each group would have a staff of three to four persons and would be funded at approximately $100,000 to $150,000 per year for two to three years. In addition they would be provided with training (at least one to two weeks for all staff) and ample, continuing technical assistance.

Each group would be expected to develop an arson prediction system, either manual or computer-based, and to develop a fairly comprehensive arson prevention strategy. The particular prediction system and the elements of the prevention strategy would be left to the discretion of the individual project. However, it is suggested that at least one of the strategies (or a control area strategy) be oriented primarily toward economic and housing development.

Evaluation research design. The proposed research design for evaluating the three arson prevention projects represents a combination of the quasi-experimental school (Cook and Campbell, 1979) and the qualitative school (Patton, 1980). The basic structure of the design is the inclusion of a matched control neighborhood for each experimental neighborhood, to compare arson incidence and citizen attitudes in the target area to a similar area which does not have the prevention strategies in place. The arson early warning systems will be tested in the control areas, case studies of prevention/intervention activities in high-risk buildings will be conducted in the experimental neighborhoods, and citizens in all neighborhoods will be surveyed to assess perceptions and attitudes toward arson and arson prevention. Multiple measures of arson incidence and intermediate measures of project success will be used. These elements of the research design are elaborated below.

Matched control areas. The most effective design for the evaluation of a community arson prevention project -- both the arson early warning system and the prevention/intervention approaches -- requires the inclusion of control areas which closely match the experimental areas on relevant characteristics. The control and experimental neighborhoods should be very similar on several major attributes, particularly those which have historically exhibited an association with arson. For example, two comparison neighborhoods should be similar in income level, tax arrears, mix of building types (single-family versus multiple-unit dwellings, residential versus commercial, etc.), and frequency of recent fires. The control areas should also generally match experimental areas in the more dynamic sense; i.e., they should not be areas that are either rapidly deteriorating or undergoing sweeping gentrification. Finally, the matching process should also consider the degree of variability within each of the major characteristics. The data required to identify control areas are available from several sources, including the fire department, housing authority, and other city agencies; and from census tract data.

Testing the arson early warning systems. To be effective, an arson early warning system should display three general characteristics, one of which is primarily statistical and the other two more practical: (1) the system should be accurate and reliable, i.e., it should consistently and clearly discriminate between structures which are arson-prone and those which are not; (2) it should perform significantly better than expert judgment, not simply chance; and (3) it should be feasibly developed and operated at a reasonable cost. The arson early warning systems should be assessed from all three perspectives.

The main statistical validation study will be an assessment of the accuracy with which the arson risk formulas predict arson and non-arson over time -- a form of predictive validity. Predicted arson and non-arson structures will be compared to the actual incidence of arson and non-arson, yielding an accuracy percentage.

A critical problem in assessing an arson early warning system is that the use of the system will most probably decrease its accuracy; i.e., to the degree that the project's prevention/intervention strategies are effective, buildings predicted as future arsons will become non-arsons. Therefore, a predictive validity study should be conducted in the matched control area, where data will be collected and a risk index developed, but where prevention/intervention activities will not be conducted.

Recognizing that many municipal governments do not have the resources to develop a sophisticated computerized system, the development of simpler, more feasible early warning systems will be explored. Variation among the three sites will hopefully produce optimal prediction systems which utilize many different variables, and systems which attempt to identify a smaller number of predictive variables which, while perhaps lacking somewhat in accuracy, are much more practicable for use by the majority of cities and neighborhood groups.

The early warning systems will be assessed not only on the basis of statistical accuracy, for in evaluating the performance of the early warning systems the appropriate overall comparison is not chance, but the most likely alternative means of identifying arson-prone buildings. That would probably be the performance of an individual (perhaps a group) who is knowledgeable about the dynamics of arson and familiar with the community or neighborhood. Therefore, such a person or group should be identified in both the experimental and control neighborhoods and asked to estimate which buildings are arson-prone. Their predictions would then be compared to actual arson incidence and to the accuracy of the early warning system.

Finally, site variation will allow information to be gathered on the feasibility and costs of developing and operating arson early warning systems. Estimates will be made of the amount of staff time required to develop and operate the systems -- extent of manual data collection, integrating data tapes from separate sources, developing and utilizing computer software packages, etc. The result of this assessment will be a set of estimates of costs, staff time, and staff capability required to develop and operate an early warning system and its main components.

Case studies of prevention/intervention activities for high-risk properties. From among the high-risk properties selected for prevention work, a representative sample should be selected for case studies. A broad variety of data will be collected on building conditions and resident and staff activities. Evaluators should meet with appropriate agency officials, e.g., fire marshals who have inspected the building, and make periodic visits to the buildings to talk with residents, observe/record community organizer's activities and resident activ-

ities, and make observations and recordings of the state of the building, including the physical and social conditions of the building. The result of these case studies will be a comprehensive description and assessment of the dynamics of arson prevention activities -- how organizers proceed, the obstacles encountered, citizens' reactions and activities, agency cooperation, etc.

Survey-interviews with residents of high-risk buildings. Through the arson early warning systems, high-risk buildings will be identified in the experimental areas which will be the target of the arson prevention strategies. Household interviews should be conducted with residents of high-risk buildings a year or so after project start-up.

Topics to be addressed in the survey-interview should include the following:

(a) Existence and source of tenant organizing.

(b) Perceptions of any changes (improvement or deterioration) in the physical condition of the building during the past year.

(c) Perceptions of any changes (improvement or deterioration) in the social environment during the past year.

(d) Awareness of arson; knowledge of anti-arson strategies.

(e) Actions taken to combat arson either directly or indirectly.

(f) Perceptions of the effectiveness of project staff activities.

Measurement of arson incidence and intermediate outcomes. The measurement of arson is subject to several sources of error, as previously discussed. To compensate for these sources of error, "suspicious" and "cause unknown" fires should be included as measures of arson incidence. While these indices may inflate the arson figures, it should do so constantly; moreover, the purpose of this study's measurement of arson is not to fix the absolute number of arsons, but to utilize the most valid and reliable indices. The use of this broader set of indices serves the additional purpose of providing sufficient sample size. To compensate for fire investigation bias, a statistical adjustment of arson rates based upon fire investigation manpower allocations may be made.

In addition to measuring arson incidence, improvements in high-risk buildings, and the awareness and attitudes of residents, intermediate measures of project success will be assessed. An important intermediate measure is the response and cooperation of relevant agencies and insurance companies (e.g., are fire officials willing to make periodic inspections and enforce housing codes?).

The impact of the project on the incidence of arson will be assessed through a time series design, collecting arson incidence data from official agency records at several points (monthly or quarterly) before and after project implementation in the experimental neighborhoods and over the same time period in the controls. This design controls for the threats to internal validity of maturation, instrumentation, and history.

The choice of methods for analyzing time series data depends mainly on (a) the number of observations, (b) the extent to which error terms of observations are correlated, and (c) the degree to which the treatment represents a distinct, even abrupt, intervention (Cook and Campbell, 1979; McCleary and Hay, 1980). If the number of observations is large (e.g., 50 or more), error terms tend to be

correlated, and the intervention is distinct -- such as the passing and enforcement of a new law -- the situation is typically appropriate for use of autoregressive integrated moving average (ARIMA) models, developed by Box and Jenkins (1976). It is questionable whether the arson incidence data will meet the conditions required for ARIMA methods, since it will be difficult to gather as many as 50 observations (even if data are aggregated monthly, which may be too often for such a relatively low frequency event), and since the "intervention", the implementation of arson project operations, will probably take effect on a fairly gradual basis (over several months). If the ARIMA methods are not used, the use of a partially repeated measures analysis of variance with experimental/control as the independent groups factor and time of observation as the repeated measures factor is recommended.

FOOTNOTES

[1]The information presented in this case study was drawn from a variety of materials and interviews gathered or conducted by the authors in their evaluation of the Urban Crime Prevention Program. Additional information may be obtained from Bob Gannett or Mike Smith, NWNF, 495-1/2 W. Diversey, Chicago, Illinois 60639.

[2]Information presented here was drawn from a variety of materials and interviews gathered and conducted by the authors in their evaluation of the Urban Crime Prevention Program. Additional information may be obtained from Sandra Kluk, BWCC, 2787 Ambler Avenue, Cleveland, Ohio 44102.

[3]This section draws heavily on material contained in A Manual for Developing a Neighborhood-Based Arson Early Warning System, prepared by the staff of the North Flatbush Arson Research Project, February 1982.

[4]Most of the material for this case study comes from documents provided by the People's Firehouse and from interviews with Fritz Ringler, the Administrator, and Felice Jergens, Project Director.

[5]The authors are currently conducting evaluation research on established, experienced community-based arson prevention programs to document their approaches and assess their impact. While much of the evaluation approach proposed herein bears similarities to the current work, the major difference is that the proposed research/demonstration would test arson prevention approaches in organizations and communities without experience in neighborhood-based arson prevention.

REFERENCES

Abt Associates, Inc. Arson control: A synthesis of issues and strategies based on the Arson Control Assistance Program (Draft Report). Cambridge: Abt Associates, Inc., 1981.

Altshuler, A. Community control: The black demand for participation in large American cities. Weston Publishing Co., 1970.

Anderson, John D. and Moore, Larry F. The motivation to volunteer. Journal of Voluntary Action Research, 1978, 7, 120-129.

Baumer, T.L. Research of fear of crime in the United States. Victimology -- An International Journal, 1978, 3 (3/4), 254-264.

Bickman, L., Green, S., Edwards, J., Shane-DuBow, S., Lavrakas, P.J., North-Walker, N., and Borkowski, S. National Evaluation Program phase I report: Toward increasing citizen responsibility, surveillance and reporting of crimes. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1976.

Bickman, L., Lavrakas, P.J., Green, S.K., North-Walker, N., Edwards, J., Borkowski, S., Shane-DuBow, S., and Wuerth, J. Citizen crime reporting projects. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1977.

Bishop, G.F., Klecka, W.R., Oldendick, R.W., and Tuchfarber, A.J. An impact evaluation of the National Elderly Victimization Prevention and Assistance Program. Washington, D.C.: U.S. Department of Housing and Urban Development, 1979.

Booth, A., Johnson, D.R., and Choldin, H.M. Correlates of city crime rates: Victimization surveys versus official statistics. Social Problems, 1977, 25 (2), 187-197.

Boston, G.D. Community crime prevention -- a selected bibliography. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1977.

Bourdreau, J.F., Kwan, W.Y., Faragher, W.E., and Derault, G.C. Arson and arson investigation -- survey and assessment. Washington, D.C.: U.S. Government Printing Office, 1977.

Box, G. and Jenkins, G. Time series analysis: Forecasting and control. San Francisco: Holden-Day, 1976.

Brantingham, P.J., and Faust, F.L. A conceptual model of crime prevention. Crime and Delinquency, 1976, 22 (3), 284-296.

Brenner, R. National Neighborhood Watch Program -- final report. Washington, D.C.: National Sheriff's Association, 1975.

Cain, A.A. and Kravitz, M. (Eds.) Victim/witness assistance -- a selected bibliography. Washington, D.C.: U.S. Government Printing Office, 1978.

Chamber of Commerce of the United States. Marshalling citizen power against crime. Washington, D.C.: Chamber of Commerce of the U.S., 1970.

Cirel, P., Evans, P., McGillis, D., and Whitcomb, D. An exemplary project: Community Crime Prevention Program -- Seattle, Washington. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1977.

Civic Action Institute. Community crime prevention. Washington, D.C.: U.S. Department of Housing and Urban Development, 1979.

Civic Action Institute. Community organizing in a partnership setting. Washington, D.C.: U.S. Department of Housing and Urban Development, 1980.

Cohen, R.P. Hands up -- General Federation of Women's Clubs -- fourth year evaluation (January 1979 to January 1980). Washington, D.C.: U.S. Department of Justice, LEAA, 1980.

Cohn, E.S., Kidder, L.H., and Harvey, J. Crime prevention vs. victimization: The psychology of two different reactions. Victimology -- An International Journal, 1978, 3 (3/4), 285-296.

Community Crime prevention. LEAA Newsletter, 1977, 6 (4), 7-18.

Community Research Associates. Neighbors Against Crime Together -- evaluation study. Washington, D.C.: U.S. Department of Justice, LEAA, 1976.

Conklin, J.E. The impact of crime. New York: Macmillan, 1975.

Conklin, J.E. Dimensions of community response to the crime problem. Social Problems, 1971, 18, 373-385.

Cook, Royer F. On Gaining Acceptance of Randomized Designs in Evaluation Research, Symposium on the "Pursuit of the Possible in Field Evaluation Research." Presented at the 1981 American Psychological Association Convention, August 25, 1981.

Cook, Royer and Roehl, Janice. "The Urban Crime Prevention Program: Interim findings and central issues." Paper presented at the Law and Society Association Annual Meeting, Toronto, Canada, June 1982.

Cook, Royer F., Roehl, Janice A., and Sheppard, David I. Neighborhod Justice Centers Field Test: Final Evaluation Report. Washington, D.C.: Government Printing Office, 1980.

Cook, T. and Campbell, D. Quasi-experimentation: Design and analysis issues for field settings. Chicago: Rand McNally, 1979.

Cook, T. and Campbell, D. The design and conduct of quasi-experiments and true experiments in field settings. In the Handbook of Industrial and Organizational Psychology, edited by Marvin D. Dunnette. Chicago: Rand McNally, 1976.

Cook, T.D. and Gruder, C.L. Meta-evaluation research. Evaluation Quarterly, 1978, 2 (1), 5-51.

Cordrey, J.B. Crime and community: Crime prevention policies. Springfield, Virginia: U.S. Department of Commerce, 1973.

Crew, R.E. and Perlman, B. National Evaluation of the Comprehensive Crime Prevention Program: Draft Final Report. Washington, D.C.: American Institutes for Research, 1981.

DuBow, F. and Emmons, D. The community hypothesis. In Reactions to crime, Edited by Dan A. Lewis. Sage Criminal Justice System Annuals, Volume 16. Beverly Hills, California: Sage Publications, 1981.

DuBow, F., McCabe, E., and Kaplan, G. Reactions to crime: A critical review of the literature. Washington, D.C.: U.S. Department of Justice, LEAA, National Institute of Justice, 1979.

Duncan, J.T. Skip. Citizen crime prevention tactics -- a literature review and selected bibliography. Washington, D.C.: U.S. Government Printing Office, 1980.

Duncan, J.T.S., Caplan, M., and Kravitz, M. (Eds.) Arson -- a selected bibliography. Washington, D.C.: U.S. Government Printing Office, 1979.

Federal Insurance Administration. Insurance crisis in urban America. Washington, D.C.: Federal Insurance Administration, 1978.

Emmons, D. Neighborhood activists and community organizations: A critical review of the literature. Evanston, Illinois: Center for Urban Affairs, Northwestern University, 1979.

Fowler, Floyd J., Jr., and Mangione, Thomas W. Neighborhood crime, fear and social control: A second look at the Hartford program (Executive Summary). Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1982.

Fowler, F.J., Jr., McCalla, M.E., and Mangione, T.W. Reducing residential crime and fear: The Hartford Neighborhood Crime Prevention Program. Washington, D.C.: U.S. Government Printing Office, 1979.

Frederickson, G. (Ed.) Neighborhood control in the 70's: Politics, administration and citizen participation. New York: Chandler Publishing Co., 1973.

Friedman, K., Bischoff, H., Davis, R., and Person, A. Victims and helpers: Reactions to crime. Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1982.

Gaguin, D. Measuring fear of crime: The National Crime Survey's attitude data. Victimology -- An International Journal, 1978, 3 (3/4), 314-318.

Gardiner, Richard A. Design for safe neighborhoods -- the environmental security planning and design process. Washington, D.C.: U.S. Government Printing Office, 1978.

Garofalo, J. Local victim surveys: A review of the issues. Washington, D.C.: U.S. Government Printing Office, 1977.

Garofalo, J., and Laub, J. The fear of crime: Broadening our perspectives. Victimology -- An International Journal, 1978, 3 (3/4), 242-253.

Girard, C.M., and Koepsell, T.W. Crime prevention, the citizen and the security system. Crime Prevention Review, 1977, 4 (2), 8-20.

Gordon, M.T., and Riger, S. The fear of rape project. Victimology -- An International Journal, 1978, 3 (3/4), 346-347.

Green, G. Who's organizing the neighborhood. Washington, D.C.: U.S. Government Printing Office, 1979.

Greenberg, Stephanie W., Rohe, William M., and Williams, Jay R. Safe and secure neighborhoods: Physical characteristics and informal territorial control in high and low crime neighborhoods (Executive Summary). Research Triangle Park, North Carolina: Research Triangle Institute, 1981.

Guion, Robert M. Recruiting, selection, and job placement. In the Handbook of Industrial and Organizational Psychology, edited by Marvin D. Dunnette. Chicago: Rand McNally, 1976.

Heinzelmann, Fred. Crime prevention and the physical environment. In Reactions to crime, edited by Dan A. Lewis. Sage Criminal Justice System Annuals, Volume 16. Beverly Hills, California: Sage Publications, 1981.

Heller, N.B., Stenzel, W.W., Gill, A.D., Kolde, R.A., and Schimerman, S.R. Operation Identification projects: Assessment of effectiveness. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1976.

Henig, J., and Maxfield, M.G. Reducing fear of crime: Strategies for intervention. Victimology -- An International Journal, 1978, 3 (3/4), 297-313.

Insurance Committee for Arson Control. Current arson issues: A position paper. Chicago, Illinois: ICAC, 1980.

Insurance redlining: Fact not fiction. Prepared by the Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin Advisory Committees to the United States Commission on Civil Rights, February 1979.

International Training, Research and Evaluation Council. Crime prevention security surveys. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1977.

Jacob, Herbert and Lineberry, Robert L. Government responses to crime -- crime on urban agendas. Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1982.

Jacob, Herbert and Lineberry, Robert L. Governmental responses to crime (Executive Summary). Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1982.

Jacobs, Jane. The death and life of great American cities. New York: Random House, 1961.

Jaycox, V.H. The elderly's fear of crime: Rational or irrational. Victimology -- An International Journal, 1978, 3 (3/4), 329-333.

Kaplan, H.M., O'Kane, K.C., Lavrakas, P.J., and Pesce, E.J. Crime Prevention Through Environmental Design -- final report on commercial demonstration -- Portland, Oregon. Arlington, Virginia: Westinghouse Electric Corp., 1978.

Kaplan, Howard M., Palkovitz, Lynn Helfer, and Pesce, Edward J. Crime Prevention Through Environmental Design -- final report on residential demonstration -- Minneapolis, Minnesota. Arlington, Virginia: Westinghouse Electric Corp., 1978.

Katz, R., Crowe, T.D., Cotter, C., and White, S. Comprehensive Crime Prevention Program -- program guide. Washington, D.C.: U.S. Department of Justice, LEAA, OCACP, 1980.

Knudten, R.D., Meade, A.C., Knudten, M.S., and Dorner, W.G. Victims and witnesses: The impact of crime and their experience with the criminal justice system. Milwaukee: Marquette University, 1976.

Ku, Richard. Arson control: A synthesis of issues and strategies based on the Arson Control Assistance Program. Cambridge, Massachusetts: Abt Associates, 1981.

Kupersmith, G. Framework for assessing project level evaluation of the High Impact Anti-crime Program. Washington, D.C.: U.S. Department of Justice, 1975.

Kushmuk, James and Whittemore, Sherrill L. A re-evaluation of Crime Prevention Through Environmental Design Program in Portland, Oregon. Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1981.

Lavrakas, P.J. Theory-based evaluation planning: a CPTED example. The Bellringer: A Periodic Review of Criminal Justice Evaluation, 1979.

Lavrakas, Paul J., Normoyle, Janice, Skogan, Wesley G., Herz, Elicia J., Salem, Greta, and Lewis, Dan A. Factors related to crime involvement in personal, household, and neighborhood anti-crime measures (Executive Summary). Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1981.

LEAA. Arson Prevention and Control -- Program Model. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1980.

Lehnen, R.G. and Skogan, W.G. (Eds.) The national crime survey: working papers -- Volume I: Current and historical perspectives. Washington, D.C.: U.S. Department of Justice, Bureau of Justice Statistics, 1981.

Lewis, Dan A. (Ed.) Reactions to crime. Sage Criminal Justice System Annuals, Volume 16. Beverly Hills, California: Sage Publications, 1981.

Lewis, D.A. The reactions to crime project. Victimology -- An International Journal, 1978, 3 (3/4), 344-345.

Lewis, D.A., Szoc, R., Salem, G., and Levin, R. Community and crime: Understanding fear of crime in urban America (Volume III). Evanston, Illinois: Northwestern University, 1979.

Lindsay, Betsy and Purnell, Paul. ACTION/LEAA Urban Crime Prevention Program Technical Assistance: Final Report. Washington, D.C.: A.L. Nellum and Associates, 1982.

Lockard, J.L. Duncan, J.T.S., Brenner, R.N., And Semick, G. Directory of Community Crime Prevention Programs. Washington, D.C.: U.S. Government Printing Office, 1978.

Maltz, M.D. Measures of effectiveness for crime reduction programs. Operations Research, 1975, 23 (3), 452-474.

Mathews, K.E., Jr. Community Crime Prevention Program. Rockville, Maryland: NCJRS Microfiche Program, 1977.

McCleary, R. and Hay, R. Applied time series for the social sciences. Beverly Hills: Sage Publications, 1980.

McPherson, M. Realities and perceptions of crime at the neighborhood level. Victimology -- An International Journal, 1978, 3 (3/4), 319-328.

McPherson, M. and Silloway, G. Planning to prevent crime. In Reactions to crime, edited by Dan A. Lewis. Sage Criminal Justice System Annuals, Volume 16. Beverly Hills, California: Sage Publications, 1981.

Mendelsohn, H. and O'Keefe, G.J. Media campaigns and crime prevention: An executive summary. Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1982.

National Advisory Commission on Criminal Justice Standards and Goals. A call for citizen action: crime prevention and the citizen. Washington, D.C.: U.S. Government Printing Office, 1974.

National Advisory Commission on Criminal Justice Standards and Goals. Community crime prevention. Washington, D.C.: U.S. Government Printing Office, 1973.

Newman, Oscar. Defensible space: Crime prevention through urban design. New York: MacMillan Publishing Company, 1972.

Newman, O., and Franck, K.A. Factors influencing crime and instability in urban housing developments. Washington, D.C.: U.S. Government Printing Office, 1980.

New York Arson Strike Force. Predicting Arson Risk in New York City: A first report. New York, 1980.

Norton, J.J., and McClenahan, M.F. Regional multi-city crime prevention program -- problems to implementation. Crime Prevention Review, 1977, 4 (2), 1-7.

Patton, Michael Quinn. Qualitative evaluation methods. Beverly Hills: Sage Publications, 1980.

Podolefsky, A. and DuBow, F. Strategies for community crime prevention: Collective responses to crime in urban America. Springfield, Illinois: Charles C. Thomas Publishing Co., 1982.

Reichardt, Charles S. The statistical analysis of data from nonequivalent group designs. In T.D. Cook and D.T. Campbell, Quasi-Experimentation: Design and analysis issues in field settings. Chicago: Rand McNally College Publishing Company, 1979.

Repetto, T. Residential crime. Cambridge, Mass.: Ballinger, 1974.

Richardson, J., and Hartjens, P. Methodological problems facing the crime prevention program evaluator -- the Minnesota Crime Watch experience. St. Paul: Minnesota Governor's Commission on Crime Prevention and Control, 1977.

Riopelle, P.J. Evaluating crime prevention projects: Alternatives to victimization surveys. Madison: Wisconsin Council on Criminal Justice, 1978.

Robinson, P. New Castle County Crime Prevention. Louisville: Governor's Commission on Criminal Justice, 1978.

Roehl, J., Berger, K., and Cook, R. Work Plan for the National Evaluation of the Urban Crime Prevention Program. Reston, Virginia: Institute for Social Analysis, 1981.

Roehl, J., Berger, K., and Cook, R. National Evaluation of the Urban Crime Prevention Program: Interim Report. Reston, Virginia. Institute for Social Analysis, 1982.

Roehl, Janice and Cook, Royer. National Evaluation of the Urban Crime Prevention Program: Final Report. Reston, Virginia: Institute for Social Analysis (forthcoming).

Rosenblum, R.H., and Blew, C.H. Victim/witness assistance. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1979.

Rouse, W.V. Evaluation of the Community Anti-Crime Program -- a summary. Washington, D.C.: The American Institutes for Research, 1980.

Rush, D.E. and Hunt, R.L. Neighbors Against Burglary -- a patrol emphasis program by the Simi Valley Police Department -- second year evaluation. Washington, D.C.: U.S. Department of Justice, LEAA, 1979.

Schneider, A.L. Evaluation of the Portland Neighborhood-Based Anti-Burglary Program. Eugene: Oregon Research Institute, 1975.

Schneider, A.L. Victimization surveys and criminal justice system evaluation. In W. Skogan (Ed.), Sample surveys of the victims of crime. Cambridge: Ballinger Publishing Company, 1976.

Sharp, Elaine B. Citizen organizations in policing issues and crime prevention: Incentives for participation. Journal of Voluntary Action Research, 1981, 7 (1-3), 45-58.

Siegel, L. and Gorse, W. High Impact Anti-Crime Program: Performance measures used in the impact program. Washington, D.C.: U.S. Department of Justice, 1975.

Skogan, W.G. Survey studies of the victims of crime Washington, D.C.: U.S. Department of Justice, LEAA, 1975.

Skogan, W.G. Citizen reporting of crime. Criminology, 1976a, 13 (4), 535-549.

Skogan, W.G. (Ed.) Sample surveys of the victims of crime. Cambridge: Ballinger Publishing Company, 1976b.

Skogan, W.G. Community Crime Prevention Programs -- measurement issues in their evaluation. In National Criminal Justice Reference Service, How well does it work? Review of criminal justice evaluation. Washington, D.C.: U.S. Government Printing Office, 1979.

Skogan, W.G., Lewis, D.A., Podolefsky, A., DuBow, F., and Gordon, M.T. The Reactions to crime project (Executive Summary). Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1982.

Skogan, W.G., and Maxfield, M.G. Coping with crime: victimization, fear and reactions to crime in three American cities (Volume I). Evanston, Illinois: Northwestern University, 1979.

Skogan, W.G., and Maxfield, M.G. Coping with crime: Individual and neighborhood reactions. Sage Library of Social Research, Volume 124. Beverly Hills, California: Sage Publications, 1981.

Silberman, Charles E. Criminal violence, criminal justice. New York: Random House, 1978.

Taub, Richard P., Taylor, D. Garth, and Dunham, Jan D. Crime, fear of crime, and the deterioration of urban neighborhoods (Executive Summary). Washington, D.C.: U.S. Department of Justice, National Institute of Justice, 1982.

Tauber, S.J. Arson control -- a review of the state of the art with emphasis on research topics. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1978.

Tien, J.M., O'Donnell, V.F., Barnett, A., and Mirchandani, P.B. National Evaluation Program phase I report: Street lighting projects. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1979.

Tien, J.M., Reppetto, T.A., and Hines, L.F. The elements of CPTED. Arlington, Virginia: Westinghouse Electric Corporation, 1975.

Tuchfarber, A. and Klecka, W. Random digit dialing: Lowering the cost of victimization surveys. Washington, D.C.: Police Foundation, 1976.

U.S. Department of Housing and Urban Development. Interagency Urban Initiatives Anti-Crime Program. Washington, D.C.: U.S. Government Printing Office, 1980.

U.S. Department of Justice, Bureau of Justice Statistics. Criminal Victimization in the U.S.: 1973-79 trends. Washington, D.C.: U.S. Government Printing Office, 1982.

U.S. Department of Justice, Bureau of Justice Statistics. Violent crime in the United States. National Indicators System Report Number 4. Washington, D.C., 1981.

U.S. Department of Justice, Bureau of Justice Statistics. Criminal victimization in the United States, 1978. Washington, D.C.: U.S. Government Printing Office, 1980.

U.S. Department of Justice, LEAA. The community's stake in crime prevention. Washington, D.C.: U.S. Government Printing Office, 1979a.

U.S. Department of Justice, LEAA. Comprehensive Crime Prevention Program -- reference handbook. 1979b.

U.S. Department of Justice, LEAA. We can prevent crime. Washington, D.C.: U.S. Government Printing Office, 1979c.

U.S. Department of Justice, LEAA, NILECJ. Assessing criminal justice projects. Washington, D.C.: U.S. Government Printing Office, 1977.

Urban Crime Prevention Program: Guideline Manual. Washington, D.C.: ACTION and the U.S. Department of Justice, LEAA, 1980.

Urban decay: a real world perspective. Journal of American Insurance, 1978, 54 (1), 1-5.

Urban Educational Systems. Report on technical assistance. (Unpublished manuscript.)

Washnis, G.J. Citizen involvement in crime prevention. Lexington, Massachusetts: Lexington Books, 1976.

Wegener, Ellie. Community Crime Prevention: A Neighborhood Action Guide. Washington, D.C.: Civic Action Institute, October 1979.

Westinghouse National Issues Center. Crime prevention through environmental design: A tool for urban neighborhood revitalization. Arlington, Virginia: Westinghouse National Issues Center, 1978.

Whisenand, P.M. Crime prevention. Boston: Holbrook Press, Inc., 1977.

Wilson, James Q. and Boland, Barbara. The effect of the police on crime. Washington, D.C.: U.S. Government Printing Office, 1979.

Wilson, J.W. and Kelling, G.L. Broken windows: The police and neighbor.. safety. Atlantic Monthly, March 1982, 29-38.

Yin, R.K. Evaluating citizen crime prevention programs. Washington, D.C.: The Rand Corporation, 1977.

Yin, R.K. What is citizen crime prevention? In National Criminal Justice Reference Service, How well does it work? Relview of criminal justice evaluation. Washington, D.C.: U.S. Government Printing Office, 1979.

Yin, R.K., Vogel, M.E., Chaiken, J.M., and Both, D.R. Citizen patrol projects. Washington, D.C.: U.S. Department of Justice, LEAA, NILECJ, 1977.

Yin, R.K., Vogel, M.E., Chaiken, J.M., and Both, D.R. Patrolling the neighborhood beat: Residents and residential security. Santa Monica: Rand Corporation, 1976.

END