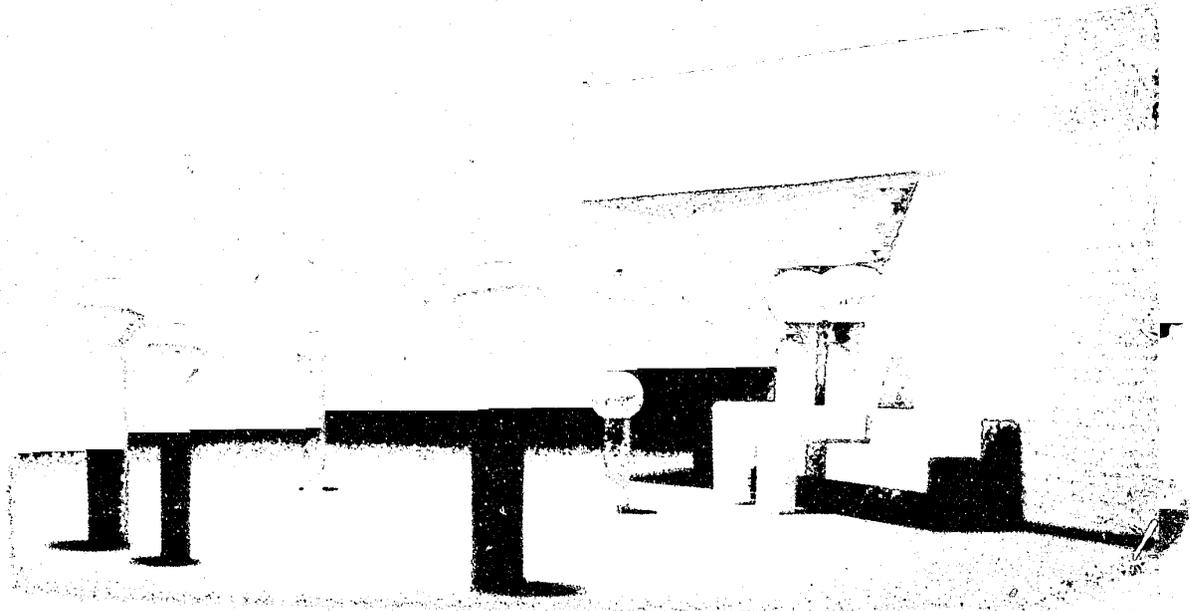


Crime Prevention through  
Environmental Design Program



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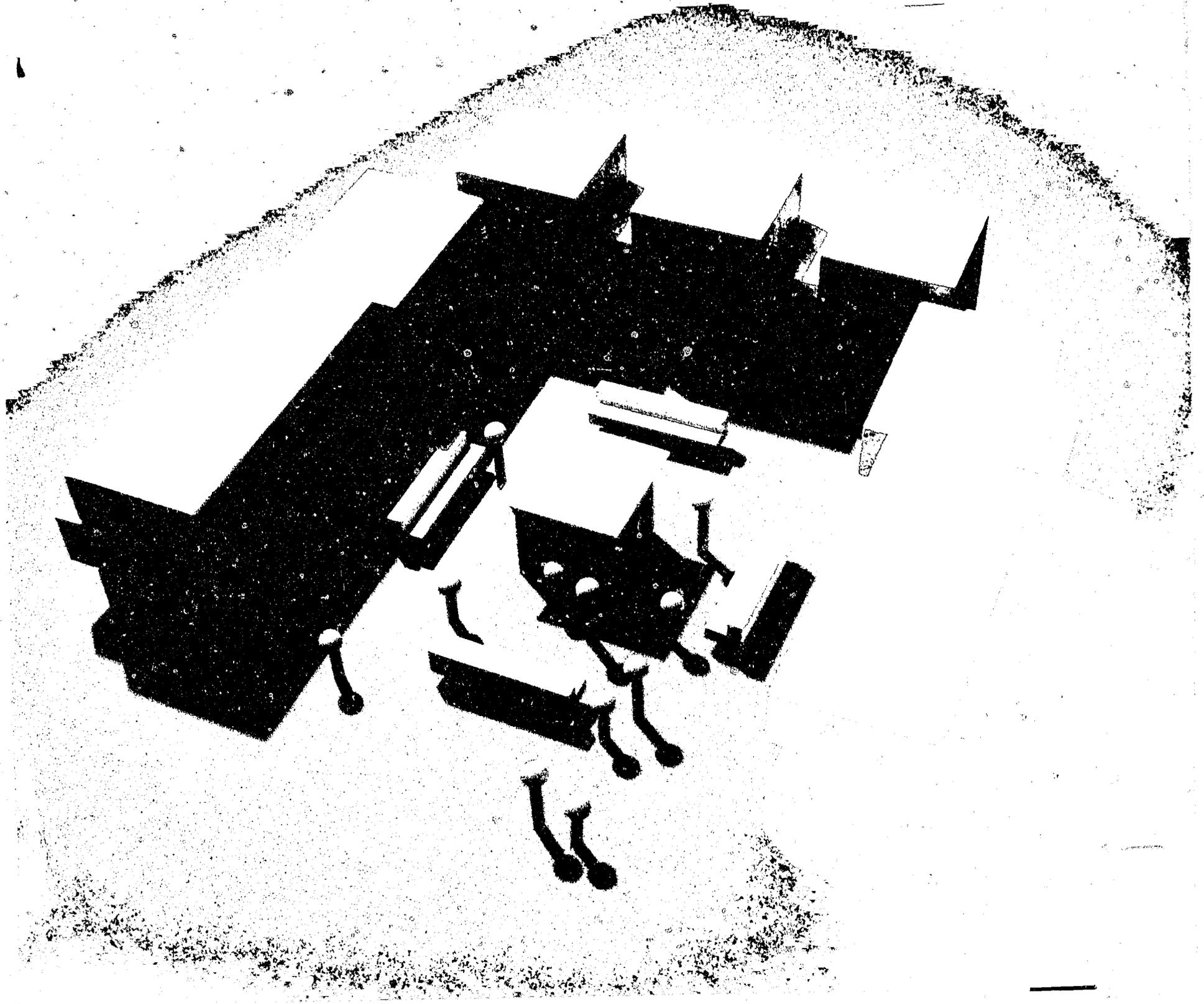
# Crime Prevention Through Environmental Design Program

May 1974–June 1976

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Law Enforcement Assistance Administration  
U.S. Department of Justice



## Foreword

The physical environment is the most apparent aspect of every community. Since 1969, Institute-sponsored research has studied how the environment influences the problems of crime and fear of crime. Early efforts in the limited setting of public housing by Newman indicated that, by intelligently shaping our environment, the opportunities for crimes to occur can be reduced.

These positive signs led the Institute to expand the scope of study to encompass other, more common settings. In 1974, a major program of Crime Prevention Through Environmental Design (CPTED) was launched. Residential, commercial, and school environments and the predatory, fear-producing crimes in each are the focus of this program.

The CPTED Program is a multiyear program now in progress. It features several demonstration projects, intended to implement and assess CPTED principles and impact. Two projects are already under way. A third is soon to begin. The Program has already aroused national, even international, interest.

This document encapsulates the highlights, concepts, and future plans of the CPTED Program. It is not a progress report, but rather an exposition.

Gerald M. Caplan  
Director,

National Institute of Law  
Enforcement and Criminal Justice

*School mini-plaza encourages  
student use of a supervised area.*

## Preface

In 1974, a major exploration of techniques for Crime Prevention Through Environmental Design (CPTED) was initiated with an award to a consortium of firms headed by the Westinghouse Electric Corporation.

The goal of the CPTED Program is to develop and demonstrate design concepts for urban environments that will reduce crime and improve the quality of urban life by reducing the fear of crime. Specific objectives of the Program are:

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To consolidate and extend design concepts that bear upon the prevention of crime in urban settings.

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To mount demonstration projects for the evaluation and refinement of CPTED concepts.

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To distill the design concepts and demonstrations' findings into guidelines suited to architects, planners, and developers.

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To disseminate and institutionalize Program results on a wide basis.

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This document provides a mid-program summary and review for the period from May 1974 to May 1976 and outlines future Program efforts.

CPTED is a complex concept and a complex program. The brevity of this document necessitates that some detail be sacrificed. For the reader requiring more information, we suggest the following supplementary volumes, upon which this document was largely predicated:

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*Crime Prevention Through Environmental Design: Commercial Demonstration Plan—Portland, Oregon.*

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*Crime Prevention Through Environmental Design: Schools Demonstration Plan—Broward County, Florida.*

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*Crime Prevention Through Environmental Design: Residential Demonstration Plan—Minneapolis, Minnesota.*

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*Crime/Environment Targets: a CPTED Planning Document.*

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*Elements of CPTED.*

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*Crime Prevention Through Environmental Design: Annotated Bibliography.*

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The members of the CPTED Program consortium are many and varied. Special recognition should be given to the contributions of the following:

Barton-Aschman Associates, Inc.  
Urban Systems Research and Engineering, Inc.  
Mathematica, Inc.  
Linton and Company, Inc.  
Carnegie-Mellon University  
American Institutes for Research  
Public Systems Evaluation, Inc.  
Richard A. Gardiner and Associates, Inc.  
Augsberg College  
National Association of Home Builders/  
NAHB Research Foundation, Inc.  
Nero and Associates, Inc.  
Public Technology, Inc.  
Council of Educational Facility Planners,  
International  
Building Owners and Managers  
Association International  
National League of Cities  
National Association of Counties

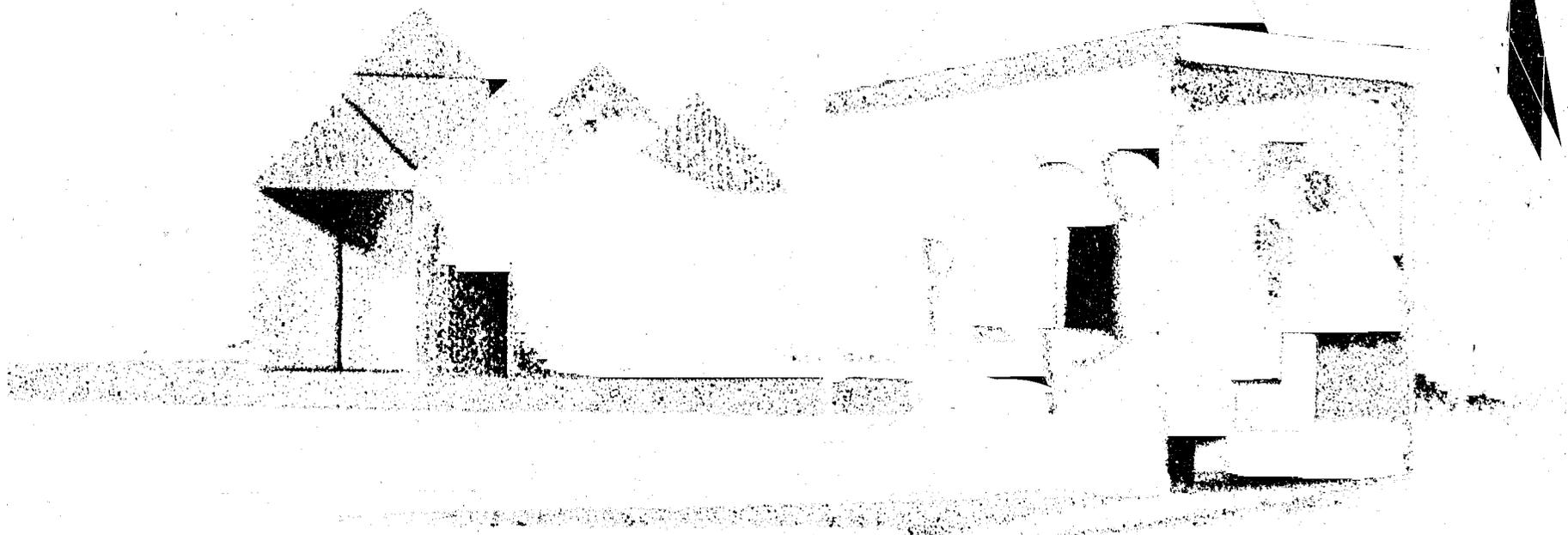
The continuing encouragement of the Law Enforcement Assistance Administration is greatly appreciated. Geoffrey M. Alprin and Fred Heinzelmann of the National Institute of Law Enforcement and Criminal Justice provided essential support for the CPTED Program from

its inception. Efforts of other Institute staff—Lois F. Mock—are appreciated. Richard M. Rau and Richard M. Titus, initial and current monitors of the Program for LEAA, have contributed substantially to the effort by resolving problems and providing proper perspective between this program and other research activities.

The consortium also wishes to express its thanks to the many jurisdictions visited for data collection and demonstration site consideration:

Atlanta, Georgia  
Baltimore, Maryland  
Boston, Massachusetts  
Broward County, Florida  
Charlotte, North Carolina  
Chicago, Illinois  
Cleveland, Ohio  
Dallas, Texas  
Dayton, Ohio  
Denver, Colorado  
Des Moines, Iowa  
Indianapolis, Indiana  
Minneapolis, Minnesota  
New York, New York  
Norfolk, Virginia  
Omaha, Nebraska  
Philadelphia, Pennsylvania  
Portland, Oregon  
St. Louis, Missouri

The consortium is indebted to the individuals within each jurisdiction whose cooperation was invaluable and is also indebted to other individuals who provided guidance and review as the Program progressed. We wish to acknowledge the contributions of: Thomas A. Reppetto (John Jay College of Criminal Justice), Joseph I. Grealy (Broward County School System), Thomas Kennedy, Jr. (Portland Development Commission), Joseph Andrus (Portland Crime Prevention Bureau), Sgt. Gerald Blair (Portland Police Department), John Zeisel (Harvard University Graduate School of Design), George Rand (UCLA, School of Architecture and Urban Planning), Robert Crew and Douglas Frisbie (Minnesota Governor's Commission on Crime Prevention and Control).



## Introduction

Crime is one of the most significant social problems in the United States, requiring innovative and varied solutions for reduction and prevention. Although Federal, State, and local governments have committed enormous resources towards combatting crime, the fear of crime is a discomfiting facet of everyday living in many communities. This fear has combined with other social forces to undermine the vitality of commercial areas, has led to the abandonment of residential areas as families are prompted to flight, enmeshed school administrations with internal disorders which have disrupted educational activities, and has often hastened declines in public transportation ridership.

A Gallup poll taken in 1975 revealed the concern of urban dwellers and also hinted at the degree to which behavior can be modified by the fear of crime. In that poll, crime was rated as the major concern. Almost one-half of the respondents revealed that they would be afraid to walk alone at night, even in their own neighborhoods.

NILECJ has recognized the need for research and the development of new approaches for crime prevention and the restoration of personal security. Because the environment in which we live is such a fundamental determinant of how we act and perceive our surroundings, it is both natural and imperative that we seek an understanding of its influence upon both crime and

the fear of crime within our society.

The use of environmental design to achieve security can be found throughout history. For example, moats and fortress walls were built around medieval cities to reduce external threats. Lighting programs have a precedent too—in the 17th century, some 6000 lanterns were installed on Paris streets as part of a crime reduction program.

Contemporary interest in environmental design as a crime prevention approach was stimulated by ideas presented by such people as Jacobs, Wood, Angel, and Jeffery in the 1960's. Jacobs' contention was that street surveillance is the key to crime prevention. She argued for diversifying land use to create more activity on the street, thereby creating more surveillance possibilities and stimulating informal social controls. In Jacobs' view, the essentials for crime prevention were a sense of community cohesion, feelings of territoriality, and responsibility for one's "turf."

Wood, concentrating on public housing projects, suggested that paid surveillance, project police, and guards could never exert the control provided by an involved and interested community. She indicated that the design must provide, at the very least, the opportunity for communities to exercise social control. She supported designing for natural surveillance through visible identification of a family and its dwell-

*Well-designed bus shelters  
facilitate natural surveillance.*

ing, and through enhanced visibility of public places.

Angel developed the critical intensity zone hypothesis: Public areas become unsafe not when there are either few or many potential victims present but when there are just enough people on the scene to attract the attention of potential offenders, but not enough people for surveillance of the areas. He suggested alteration of physical configurations to concentrate pedestrian circulation and thereby eliminate critical intensity zones.

Jeffery noted the "failure" of prevention and the inadequacy of past prevention and rehabilitation models. As an alternative, he suggested that urban planning and design be employed to control crime.

In 1969, NILECJ began a series of research projects aimed at assessing the relationship between the design features of particular environmental settings, citizen fear, and vulnerability to crime. The work of Newman suggested that the physical design features of public housing affect both the rates of resident victimization and the public's perception of security. These design features included building heights, number of apartments sharing a common hallway, lobby visibility, entrance design, and site layout. The research also indicated that physical design can encourage citizens to assume behavior necessary for the protection of their rights and

property. These concepts led, in Newman's terminology, to the establishment of "defensible space."

Repetto studied residential crime patterns and examined possibilities for controlling the crime problems. He concluded that future research should be directed towards the development of a crime prevention model which would blend together the deterrent effects of the criminal justice system and citizens' anticrime efforts and that, perhaps, improved environmental design would be the most effective way.

In 1974, NILECJ initiated the CPTED Program. The overall purpose of the effort was to demonstrate and evaluate the defensible space concepts in several environments (schools, residential, commercial, and transportation) that had not been addressed in previous studies.

The principal objectives for the first two years of the Program were:

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To modify and expand the concept of defensible space, tailoring the concepts for unique characteristics of the four environments.

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To select willing local demonstration sites for each environment.

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To develop general strategies for each environment and specific plans for each demonstration.

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To implement two demonstration plans and initiate an evaluation process for each.

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If the demonstration proceeded well, it was contemplated that the other plans would be implemented during the remainder of the Program.

An interesting aspect of the demonstration programs is that they were to be (are) funded by non-NILECJ sources. That is, while the CPTED Program may provide design, planning, and management guidance and may suggest funding sources and may support the solicitation of funds, the demonstration site bears the ultimate responsibility for the capital expenditures for physical changes. Thus encouraged, the consortium sought opportunities for the greatest leverage available for the "seed money" given the Program.

The Program concentrated upon predatory offenses, against either persons (i.e., criminal homicide, forcible rape, robbery, and assault) or property (i.e., burglary, auto theft, and

larceny). These offenses can be fear-producing and are certainly of great concern to citizens.

The CPTED Program organization was structured to reflect the objectives for the initial two years. Research, demonstration, and dissemination teams were established, with members drawn from the consortium firms, consultants, and concerned local agencies.

## Research

The Research team found the concept of defensible space, as defined in early 1974 by Newman, to be too limited in scope for direct application in each of the four Program environments. Defensible space, formed by environmental design, comes from a sense of territoriality among residents of that environment. This sense is reinforced and supported by increased opportunities for surveillance, positive images or symbolization of the environment, and the juxtaposition of residents with common concerns.

An uppermost concern of the Research team was that the defensible space concepts might not create a sense of territoriality or a willingness of citizens to be involved in environmental settings that were not their place of residence. For example, it was thought unlikely that

physical design, alone, would create a sense of proprietorship about a subway station through which an individual passes briefly twice a day.

The CPTED concept is focused upon the interaction between human behavior and the "built environment" (includes those elements both natural and shaped by man), as is defensible space. By way of contrast, however, CPTED principles treat both the proper design *and* the effective use of the environment. The CPTED approach generally involves an integration of strategies selected from existing and new physical and urban design, community organization and citizen action (social), management, and law enforcement crime prevention concepts.

The strategy set, or model, must be responsive to the crime-environment problems existing or anticipated in an area. The proper combination of these strategies leads to a synergistic impact on crime and fear. Potentially, the combination of strategies can be more effective than the sum of the individual strategy effects. As an example, improved street lighting (representing a physical design strategy) would be expected to have little long-term effect against crime without the conscious and active support of citizens (in reporting what they observe), and the police (in responding and conducting surveillance). Thus, in this example, the appropriate strategy set would include components for citizen crime reporting, police/community relations, etc. in

addition to the central physical design strategy.

Physical design strategies can facilitate citizen surveillance and access control of an area and can aid in creating a sense of territoriality; that is, architectural and landscaping techniques are used to help define spaces of concern to citizens. Stated simply, proper space definition and appropriate space use can:

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Extend the area over which a citizen feels a proprietary interest and responsibility so that his area now overlaps that of other responsible citizens (beyond his own front door to include his block, in the case of a residential area).

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Increase the citizen's ability to perceive when this "territory" is potentially threatened (can discriminate between people who belong and strangers), and permit him to act on that perception.

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Provide a potential offender with a perception that he is intruding on someone else's domain, thereby deterring him from criminal behavior.

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Social strategies are aimed at facilitating the emergence of an increased sense of territoriality. Activities of common interest in an area may result in more people recognizing and being

concerned about other people who use that area. Anonymity may be reduced and the level of social cohesion increased. Besides stimulating increased concern about an area and its people, social strategies may increase the number of people willing to use public and semiprivate spaces (e.g., residential streets and commercial areas). Thus, the amount of natural surveillance may be increased.

Management techniques can serve to reduce opportunities for criminal activities by minimizing potential victim exposure. For example, a transit company can publish and adhere to a schedule, thus permitting citizens to plan their arrival at the transit stop to involve minimum waiting and exposure. In addition, management strategies may cause an increase in the number of people using an area at a given time—eliminating critical intensity zones, in Angel's terminology. Physical configurations might be modified to channel pedestrian circulation to a restricted area (e.g., barricade parts of a school or transit station during certain hours). Adjacent retail and service establishments might decide to share common hours of operation. This strategy would create opportunities for mutual surveillance and assistance.

Law enforcement strategies are important components in a CPTED strategy set designed to prevent crime and fear of crime. Increased police patrol and surveillance of an area that

has implemented a set of physical, social, and management strategies can increase perceived risk by potential offenders.

The CPTED emphasis on design and use includes, but is not limited to, hardening approaches to crime prevention. Traditional target hardening focuses predominantly upon denying or delaying access to a crime target through physical or artificial barrier techniques (for example, locks, alarms, fences, and gates). Target hardening sometimes leads to constraints on use, access, and enjoyment of the environment so hardened. Where possible, the CPTED approach emphasizes natural access control and surveillance created as a byproduct of the normal and routine use of the environment.

The CPTED approach primarily seeks to deter or prevent crimes and their attendant fears within a specifically defined environment by manipulating variables that are uniquely related to the environment itself. The approach does not attempt to develop crime prevention solutions in a broader universe of human behavior. It does not emphasize corrective prevention action which involves elimination of causes, factors, or motivations before the criminal behavior has actually taken place. Rather, CPTED is principally a mechanical crime prevention approach that is directed towards reducing opportunity and increasing risk.

The Research team also began with another

*Color-coded school lockers provide identification of legitimate space boundaries.*



immediate assignment: To define the blend of environmental settings and crime problems that should be tackled by the Program. The steps taken were fourfold:

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Develop an environmental taxonomy for each of the four potential demonstrations. This framework has been set forth in *The Elements of CPTED*, a broad survey and analysis of environmental approaches to crime prevention.

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Synthesize available crime and fear information, and analyze significant contrasts between environmental classes and sub-categories. This assignment grew in magnitude and difficulty while underway, because published and readily available statistics were not adequate at the level of specificity required. The Research team has published *Crime/Environment Targets*, which summarizes this study.

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Establish criteria for choosing among environmental/crime/fear combinations for demonstration.

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Apply those criteria, and define the framework for the four potential demonstrations.

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## Demonstrations

Demonstrations were planned as a major component of the CPTED Program. A Demonstration team was organized to handle three major tasks:

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Identify and select demonstration sites.

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Prepare detailed site-specific demonstration plans.

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Monitor the implementation of each plan and provide such further support as required.

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The Demonstration team worked closely with the Research team and, as the preliminary CPTED framework unfolded, began initial explorations for potential funding sources. As the *Crime/Environment Targets* report took firmer form, the Demonstration team sought qualified sites for demonstrations to be installed. These were first those that resembled the idealized experimental models proposed by the Research team and successively filtered with the following concerns:

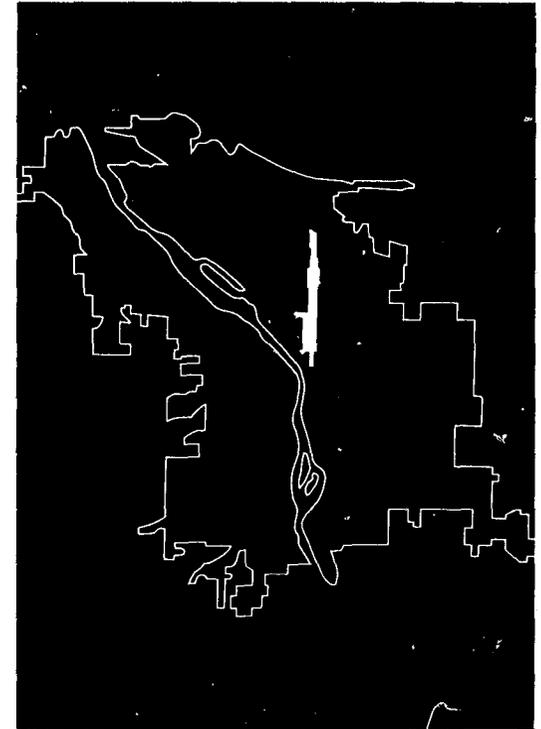
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Willingness of the site to participate.

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Local planning and implementation sources.

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*Running from the heart of downtown to the northern edge of the city, Portland, Oregon's Union Avenue was once a primary north-south artery and is now a commercial strip experiencing business and residential decline, a perceived high crime rate, and physical deterioration.*

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Ability to fall into step with the timetable imposed by the CPTED Program schedule.

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Availability of baseline descriptions for the crime and fear problems in the "before" state (facilitating impact evaluation and also permitting present severity to guide selection among candidates).

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A number of potential candidates were solicited by the Demonstration team, and other sites volunteered. Onsite inspections and evaluations were given each candidate. Site evaluation was a difficult and time-consuming activity, because of the many variables to be weighed. Detailed crime data, environmental descriptions, and estimates of local resources were compiled for each candidate site.

Three well-qualified sites were chosen: Portland, Oregon (commercial); Broward County, Florida (schools); and Minneapolis, Minnesota (residential). The search for a fourth site, qualified for a transportation demonstration, took much longer than did the other three.

The Research team had determined that the transportation demonstration should be in an urban rail setting with problems of robbery, assault, larceny, and vandalism. The Demonstration team extensively evaluated the appropriateness of five stations in four cities and

summarily inspected several others. Their finding was that the documented crime levels in none of the sites justified a major demonstration. Furthermore, to various degrees and in varying combinations, the other selection criteria could not be met by any identifiable candidate either. These difficulties, combined with the intensive competition from the other environments for the Demonstration team's resources, have led to the postponement and likely elimination of a demonstration focused exclusively upon transportation.

Several steps were involved in the development of plans for the schools, commercial, and residential demonstrations. The first step was to make presentations to local officials, describing the concepts involved and the likely benefits and costs of the demonstration. After securing their approvals to proceed, more detailed studies were begun.

Reported crime, victimization and fear data, environmental characteristics potentially related to the crime/fear problems, and an identification of possible implementation funding sources were topics of the initial detailed site studies.

A principle adhered to by the Demonstration team was to involve local site personnel to the maximum extent throughout the process. Without their involvement, participation, and knowledge, the projects would have

failed during the early planning phases.

Following the detailed problem assessment came the most difficult step of the process: The development of responsive CPTED strategies and directives. Not only did these proposals need to hold the promise of crime prevention and fear reduction but also to be consistent with the interests, willingness, and resources of the local officials and citizens.

These strategies then became part of a concept plan, which also included a draft implementation process and management and evaluation plans. The concept plan was reviewed by the local officials, involved citizens, and NILECJ.

The final demonstration planning step was to prepare detailed work plans, schedules, management plan, evaluation design, and funding plan.

In general, the CPTED evaluation plans attempt to answer three questions:

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To what extent did the demonstration project(s) achieve the stated goals?

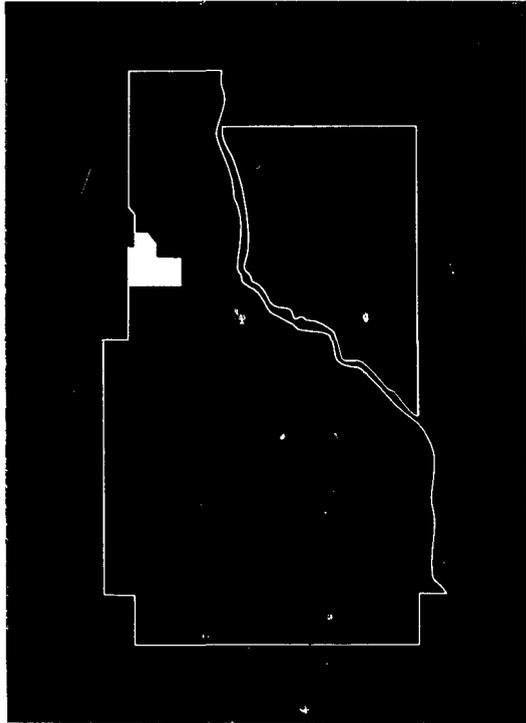
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How or why did it (or did it not) achieve these goals?

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To what extent was the project effectively implemented (that is, to what degree was the demonstration's design followed?)

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*The Willard-Homewood Neighborhood is an inner-ring residential area in Minneapolis, Minnesota, that possesses many of the physical and social characteristics common in older communities throughout the United States.*

Answering the first question is an *impact* evaluation. Was the incidence of common stranger-to-stranger crimes reduced? Was the public fear of such crimes lessened? Were there indications that the quality of life had improved for the residents and users of the residential, commercial, and school areas in which the demonstrations were implemented—for example, is there heightened, relaxed activity in subenvironments previously avoided or hurried through? A pre-test/post-test non-equivalent control group design has been developed for each site. Difficult though it will be to give conclusive assessments of these impacts, the initial assessments will suggest how worthwhile it would be to try to implement similar CPTED programs elsewhere.

A major difficulty with this aspect of the evaluation is the relatively short time span between the actual implementation of the site-specific demonstration model (containing the set of coordinated and interrelated design directives that identify the environmental elements to be manipulated) and the evaluation report's delivery date. In short, impact conclusions must be regarded as tentative and as subject to revision as a result of subsequent evaluative activities.

Answering the second question (a *process* evaluation) furnishes information about the conditions under which a similar project could

be effectively implemented elsewhere—what was learned about its external validity? (Alternatively, it provides information on the kinds of changes that might need to be made elsewhere to increase the likelihood that the CPTED project will be implemented effectively.) What were the relative importance of historical, political, and other contextual characteristics of the design modes (the inner-ring residential neighborhood, commercial strip, and secondary school complex)? That is, which factors were intrinsic and which tangential to the successful process? What interactions were there among the project elements and how relevant was the attention paid to their sequencing?

At another level, this focus speaks to the causal links hypothesized in the CPTED process. Were natural surveillance, access control, and feelings of territoriality heightened? Whether or not they were, can changes in crime incidence and fear of victimization be directly related to them? In short, is the CPTED causal model internally valid?

Answering the third question (an *effort* evaluation) further clarifies the relationship between the project's conceptual framework and its technical or operational design. Did the deployment of resources flow directly from the demonstration plan? Were the resources adequate for and appropriate to the plan? Did the project actually implemented mesh in all

important considerations with the plan from which it emerged? If not, what reorientations are implied for the CPTED theoretical framework? That is, is there an alternative understanding of CPTED to which the demonstration actually speaks? The effort evaluation is most important if the lessons of one demonstration are to be related to those of other demonstrations—whether or not they appear to be similar—and thus are to contribute to the development of crime prevention knowledge.

## Dissemination

The Dissemination component of the CPTED Program sought to promote a general awareness of CPTED, to disseminate emerging knowledge, and to impact upon the policies, programs, and processes of those who design and use environments. Three activities were undertaken:

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Technical Assistance Referral Service.

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Clearinghouse.

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Participation in meetings, panels, and professional conferences.

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The CPTED Program was given a responsibility to identify a pool of CPTED consultants and to provide a referral service, rather than directly provide funded technical assistance. This constraint allowed only a few instances of effective technical assistance delivery and led to the funding of a technical assistance service in the second phase of the Program.

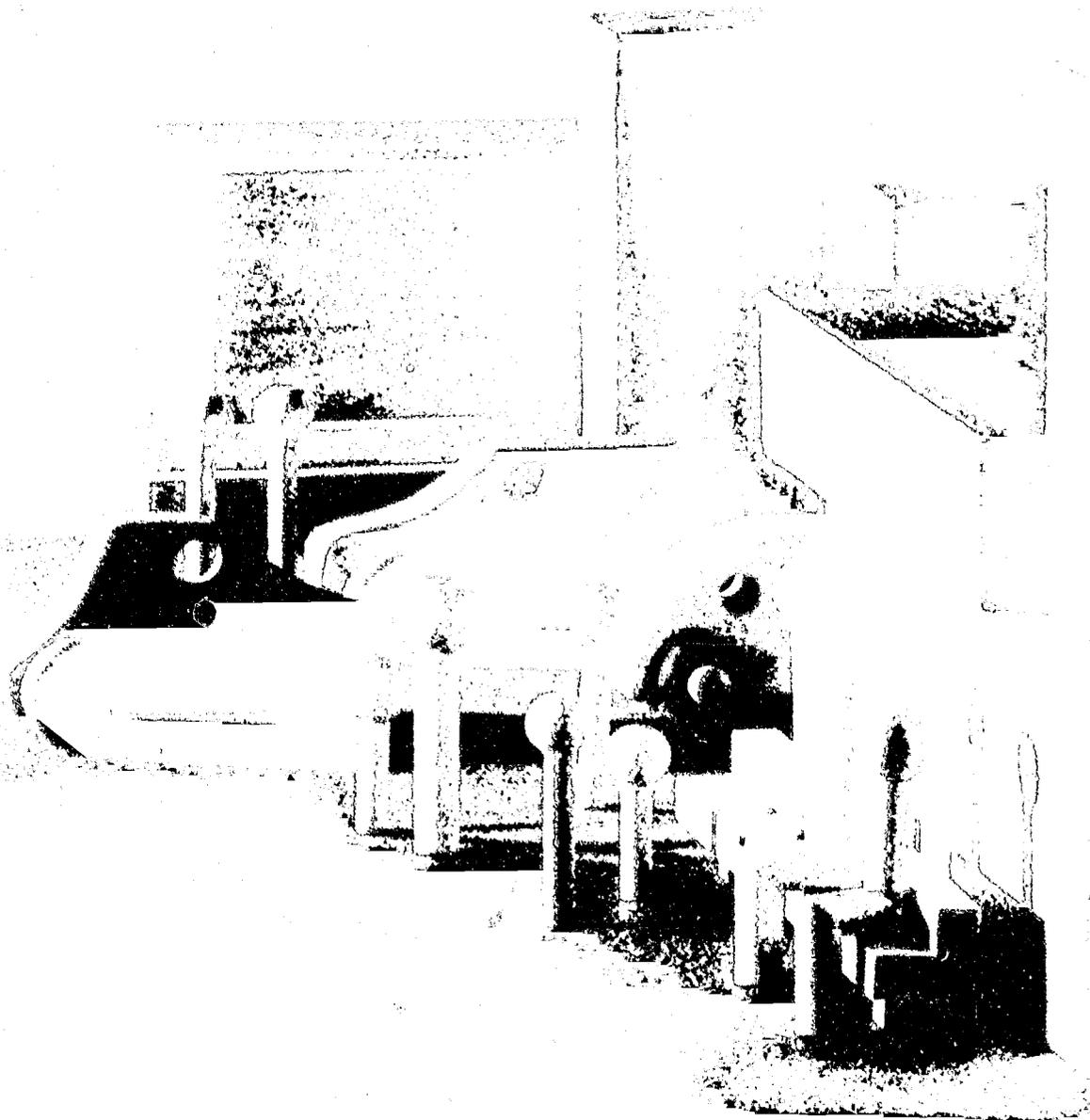
The CPTED Program Clearinghouse activity was to be a structure to collect, catalog, and disseminate relevant information of crime prevention through environmental design. Because of the volume of requests and breadth of national interest in environmental design (more than 6500 students and practitioners added environmental design to their interest profiles at the National Criminal Justice Reference Service), the clearinghouse role rapidly escalated to something far beyond original expectations. Because the cataloging and distribution mechanisms of the NCJRS were already in place, the objective of the Program became to support and use that existing service, whenever possible.

Members of the CPTED consortium have participated in workshops and professional society meetings. This is an excellent mechanism for the rapid distribution of ideas and the collection of comments and criticism from other practitioners. Persons in attendance have exhibited a high level of interest in the CPTED Program and

have followed up with requests for materials and technical assistance.

At this juncture, the CPTED Program has achieved many of the objectives laid out in early 1974. In some areas, notably the demonstrations, the success has been extraordinary, given the constraints that frequently thwart efforts of this type. In other areas, the success has been far more modest—partly because of energies being applied to ancillary portions of the Program and partly because of a lack (or scarcity) of quantifiable research results.

In view of the focus that has been given to demonstrations during the first two years of the Program, the majority of this report will offer a recapitulation of the salient features of the demonstration sites, the CPTED strategies chosen for implementation in these locales, and the expectations of the Program team and the affected communities. The following three sections of this report contain, respectively, descriptions of the demonstrations being conducted in Portland, Broward County, and Minneapolis. The final section outlines programmatic expectations during the next several years.



## Commercial Environment Demonstration

Commercial strips were selected as the focus for a demonstration after considering such other possibilities as central business districts, regional shopping centers and malls, and isolated business establishments. Criteria for selection included actual and perceived crime problems, crime impact on surrounding areas, and the potential for demonstration results to have widespread impact.

A strip may consist of a few stores clustered linearly along a street, or it may extend for several miles. Examples of establishments found in commercial strips include fast-food and other types of restaurants, convenience and full-service groceries, service stations, branch banks, insurance agency offices, drug stores, laundries, variety stores, bars, cafes, auto parts stores, and car sales agencies.

High crime rates are a serious problem in some strips. There is direct monetary loss caused by burglaries and robberies. Loss of business occurs because potential customers avoid the strip; they are fearful of being involved in a crime in or near an establishment. Crime insurance is often expensive or unavailable. Businesses may abandon their operation with no replacement, or with a less desirable activity moving into the space.

The Union Avenue Corridor, between Columbia Boulevard and Broadway in Portland, Oregon, was selected as the site for the com-

mercial demonstration. The corridor is representative of many commercial strips in terms of land uses, densities, adjoining neighborhoods, crime patterns, and the fear of crime. The demonstration project addresses assault, robbery, burglary, pursesnatch, and the fear of crime in the strip.

The Portland demonstration area runs along Union Avenue for 50 blocks and includes 2 blocks on each side of the strip. Land use is mixed, with a large proportion of residential properties bordering the commercial establishments. A recent survey found the following use composition:

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50% residential.

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20% commercial.

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20% vacant land.

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5% industrial or public use.

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5% vacant structures.

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*The commercial strip is an artery satisfying business, residential, and transportation needs.*

There are approximately 230 operating businesses and 4500 residents in the 200-block corridor. The demonstration area incorporates parts of eight neighborhoods, and the population of the corridor is racially balanced.

The 572 reported serious crimes for 1974 were distributed as follows:

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14% robberies:

—*Street* (9%).

—*Commercial* (3%).

—*Residential* (2%).

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5% assaults.

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6% pursesnatch.

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75% burglaries:

—*Commercial* (23%).

—*Residential* (52%).

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About 62 percent of robbery, assault, and pursesnatch crimes occurred during hours of darkness. Assault, robbery, and pursesnatch crimes are not uniformly dispersed within the corridor but instead are clustered in the vicinity of commercial nodes.

Victims of the crimes against persons were often the elderly, predominantly white, and equally divided between males and females.

Impact of crime and fear of crime on busi-

ness, residents, and potential customers is difficult to assess. Police incident reports provide information on reported crime, but direct victimization and fear data are lacking. It is known that a 1973 survey of Union Avenue business owners concluded that the high crime rate was viewed as the greatest obstacle to the successful operation of their businesses.

The CPTED demonstration plan for Portland was developed with the assistance and review of City officials, businessmen's organizations, the transit company, and individual residents and business operators. The demonstration is largely integrated with and funded by an existing Union Avenue redevelopment effort. The redevelopment project addresses crime, transportation, land use, business expansion, and employment issues.

In developing the demonstration, the CPTED team had to be responsive to:

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Major crime-environment problems.

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Business, resident, and City desires and constraints.

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Implementation funding availability and limitations.

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Framework provided by the CPTED concept.

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The demonstration includes programs addressing crime and fear of crime directly and immediately. Furthermore, there are other programs into which CPTED principles have been incorporated that may not be implemented for several years.

The CPTED team, working closely with Portland and Union Avenue representatives, developed a demonstration plan document. The plan provides the foundation for demonstration implementation, management, and evaluation.

The crime prevention strategies developed for the demonstration involve an integration of physical and urban design, citizen and business community, management, and law enforcement components. Major strategies include:

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Street lighting.

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Security advisor services.

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Cash off the streets.

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Safe streets for people.

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Residential activity center.

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Corridor promotion.

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Design reviews.

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Transportation.

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Increased and improved street lighting is planned for the entire Union Avenue Corridor. The lighting is intended to facilitate surveillance by police and citizens. In addition, the businessmen perceive the added lighting to be an important step in improving the area.

The security advisor services strategy involves several activities under the supervision of a Portland police officer trained and experienced in crime prevention work:

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Performing security surveys of businesses and residences.

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Evaluating victimized structures.

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Investigating reduced insurance premiums for businesses that incorporate recommended security improvements.

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Providing crime prevention consultation to a businessmen's organization.

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The security advisor will survey all commercial and some residential structures in the corridor. Recommendations will be provided on security improvements to reduce vulnerability to crime. Followup consultation will be provided to ensure that maximum compliance with recommendations is achieved.

Police reports will be monitored, and victimized establishments will be revisited to assess effectiveness of the recommendations with regard to the offense.

Insurance company representatives have agreed to review the crime loss patterns to determine if establishments making security improvements might receive reduced insurance rates.

The cash off the streets strategy is aimed at reducing incentives for pursesnatch and street robbery in and about the Union Avenue Corridor. The typical victims of these crimes are the elderly—a group most vulnerable to serious injury and death, most defenseless, and most heavily impacted by fear and financial loss.

This strategy encourages citizens not to carry substantial amounts of cash or valuables, and to enable them to advertise they are not carrying valuables. Components of the strategy include:

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Encouraging citizens to have payroll, social security, and welfare checks sent directly to financial institutions.

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Providing identification and procedures that permit citizens to make purchases and obtain cash at local establishments.

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Educating citizens, bankers, and merchants about the program and obtaining widespread participation.

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Promoting awareness of programs to all concerned, including potential offenders.

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The safe streets for people strategy is intended to reduce opportunities for crime, encourage crime reporting, and reduce fear of

crime through complementary physical, social, and law enforcement strategies. The primary emphasis of the strategy is upon those streets linking residential and commercial nodes.

The safe streets for people design should increase the risk of apprehension to potential offenders by heightening the opportunities for surveillance by police and citizens, and by increasing the willingness and ability of people to observe and report suspicious activities.

It is the combination of physical and social strategies that can increase the sense of territoriality in a safe streets for people area. Territoriality is used in the sense of creating citizen concern about his area and the people residing in it. This concern is manifested by an increased willingness to be involved.

Principal physical changes include:

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Unique signing to designate the safe streets for people area.

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Improved lighting.

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Sidewalk and landscaping improvements.

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Street furniture.

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Demolition and clearing of derelict structures.

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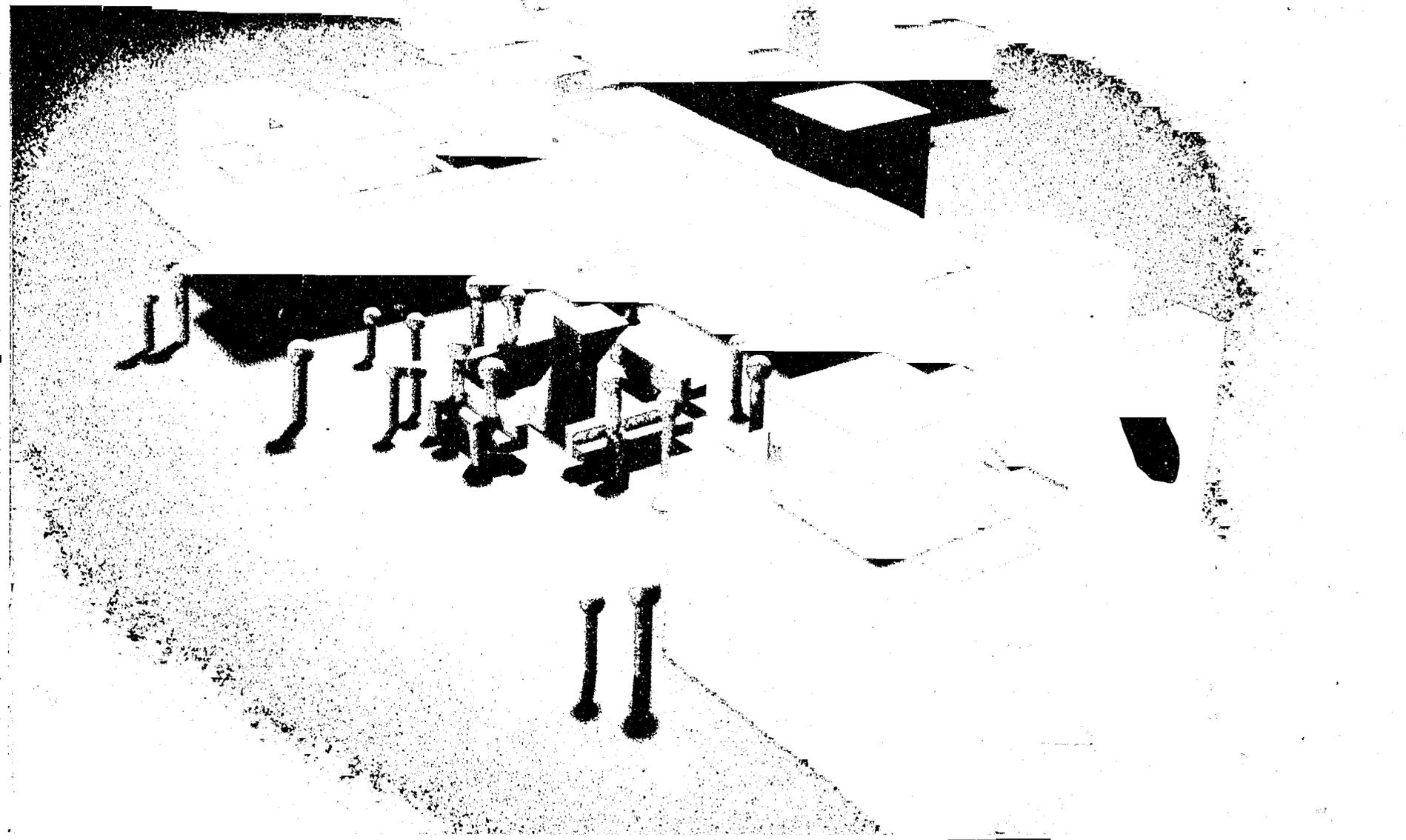
Social programs include block watch and safe streets for people area projects to increase social contact between residents and businessmen.

A residential activity center will be provided at the intersection of one safe streets for people corridor and Union Avenue. The center is intended to provide a relatively safe location where people can wait for public transportation, or rest, with reduced fear of being victimized. Taking the form of a mini-plaza, this center will include a transparent bus shelter, emergency telephone, ample lighting, benches, and a mini-mall recreation area. Screening, landscaping, and graphics will be provided to create an appropriate design character. Activities in the center will be scheduled by businessmen and citizen groups.

Corridor promotion is built upon the premise that there are both direct and indirect relationships between crime, fear, shopping behavior, and commercial vitality. Increased business and other desirable activities along Union Avenue should increase interest and pride in the corridor by citizens and the business community. The greater interest may be expressed by greater citizen concern about and involvement with the environment.

This strategy involves developing a Sunday morning market in the corridor to attract new shoppers and merchants to the area. Small shopping malls—residential service centers—

*Shoppers and residents can enjoy the security of the mini-plaza while relaxing or waiting for transportation.*



integrating new and existing buildings are proposed for the corridor. In addition, crime prevention considerations will be incorporated into a Union Avenue investors' manual being prepared.

The CPTED team will conduct design reviews and provide crime prevention recommendations regarding:

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Proposed new and expanded commercial establishment architectural and operational plans.

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Proposed residential rehabilitation designs.

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Even though building projects may not be completed during the formal CPTED demonstration, the recommendations are important to revitalization of the Union Avenue Corridor.

The elderly, handicapped, and relatively poor people in the Union Avenue area have little access to private transportation. The local bus company has cooperated by providing well-designed bus shelters at recommended locations along the corridor. Furthermore, the bus company will consider rescheduling and rerouting service to support other activities in the corridor resulting from the CPTED plan.

The transportation strategy is concerned with reducing the exposure of potential victims

and with encouraging more people to utilize transportation services. The increased number of people going to and from and waiting at bus shelters as well as riding buses should increase natural surveillance of the area, thus reinforcing other aspects of the overall project.

The police are an important component in the demonstration projects. Besides providing the security advisor services, the police will cooperate by encouraging citizens to report known or suspected criminal activities, increasing the effectiveness of patrol efforts, and participating in citizen and businessmen group meetings to improve police/community relations.

Street lighting, security advisor services, transportation, and corridor promotion activities have already begun. The remaining strategies will be implemented in 1977.

To assess how well CPTED prevents crime and the fear of crime, the evaluation will address questions at two levels of generality. The first level is the demonstration as a whole. Probably the most natural of all questions about the demonstration are: How did the crime rates in the corridor change relative to the rest of Portland and how did they change relative to comparable areas in other cities? Producing comparative statistics will not be expensive or time-consuming, using existing compilations of crime data. The second level is input-by-site analysis. Insofar as the final CPTED design per-

mits any rigorous judgments about impact on the crime rate, it will be at this level of analysis. In particular, the evaluation will attempt to develop answers for three questions:

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What were the crime reduction effects of a given input?

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What kind of immediately surrounding environment is most suitable for a given input?

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To what extent is crime being displaced rather than prevented?

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These three questions have central importance in disentangling the interactive effects of CPTED inputs, so that the design of project packages can be improved.

An extremely fine-grained data collection procedure is appropriate, based on an elementary unit of analysis as small as the "street-block" (the properties facing the street from both sides, in a single block's distance). This approach should enable the evaluation team to reach sound conclusions about gross effects of the overall CPTED project on reduction of crime. In addition, the input-by-site analysis maximizes the potential for impact-by-input findings.

To assess reduced fear of crime, two options

are open. The first is to use a direct measure of attitudes, by conducting surveys pre- and post-implementation of CPTED strategies. The second option is to use indirect measures based on the question: If a person's fear of crime changes, how will this surface in behavior? Indicators under this option would be drawn from before-and-after data on pedestrian traffic patterns, bus usage, commercial activity, and other equally unobtrusive measures.

Either approach is methodologically feasible. For a number of site-specific reasons, we have planned to employ behavioral measures rather than attitudinal ones. The basic rationale is that the attitudinal measure may be less persuasive than the cheaper, unobtrusive behavioral measure, even though it is more direct. If people behave as though they are less afraid of crime, but say they are not, then the attitudinal data are suspect; if people say they are less afraid of crime, but do not change their behavior, then the question arises: Why is the change in attitude important?

An assessment of the revitalization of the Union Avenue Corridor will have to be modest. To the extent that reduced crime will encourage such events as new business openings and rising property values, it will probably do so with a time lag of more than the 12-month period after implementation of the CPTED project that constrains the evaluation schedule.

Whatever impact might be occurring during the evaluation period must be attributed to CPTED cautiously, in view of the many other programs for revitalization already being implemented in the corridor.

English

Math

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## Schools Environment Demonstration

School crime is a recognized national problem engendering increasing concern. The problem and concern are voiced by Congressional, governmental, school, public, and media representatives. Current research suggests that fear of crime is also a debilitating influence on the school population.

Based upon an analysis of crime data and the application of several selection criteria, public secondary schools were selected for the CPTED schools demonstration. The selection criteria were crime-related (for example, type and severity of crime), environment-related (for example, population and value at risk), and Program-related (for example, potential for repeated use of results). Public secondary schools were selected over private and other public schools (elementary, middle, special, and post-secondary) on the basis of these specific criteria:

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Vulnerability to property and personal crime.

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Perceived degree of crime and fear of crime.

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Population and value at risk.

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Perceived detrimental impact on the quality of education.

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Degree of social dependency on the institutions considered.

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Potential for active support among school administrators.

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Presence of qualified resource people to support the demonstration.

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Availability of funding support.

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Potential for replication and institutionalization.

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Both inner-city and suburban school sites were considered for the demonstration. Although they often have the more severe crime problems, inner-city school systems were eliminated because of a concern that incidents

*Supergraphic designs identify functional areas and convey a sense of territoriality.*

arising from urban tensions would confound the implementation and jeopardize the evaluation of the demonstration. Suburban school systems have sufficiently representative and serious crime problems with fewer of the attendant difficulties posed by urban settings. Broward County, Florida, was selected from the set of suburban systems because of its many comparative advantages, including: Rapid and representative (among the large school systems) growth, superior data base and reporting system, and the openness of administrators in acknowledging and dealing with school crime.

The Broward County School System is large (140,000 enrollment, the 12th largest in the country), essentially suburban, and generally representative of many systems around the country. There are 20 high schools in the system, with about 2000 students per school. Students are bused to maintain an approximate 1-to-4 black-to-white ratio in each school.

School structures in the county are built according to a standardized plan and, since other schools in Florida are designed in accordance with the Standard School Facility Construction Act, findings of the demonstration project can be rapidly applied to other facilities throughout the State.

Overall, the school-related crime rates for Broward County are about average for similarly sized jurisdictions. Known incidents in the

1974-75 academic year included 1776 cases of vandalism, breaking and entering, theft, assault, and extortion.

The conceptual thrust of the schools demonstration is that proper design and effective use of the schools' physical environment will reduce the incidence and fear of crime. School environments lend themselves to numerous opportunities for natural surveillance and access control for crime prevention. Only for expediency, in the absence of any apparent alternative, are "fortress-like" traditional target-hardening mechanisms tolerated in the Broward County School System. Thus, the clear preference of the school users—and the concepts incorporated into the demonstration plan—are bent towards a maximally open and natural environment that supports the usual social and educational process of a school while, at the same time, reducing the propensity for criminal acts.

Four of the county's 20 high schools were selected for the demonstration. Represented in these schools are the two types of school construction found in Broward County:

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Open one-story building on a large campus.

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Two-story building with double-loaded corridors and internal stairwells

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Data for 1974-75 revealed 785 incidents of the CPTED target crimes (assault, breaking and entering, theft, and vandalism) in the demonstration schools. The four most crime-prone locations were:

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Parking lots.

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School grounds.

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Classrooms.

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Lockers.

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The major types of crimes included:

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Theft.

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Assault.

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Breaking and entering.

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Vandalism.

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Extortion.

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The CPTED team cooperated with the Broward County School System administration, students, parent groups, and law enforcement organizations in developing a demonstration program. Close liaison was maintained with the Internal Affairs Department, responsible for security within the school system. The demonstration development process included:

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Analysis of incident reports.

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Discussions with internal affairs resource persons located at each school, teachers, students, administrators, and parents.

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Development of problem definitions and possible approaches.

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Review of problems and possible solutions with those talked with earlier.

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Revision of problem statements and solution strategies.

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While developing the demonstration plan, the CPTED team had to consider such issues as:

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Major crime-environment problems.

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School administration, teacher, and student desires and constraints.

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Implementation funding availability and limitations.

---

Framework provided by the CPTED concept.

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Among the strategies developed for the schools environment demonstration are:

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Functional design and use of isolated areas.

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Mini-plaza.

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Locker color-coding and scheduling.

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Extended facility use.

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Redesign of fear-producing enclosures.

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Parking lot surveillance and safe activity proximity.

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A crime-environment problem exists in isolated corridors and areas of the school facility where no supervision, surveillance, or territorial interest is found. Use of the isolated area strategy involves providing a functional activity—a teacher planning area—in a problem location to increase supervision and natural surveillance. Visual access to the isolated section will be provided by windows. Teachers will be scheduled to be present during school hours. Graphic designs on the walls will relate to the intended function (for example, mathematics symbols in the mathematics department area) of the space.

Natural surveillance will be provided by teachers. The use of graphics and the location of teachers in their normal teaching area may increase the sense of territoriality in both teachers and students.

An empty, unused courtyard surrounded by school facility structure will be transformed into a mini-plaza. The mini-plaza will attract and support informal social activities, moving some of this activity away from unsafe and unsupervised spaces. Functional activities, such as sale of tickets to school-related events, will provide responsible individuals in the area. Thus, natural surveillance and control should occur.

The locker room crime problems are breaking and entering and theft. One CPTED strategy is to provide clear definition of locker area transition zones and to use space so that bona

fide users are easily recognized. A simple method of achieving this is to assign locker sections in separate groups on a class-by-class basis. Then the locker sections can be color-coded for each class to clearly define the territory of concern for supervisors and users. This will symbolically reduce the range of excuses one might have for being in the wrong locker area.

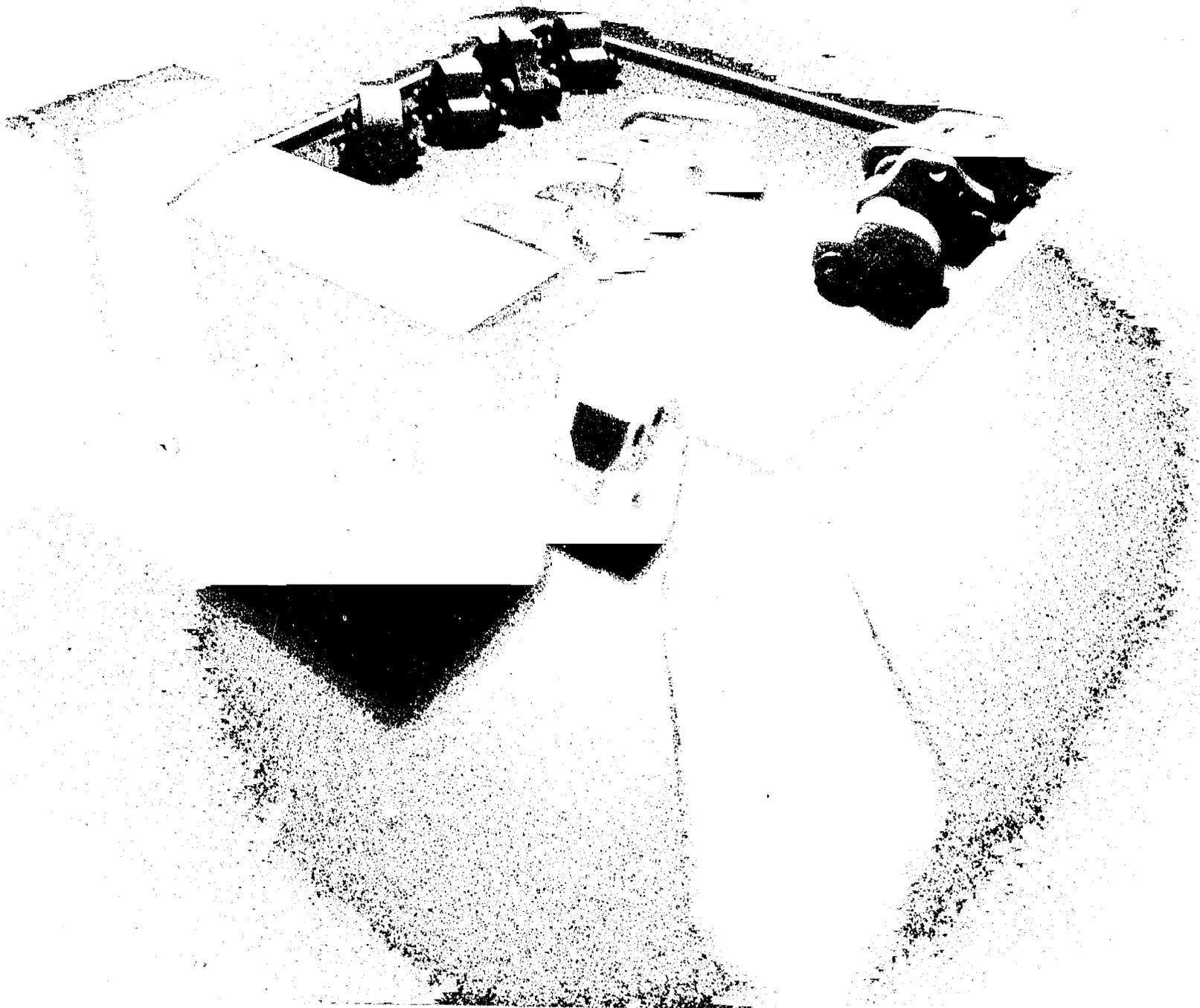
Breaking and entering and vandalism are problems during night hours, weekends, and holidays, when only a few or no people are in the school. The extended facility use strategy involves locating a community function at a school requiring the continual presence of responsible individuals. A local police precinct office will be located at a school complex to provide constant, around-the-clock activity, creating natural surveillance and an increased perception of security.

The restroom is typically a fear-producing enclosure. Crime problems are assault and extortion. While fear of such occurrence is

greater than the actual risk, the problem is more than trivial. The restroom door removal strategy involves removing obstacles to natural surveillance to decrease fear and to increase the risk of detection of offenders. Entrance doors will be removed from restrooms to eliminate the perception of isolation created by the closed doors and to increase the risk of detection. Unnecessary portions of the anteroom walls (those not required for privacy) will be removed to increase natural surveillance. These changes will not interfere with the level of privacy required for restrooms.

Parking lots are problem areas because they are isolated, do not have adequate border definition, and permit free and multiple access. As part of the parking lot surveillance strategy, an isolated parking lot will be moved to the present location of the driver education range, where good natural surveillance exists. The driver education range will then be relocated to be adjacent to the remaining part of the isolated parking lot area. The latter relocation will thus take advantage of the safe influence coming from the constant activity of the driver education program as it will affect the adjacent student parking. Similarly, the good natural surveillance in the area where the driver education program was originally located will provide a safe influence on the portion of the student parking moved to that site.

*Positioning of school parking lot provides surveillance and access control.*



Other changes to be implemented include:

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Installation of aesthetically pleasing hedges and wood pole gates around several of the student parking lots to define boundaries and to control vehicular access.

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Closing remote access points after the students arrive at school.

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Routing abnormal traffic through internal driveways that pass by office and classroom windows before entering the parking lot.

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The demonstration will produce an evaluation of the effectiveness of the strategies on crime and fear of crime levels. In addition, security guidelines for school construction will be prepared, and a model crime reporting system developed.

A student fear and attitude survey, providing baseline data for evaluation, has been completed. Evaluation will be conducted over portions of the next two school years.

The Research Department within the Broward County School System will serve as the evaluator, with technical assistance and evaluation support provided by the CPTED consortium. Results will be presented within the framework provided by the following idealized

conception of CPTED impact: The problem identification, design strategies, and design concepts and directives are the specific parts of the planning process, with environmental changes being the actual CPTED inputs. Thus, there are three first-order issues (that is, within the control of the project planners and administrators):

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To what extent did the planned change match the crime and fear of crime problem in the target schools?

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To what extent did the process for administering the inputs contribute to achievement of the planned changes?

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To what extent did the actual changes match the planning specifications?

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Perceived territoriality is the hypothesized enabler that is necessary for impact. The next three questions then are directly related to the mechanisms whereby the inputs are supposed to reduce crime and fear:

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To what extent have the inputs increased surveillance of areas where crime is likely to occur?

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To what extent have the inputs limited accessibility by persons who are likely to commit crimes?

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To what extent have other aspects of territoriality been affected in ways that may plausibly be expected to inhibit crime or reduce fear of crime?

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Impact assertions will be based on four levels of analysis: Reduction of crime, reduction of fear, categorization of crime, and crime in the whole school district. For the first analysis, three measures of crime reduction will be used to ensure reliability of results:

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*Official Crime Reports*—The analysis of the crime records maintained by the Internal Affairs Department of the school system will be couched in an interrupted-time series design.

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*Dean's Records*—The deans in each of the schools maintain records of misbehavior in the school. Since some of these reports never find their way to the official files, it will be necessary to examine these data for each of the demonstration schools to reflect the total crime problem. Also, these data may provide leads as to the number of individuals involved in the school crime. Crimes are not necessarily independent, and the total crime figures must be examined in light of the number of offenders.

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*Victimization*—Further verification of the crime data will be accomplished by directly surveying the students. This may reveal previously undetected crime and may also indicate the potential targets of school crimes.

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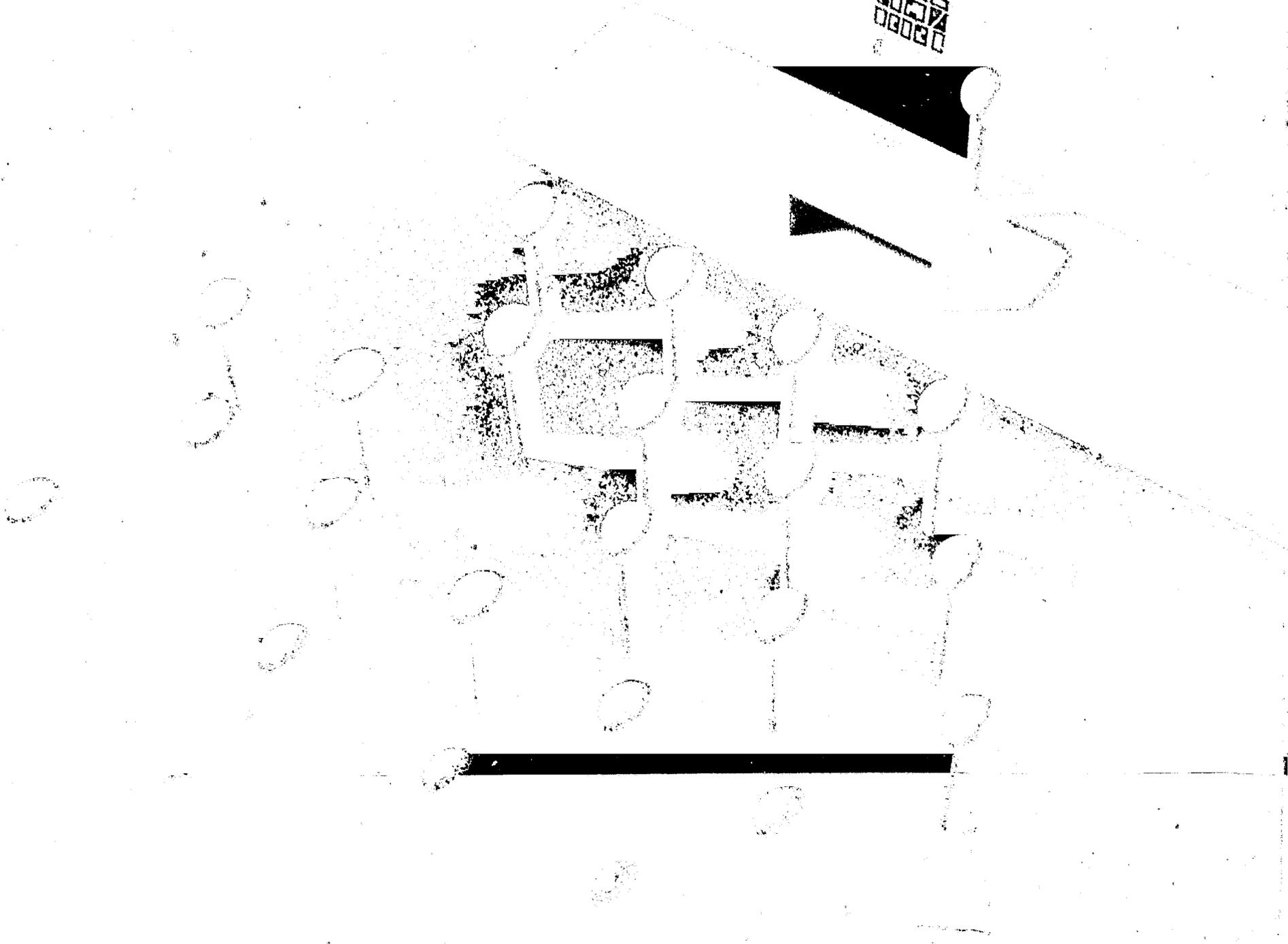
Another analysis will investigate the impact of the project on fear. The victimization surveys will establish the overt fears of students concerning specific school locations. This pre- and post-analysis will look for some decrease in reported fear after the implementation of the CPTED Program.

The third analysis will attempt to break down the crime data to reveal the source of fluctuations in the total crime index. The breakdowns will be done by school, type of crime, and location of crime. This can be done for the crime and fear variables mentioned in the first and second analyses above.

The last analysis will attempt to place the results of the experiments in the context of the overall school system situation. The demonstration schools will be compared with their counterpart schools in the Broward County School System to ascertain relative impact. (For example, it may be that the demonstration schools would experience some crime reduction attributable to CPTED but still exceed the aver-

age crime level for the system; this is particularly possible because of a relatively poor crime record.) Most importantly, this analysis also should reveal the relevant dimensions for project replication in the system and elsewhere.

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## Residential Environment Demonstration

The residence is the center of family life and represents a principal refuge from outside dangers and pressure. When this security is threatened by crime or fear of crime, the quality of life within the residential environment suffers. Unfortunately, crime is a major issue in many residential areas.

Within the residential environment, there is a broad range of subenvironments, from concentrations of public housing in the core area of cities to affluent suburban neighborhoods. Based upon an analysis of crime data and the application of several selection criteria, inner-ring residential neighborhoods were selected for the CPTED residential demonstration. An inner-ring residential neighborhood is defined as a "predominantly residential area located within city boundaries, usually near the central area of the city but which exhibits many of the physical and design characteristics of suburban areas." Such neighborhoods have predominantly single-family dwellings and often a significant burglary problem and increasing person-to-

person crimes such as assault and robbery.

The Willard-Homewood Neighborhood in Minneapolis was selected as the site for the residential demonstration because of several important factors:

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*Crime Problems*—The reported and perceived crimes in the Willard-Homewood Neighborhood are primarily burglary, auto theft, and larceny, which are characteristics of the overall residential environment.

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*Physical Characteristics*—The physical character of the Willard-Homewood Neighborhood is comparable to that which is common throughout the Nation's older suburbs.

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*Area in Transition*—Although Willard-Homewood has socioeconomic and transitional problems, in recent years it has achieved a reasonable stability for demonstration purposes. The Neighborhood, which has an environmental rating below the city's average, is characterized by older residences that need to be rehabilitated and repaired. This resulted from the Neighborhood's former residents emigrating to the suburbs and new residents being somewhat poorer although still within the middle-income bracket.

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*Citizen involvement is the key to improved residential security.*

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*Dependency*—The Willard-Homewood Neighborhood is populated by larger families who tend towards home ownership. The large supply of larger, single-family residential structures, which can be rehabilitated into quality housing, makes the area important for residents who are dependent upon having homes in close proximity to their employment.

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*Community Support*—Because the Neighborhood residents perceive crime to be a paramount issue and believe reduction of crime and the fear of crime will facilitate rehabilitation of the area, numerous block clubs and broader community organizations have been organized.

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*Supportive Programs*—A number of community development, social services, law enforcement, public works, and other projects have been initiated in the Neighborhood by the city that can be supportive of a CPTED demonstration.

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The Willard-Homewood demonstration area is situated in Minneapolis' Near North Community. The demonstration site is bounded on the north by 26th Avenue, on the west by Xerxes Avenue, on the south by Plymouth

Avenue, and on the east by Penn and Girard Avenues. The area contains approximately 140 blocks, covers over 427 acres, and has 2884 parcels of land. The land use characteristics are as follows:

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62% single-family residences.

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23% duplex residences.

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15% commercial establishments, parks, schools, etc.

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During the period 1960-70, the population of the Neighborhood remained fairly constant (dropping from 9116 to 8806 persons); however, a sharp change in its racial composition took place (1.4 to 32.8 percent black). A fairly substantial change took place during that period in the age of the population (10 percent decrease in persons over 55 years of age). The education and median income levels in the Willard-Homewood Neighborhood were lower than the averages for the city.

Most prevalent crimes in the Willard-Homewood Neighborhood during 1974 were:

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33.9% burglary.

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19.0% larceny.

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14.4% simple assault.

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11.3% auto theft.

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It was found that property crimes were distributed throughout the Neighborhood, while street crimes were concentrated near commercial and transportation nodes, and along school routes. Many of the assaults were reported to have occurred between relatives and acquaintances, reducing the potential impact of CPTED strategies on the assault problem.

The crime-environment problems included:

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Inadequate design and location of entry points and poor security practices in residences which facilitated illegal entry and provided burglary and larceny opportunities.

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Poor design and maintenance of alleyways which offered good cover (for individuals considering burglary and larceny) and little opportunity for supervision and surveillance.

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Unoccupied residential units during the day when families were working or at school which provided opportunities for burglary and larceny.

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Vacant, abandoned, and dilapidated structures which provided opportunities for illegal activities and were reported to create fear among residents.

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Lack of localized activity centers and poor physical environment features which weakened social cohesion and neighborhood identity, thereby promoting an image of a crime- and fear-ridden community.

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Only limited information was available about suspects, since only a small proportion of the crime incidents involved suspect apprehension or description. The suspects for whom descriptions were available tended to be young males who resided in or near the Willard-Homewood Neighborhood.

Community participation was viewed as an important part of the demonstration planning process. Key persons and organizations within the area were identified and interviewed. A victimization and fear survey, part of a citywide program conducted by the Minnesota State Governor's Commission on Crime Prevention and Control, was administered and has been reflected in the plan. City officials and organizations, including the police and planning departments, were also important contributors to the planning effort.

The CPTED demonstration plan focuses on three target scales within the Neighborhood:

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Individual dwelling unit.

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Site/block.

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Neighborhood.

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Because of the importance of scales and the interaction of CPTED strategies at each of the scales, strategies are implemented in strategy sets (that is, implementation of several strategies all done in a group of 3 to 10 contiguous blocks). The CPTED demonstration plan includes ten general crime prevention strategies involving physical, social, law enforcement, and institutional areas:

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Dwelling Unit:

- Target hardening.*
  - Design modification.*
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Site/Block:

- Housing rehabilitation.*
  - Alleyway modification.*
  - Housesitting.*
  - Alleyway patrol.*
  - Block watch.*
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Neighborhood:

- Neighborhood identity.*
  - Neighborhood councils.*
  - Social programs.*
- 

Target hardening and design modification are strategies for addressing the problem of access control and improper design. The target-hardening strategy, in which all residents participate voluntarily, will involve block clubs, individual residents, law enforcement officials, and the city's housing and redevelopment authority. Apartment and business owners and managers, besides residential owners, would participate in the design modification of structures.

Participation will be voluntary; however, one aim of these unit scale strategies will be to achieve better relations and improve coordination between the various organizations and individuals.

Structures that affect strategies at both the unit and block scales will be the subjects of the housing rehabilitation strategy. Because of the potential interaction with other strategies at each scale, major rehabilitation efforts will be made in contiguous blocks. Structures that are not feasible for residential use will be converted into community recreation centers, sites for mini-centers for neighborhood facilities and

services, or removed to provide space for playgrounds, tot-lots, neighborhood garden plots, or new housing opportunities. Better surveillance and an increased sense of territoriality may result from citizen involvement.

Alleyways now offer little indication of where public property ends and private property begins. This lack of space definition, together with a general disregard for the appearance and maintenance of the alleyways, can reinforce an impression of poor control and concern for these environs. Alleyways also provide undetected access to the rear of dwellings and generate fear among residents. To impart an image of social control (territoriality) to the alleyways, public versus private spaces will be demarcated through the use of special paving techniques or curbstones or both. Residents will be encouraged to locate new garages, fences, foliage, and other private property features in a manner that reinforces public/private boundaries. Since alleyways also suffer from a lack of real or symbolic access control, physical design modifications will be used to discourage trespassers and create a sense of community identity. (For example, low brick walls may distinguish one area and landscaping may be used in another area.) The effect of these modifications will be supplemented by law enforcement patrol strategies.

The housesitting strategy will be supported

by the alleyway patrol and will focus on providing actual or perceived observation of unattended residences. A survey will be made of residences to identify those that are regularly left unoccupied because of employment or other activities. It will also identify those residents who want housesitting services and those who would be willing to provide the services (ideally, people who are home a large amount of the time, such as retired persons).

The introduction of a block watch program will aid in supporting a broad array of surveillance techniques. These will include improved natural surveillance by Neighborhood residents through site and alley modification strategies, law enforcement surveillance through the bicycle and police car patrols, and street surveillance through the block watch program.

Although the Willard-Homewood Neighborhood is now well organized in terms of block groups and other community organizations, it lacks a strong sense of community cohesion. Certain modifications to the community's physical environment in areas of 3 to 10 blocks can help to establish some common ties and concerns. The neighborhood identity strategy involves:

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Symbolic gateways and signing at entrances.

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Distinctive landscaping and street amenities throughout the area.

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Neighborhood mini-park.

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Neighborhood-level social activities will be stimulated through block and larger size activities. Recreation and social events would be expected to occur, stimulated by resident interest in the changes to occur as a result of the CPTED project's implementation.

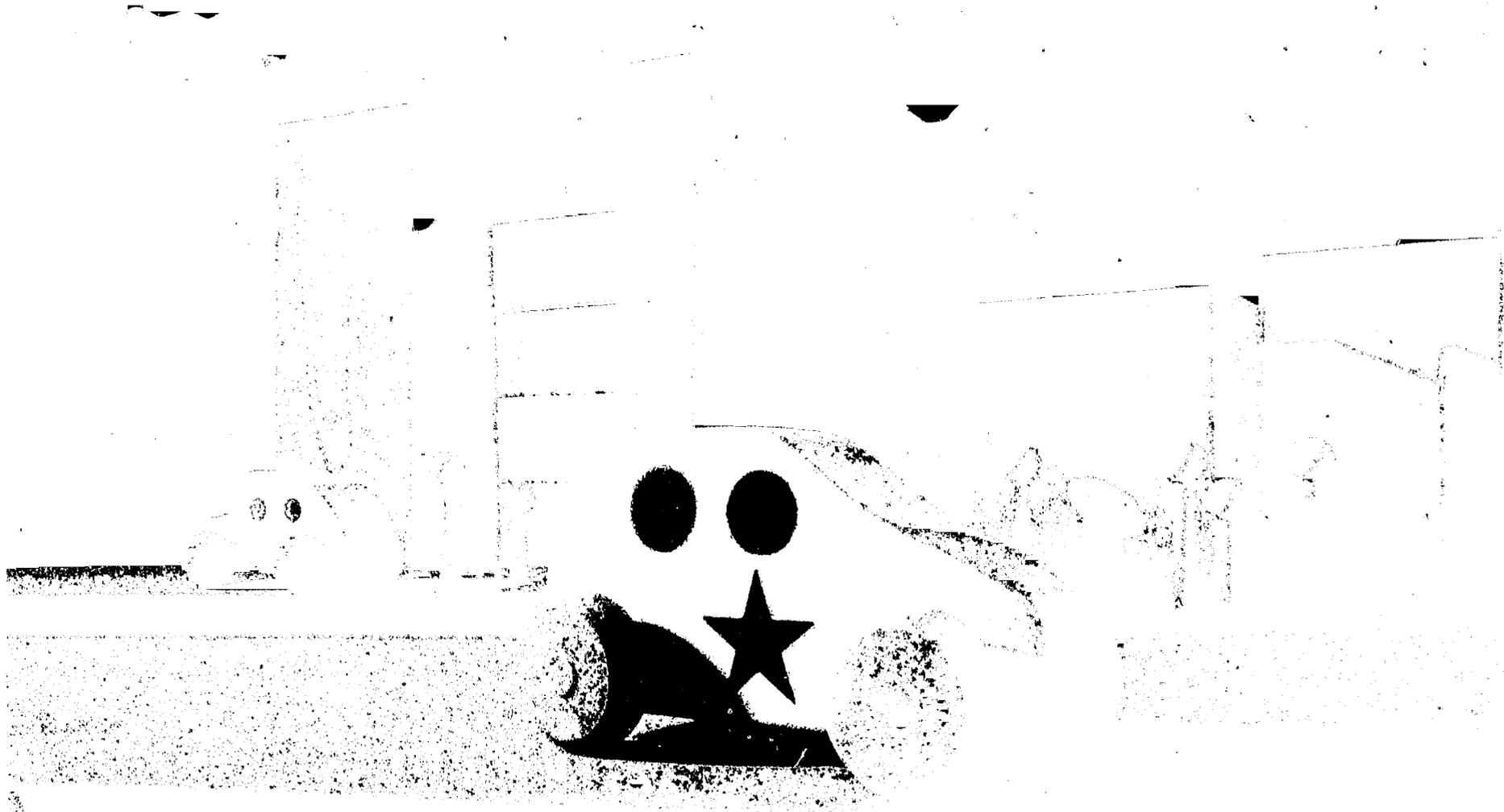
The demonstration in Willard-Homewood is not yet underway. The final details of the implementation process and evaluation methodology are now being reviewed by the neighborhood groups and city officials in Minneapolis.

Until the demonstration plan has been adopted, it will not be possible to specify which project elements should be combined into a single project package, what their sequencing should be, or how large and how many project implementation areas there should be. Because of these uncertainties, the evaluation format has not formally crystallized.

Surveillance is the focus on many of the project elements. Educational projects are expected to give the residents of Willard-Homewood Neighborhood greater awareness of the crime problem in their immediate areas and more information about what to do if they see

something unusual. In addition, block watch and police strategies are also expected to increase the amount of surveillance in the Willard-Homewood Neighborhood. The effectiveness of the educational programs can be measured by determining the residents' extent of awareness of crime in Willard-Homewood and what to do about it, before and after the educational program has been implemented.

The overall goal of the eventual evaluation plan will be to determine the impacts of CPTED measures in a community which is still viable, which shows signs of incipient deterioration, and in which crime has a major role in the potential for deterioration. As with the other demonstrations, the assessment of the ultimate impact allows no easy, short-term answer. It is hoped that the CPTED strategies can be major factors in reducing crime and that, because of this, the Neighborhood will experience a turnaround and become revitalized. The need for valid indicators of neighborhood vitality will be just one of the issues being confronted by this evaluation.



## Future Program Activities

As the CPTED Program enters its third year, much remains to be done and the work tasks planned by the CPTED consortium and NILECJ reflect the continued application and evaluation of CPTED concepts, further definition and refinement of the underlying theories, and deliberate steps to place this knowledge in the hands of design practitioners and public policymakers.

First, the implementation of the demonstration projects will continue, with Broward County and Portland scheduled for completion in time to enable at least an initial evaluation to be performed by July 1978. Because of the exploratory nature of these demonstrations, the consortium must remain alert to all potential outgrowths. For example:

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In Portland, there are marked indicators that the Union Avenue Corridor is beginning to turn around and that a new political constituency representing the corridor has emerged and is accepted by the city government.

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In Broward County, student acceptance of the CPTED project is quite high and the students have voiced their desire for an active, participatory role in its implementation.

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Factors such as these will be documented and analyzed for the benefit of future potential project developers.

Second, the Program research component will receive increased attention. Some of the specific activities that will be performed include:

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The CPTED framework and theory will be reexamined, based on an assessment of the foundations of CPTED, a refinement of crime and environment definitions, and the incorporation of relevant research findings.

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A CPTED Program Manual will be developed that will: (a) Describe the process and outline the steps to be followed in developing and implementing a CPTED project; (b) detail the analysis and methodology that should be used to accomplish the various steps of the process; and (c) present examples of strategic models, design strategies, and design directives that address the relevant crime/environment problems that have been identified. The manual will be initially issued in draft form; following a review and evaluation of its effectiveness for potential users, it will be revised and reissued in final form in the spring of 1978.

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*Police surveillance complements physical design and citizen involvement strategies.*

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Detailed Case Studies for each of the CPTED demonstrations will be compiled. These studies will focus upon the processes of design, implementation, and operation in each of the sites. The studies will serve as examples of the pitfalls, obstacles, and resourceful strategies that overcome them in CPTED and CPTED-like projects.

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A third program component that will be emphasized involves dissemination and technical assistance. CPTED Guidelines (at a more detailed level than the Program Manual) will be prepared to provide operational guidance for local project managers. As an adjunct to this document, significantly more CPTED technical assistance will be available during the remainder of the Program. The emphasis upon technical assistance is based upon consortium experience during the first phase of the Program. Many capable and qualified local planners and officials have come forward seeking specific, short-term assistance while drafting redevelopment and renovation plans. This demand had not been anticipated in the original Program budget. For the remainder of the Program, however, a dedicated resource reservoir for future requests has been set aside and the service delivery mechanisms established. It is hoped that this service will reach out and catalyze

many local agencies' decisions to engage in environmental solutions for crime and fear problems.

A series of implication papers also will be developed and disseminated widely. These will address important CPTED issues (for example, process and structure for evaluating CPTED-type demonstration projects) that surface during the demonstration implementation and expanded research efforts.

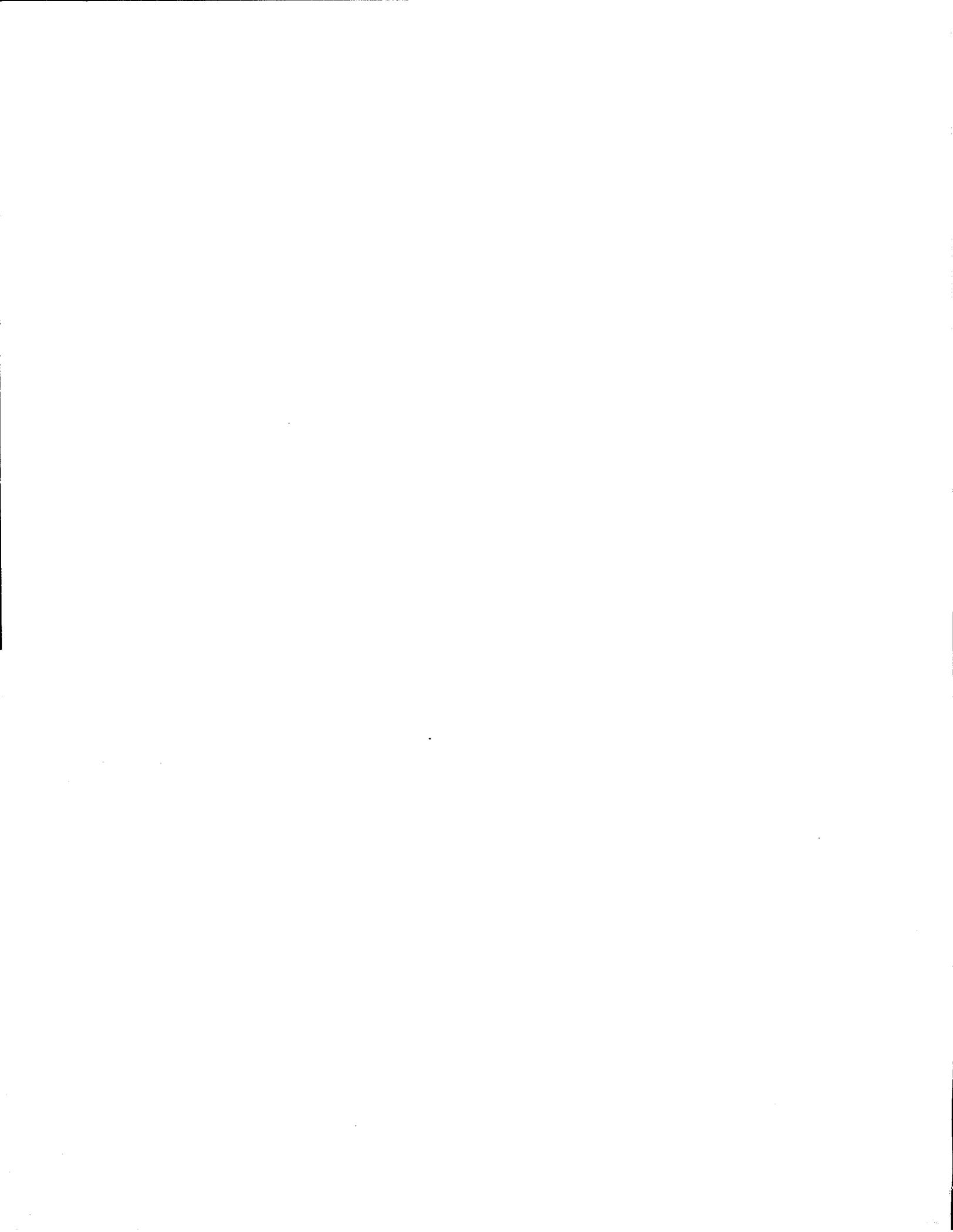
The second two years of the CPTED Program hold great promise. The results to date—coupled with the optimistic, yet realizable, objectives for the remainder of the Program—portend a wealth of information and assistance

that will be made available to law enforcement agencies, city officials, planners, community members, and other interested parties. Reports, monographs, guidelines, and other Program documentation will be distributed routinely through the National Criminal Justice Reference Service, and Program results will be published in various media and discussed at a variety of workshops, seminars, and conferences.

Persons interested in receiving specific information or in exploring the possibility of receiving technical assistance may contact the Program consortium at:

CPTED Program Office  
Suite 1111  
2341 Jefferson Davis Highway  
Arlington, Virginia 22202  
Phone: 202/833-5959





**END**