CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

FINAL REPORT

PHASES II AND III

JULY 1976 - JULY 1978

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ABSTRACT

This final report reviews the activities and products of the 4-year (1974-1978) Westinghouse-conducted Crime Prevention Through Environmental Design (CPTED) Program, with particular emphasis on Phases II and III (July 1976 - July 1978). There are six chapters. Following a brief introduction in Chapter 1, the conceptual elements and benefits of CPTED are presented in Chapter 2. Chapters 3, 4, and 5, respectively, present summary descriptions of the CPTED demonstration projects, the research program, and the dissemination and technical assistance programs. The final chapter concentrates on key lessons that have been learned in planning and implementing CPTED projects, and offers recommendations.

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SUMMARY

In July 1974, the Crime Prevention Through Environmental Design (CPTED) Program was initiated with an award to a consortium of firms headed by the Westinghouse Electric Corporation. The goals of the CPTED Program were to bring together theoreticians and practitioners of wide-ranging disciplines to develop and refine environmental design principles for reducing crime and fear of crime in the urban environment, and to apply these principles in diverse settings. The first two years of the Program (May 1974 - June 1976) were devoted to reviewing the current literature and creating an annotated bibliography; the formulation of CPTED concepts and strategies, and the preparation of state-of-the-art reports; the selection of three demonstration sites (a commercial strip in Portland, Oregon; four secondary schools in Broward County, Florida; and a residential neighborhood in Minneapolis, Minnesota); the analysis of crime and fear problems within these sites; and the specification of plans for modifying, implementing, and evaluating each demonstration.

The second two-year period, which ended in July 1978, concentrated on the implementation and evaluation of the demonstrations; the provision of technical assistance; the development of numerous research and programmatic products based on the demonstration experiences; continued efforts to study the theoretical foundations of CPTED; and the creation of a dissemination outlet, which included conducting briefings with public and private sector groups, participating in seminars and conferences, and publishing brief papers on selected CPTED issues.

The CPTED concept focuses on the interaction between human behavior and the physical environment. The emphasis is on both the proper design and effective use of the environment. CPTED strategies -- whether they are physical, social, management, or law enforcement in nature -- are designed to reinforce existing desirable activities, eliminate undesirable activities, or otherwise support constructive use patterns so that crime prevention becomes an integral part and routine function of the local community.

A major thrust of the Program is to combine several approaches. As a simple example, improved street lighting by itself (a design strategy) is ineffective without the conscious and active support of citizens in reporting what they see (a social strategy) and of police in responding to calls and conducting surveillance (a law enforcement strategy).

Following Chapter 1, which is a brief introduction, Chapter 2 sets forth the conceptual elements of CPTED and the benefits that can be derived from the CPTED approach. The rationale for all CPTED strategies is based on four concepts:

- Access Control -- Directed at decreasing crime opportunity and operating to keep unauthorized persons out of a particular locale.
- Surveillance -- Aims at increasing the risk to offenders and consists basically of keeping potential offenders under observation.

- Activity Support -- Involves methods of reinforcing existing or establishing new community activities as a means of making effective use of the existing environment.
- Motivation Reinforcement -- Seeks not only to affect offender behavior but also offender motivation and, at the same time, to elicit positive attitudes and behavior on the part of the citizenry in general.

CPTED projects can offer a continuum of beneficial effects ranging from direct impact on crime and fear to indirect influence on the attitudes of people having only modest involvement in a project area. Among the main benefits are the following:

- Treatment of Crime Problems at Various Environmental Scales -- The CPTED process for identifying crime/environment problems, selecting CPTED strategies, and initiating, implementing, and evaluating anticrime projects can be applied to entire neighborhoods or types of institutional settings within a city, such as secondary schools. The process can be applied equally well to a small geographic area or to one particular institution.
- Identification of Short- and Long-Term Goals -- Comprehensive, broad-based programs like CPTED have ultimate goals that may take years

to accomplish. Unlike CPTED, however, many programs fail to develop short-term or *proximate* goals and adequate measures thereof. The CPTED approach includes an evaluation framework that details proximate goals relating to increased access control, surveillance, activity support, and motivation reinforcement. The rationale is that the ultimate program success is directly related to its success in achieving the proximate goals.

- Encouragement of Collective Responses to Problems -- The CPTED emphasis is on increasing the capacity of residents to act in concert rather than individually. Strategies are aimed at fostering citizen participation and strengthening social cohesion.
- Interdisciplinary Approach to Urban Problems -- An explicit policy of interdisciplinary teaming ensures effective cooperation among diverse city departments (such as public works, social services, economic development, police). Each participant benefits from exposure to the responsibilities, jurisdiction, and skills of the others.
- Encouragement of Better Police/Community Relations -- A key strategy is to coordinate law enforcement and community service activities with the result of improving police/community relations and

developing an anticrime program that is not solely dependent on law enforcement agencies.

- Development of Security Guidelines and Standards -- CPTED programming can lead to the creation of security criteria for newly constructed or modified environments, to avoid planning and design decisions that inadvertently provide opportunities for crime.
- Assistance in Urban Revitalization -- CPTED can be instrumental in revitalizing communities, including downtown areas, with its impact on physical, social, and economic conditions. Once business leaders, investors, and other citizens perceive that a comprehensive effort is underway to reduce crime and fear, there likely will be an improvement in community identity and cohesiveness.
- Acquisition of Development Funds -- The incorporation of CPTED into existing programs can provide additional justification for awarding grants, loans, and community development funds.
- Institutionalization of Crime Prevention Policies and Practices -- CPTED projects can create a local management capability and expertise to maintain ongoing projects. This capability can be incorporated into existing citizen organizations or municipal agencies.

Chapter 3 describes the three CPTED demonstrations in Portland, Broward County, and Minneapolis. An important aspect of these projects is that they were funded by non-NILECJ sources. The consortium planners provided guidance and support in soliciting funds, but the demonstration communities had the ultimate responsibility for capital expenditures and local staffing.

The demonstration area in Portland runs along Union Avenue for 50 blocks and includes 2 blocks on each side of the strip. This area incorporated eight racially balanced neighborhoods. The project focused largely on reducing personal and commercial robberies and fear of crime related to such incidents by integrating several strategies (such as improved lighting, establishment of a security advisor service, enhancing the image of the area, street redesign). Implementation began in late 1975 and most of the strategies were completed by mid-1977. Evaluation of program process and impact shows positive results. Commercial robbery and burglary rates are lower, the business community feels that economic conditions have improved, and area users are less fearful.

The four public high schools in Broward County, just outside of Fort Lauderdale, were selected for the second demonstration because the school system is the twelfth largest nationally and crime was rising, primarily assault, breaking-and-entering, theft, and vandalism. The CPTED strategies emphasized the support of social and educational processes of a school while, at the same time, striving to reduce built-in opportunities for crime. Examples of strategies include redesigning interior courts, corridors, restrooms, parking lots, bicycle compounds, and bus loading zones;

an educational program, including CPTED workshops and materials; the provision of two-way radios to improve communication among student and faculty security monitors; and the establishment of portable police precincts at schools. Implementation began in September 1976 and was completed by January 1978, with evaluation ongoing at the time of this report.

The Willard-Homewood Neighborhood in Minneapolis is an old, racially mixed community with mostly large families in single-family houses. The major problems were breaking-and-entering and household larceny. Fear of personal crimes was high, although there were comparatively few person-related incidents. Two other neighborhoods, Lowry Hill East and Hawthorne, were later included in the demonstration. The first differed from Willard-Homewood in that the population (which tended to be young, white, and transient) lived mostly in multiple-dwelling units. Hawthorne, an essentially white, owner-occupied community, contained a mix of housing types. The strategies combined physical modifications, increased police activity, and expanded community efforts, focusing on three scales: The individual dwelling unit, the site or block, and the neighborhood. Implementation began in May 1977 and continues to the present.

Chapter 4 covers the range of research and products undertaken during the 4-year period of the Program. From the beginning, it was recognized that all research should be interdisciplinary and be integrated with the demonstrations. The charter of the research team was to assume responsibility for issues relating to theory, research methods, measurement, and data analysis and, further, to document and organize the new knowledge emerging from the Program in various forms. The most substantial product

is the multivolume CPTED Program Manual, but also significant are the foundation-laying documents produced during the first 2 years and the CPTED Technical Guidelines developed to amplify parts of the Program Manual. Other documents were produced with the aim of providing academicians with a more thorough understanding of CPTED, including a multidisciplinary curriculum and a compendium of theory and research papers.

Chapter 5 focuses on dissemination and technical assistance activities. The dissemination component of the Program sought to promote a general awareness of CPTED and to influence the policies and processes of environmental planners. The dissemination function included the Technical Assistance Referral Service, a clearinghouse, curriculum development, policy guidance, and conference/seminar participation. A series of implication papers were prepared for professional journals, covering selected planning and research issues. A modest technical assistance component was instituted to respond to communities requesting CPTED-related guidance. Two notable examples are the Terminal Towers-Public Square project in Cleveland, Ohio, and a major shopping mall in East Orange, New Jersey.

The final chapter discusses the major lessons that have been learned during the course of the Program and offers recommendations. The chances of implementing a successful program are greatly enhanced if proper attention is given to the following:

- A successful project must involve local residents, community organizations, and a wide variety of public agencies.

- The planning and implementation process can be complex and time-consuming. Typically, numerous interdependent activities are progressing simultaneously. If one activity stalls, others can be affected in both expected and unexpected ways, resulting in extra effort and delay.
- Implementation of large-scale projects will require multiple funding sources.
- Planners and implementers of a CPTED project must have access to community leaders and key decision-makers to coordinate and organize a project.
- Site selection for a CPTED project is a key consideration, since some sites are more appropriate for CPTED projects than others and site characteristics will influence subsequent planning and implementation activities.
- Specialists will be required; therefore, the technical and informational requirements of a given project and the mix of specialized skills should be determined early to effectively coordinate the use of resources.
- Evaluation activities should be an essential component. Hence, the planning process should require the formulation of objectives, identification of

appropriate measurement criteria, documentation of physical and social changes, and impact assessments.

- There are several unresolved conceptual issues that can present dilemmas for CPTED planners. Some pre-eminent issues concern the definition and parameters of CPTED, the relationship between crime and fear of crime within the model, the dearth of evidence regarding the effectiveness of specific strategies, and whether crime displacement in its various forms is engendered or deterred by the CPTED approach.

CHAPTER 1. INTRODUCTION

Crime is one of the most significant social problems in the United States. Although Federal, State, and local governments have committed enormous resources toward combatting crime, fear of crime is a discomforting 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 flee, has enmeshed school administrations with internal disorders that have disrupted educational activities, and often has hastened decline in many urban areas.

Recent years have witnessed a growing recognition of the need for innovative and varied approaches to crime prevention and the restoration of personal security, and a further recognition that the development of those approaches must be linked to a comprehensive research program. 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 fear of crime within our society.

In 1969 the National Institute of Law Enforcement and Criminal Justice (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 Oscar Newman suggested that the physical design features of public housing affect both the rates of resident vicimization and the

public's perception of security. These design features included: Building height, 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."

In 1974, NILECJ initiated the Westinghouse CPTED Program. The overall purpose of the effort was to demonstrate and evaluate the defensible space concepts in three environments (commercial, schools, and residential) that had not been addressed in previous studies. Initially, a fourth environment (transportation) was included but was later deleted in favor of greater focus on the other three.

The first two years, later referred to as Phase I (May 1974-June 1976), were largely devoted to modifying and expanding the defensible space concepts, and then to tailoring these concepts to the unique characteristics of the three environments. Demonstration sites were selected, crime/environment analyses were conducted, and specific plans were drawn up to initiate, implement, and evaluate each demonstration CPTED project.

Phases II and III of this Program have covered the period July 1976 through July 1978. Whereas Phase I efforts concentrated on planning viable demonstrations, including refinement of underlying theories and information dissemination, Phase II was an extension of and completion of Phase I activities, concentrating on the implementation and evaluation

of the demonstrations, and the development of major research and programmatic products, including the CPTED Program Manual and the CPTED Theory Compendium. The Program Manual represents a synthesis of the demonstration experiences, describing the planning and implementation process, the array of possible strategies, and the analytic and decisionmaking requirements. In contrast, the Compendium represents a multidisciplinary effort by numerous individuals working separately to examine the theoretical foundations of CPTED and to incorporate relevant literature.

Phase III activities, conducted concurrently with Phase II, emphasized program dissemination and the development of CPTED Technical Guidelines. There also was a limited technical assistance component. Dissemination included briefings with public and private interest groups, participation in seminars and conferences, and the creation of CPTED implication papers. The objective of these papers was to discuss selected issues or developments based on demonstration experience. The Guidelines elaborate on the programmatic and operational details of key issues and techniques included in the Program Manual. The Program Manual was created especially for policymakers and planners, while the Guidelines were created especially for analysts and implementers.

CHAPTER 2. THE CPTED CONCEPT

The concept of defensible space, as defined by Newman in 1972, proved to be too limited in scope for direct application in each of the planned demonstrations. Defensible space is formed on the basis of the environmental design principles and depends on the development of a sense of territoriality among residents of that environment. This sense is stimulated and reinforced by increase opportunities for surveillance, positive images or symbolization of the environment, and the juxaposition of residents with common concerns.

An uppermost concern of the CPTED Program staff was that the defensible space concept might not be appropriate for certain types of nonresidential spaces. For example, it was thought unlikely that physical design alone would creat a proprietary sense in a subway station through which users pass briefly twice a day.

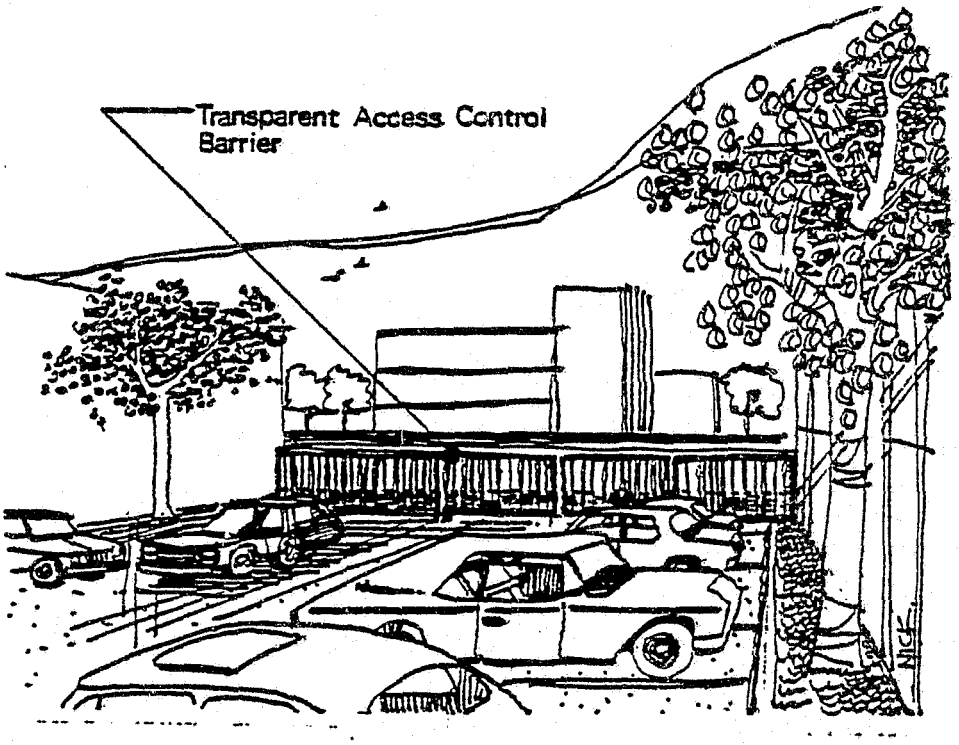
Like defensible space, the CPTED concept is focused upon the interaction between human behavior and the physical environment (including those elements both natural and shaped by people). By way of refinement, however, CPTED principles treat both the proper design *and* the effective use of the environment. The primary emphasis is on natural solutions, that is, those that are designed to reinforce desirable existing activities, eliminate undesirable

activities, create new activities, or otherwise support desirable use patterns so that crime prevention becomes an integral part of the specified environment. The rationale for all CPTED strategies is comprised of four operating concepts: Access control, surveillance, activity support, and motivation reinforcement.

Access control focuses on decreasing criminal opportunity by keeping unauthorized persons out of a particular locale (see Figure 2-1). In its most elementary form, access control can be achieved in individual dwelling units or commercial establishments by use of adequate locks, doors, and similar target-hardening installations. Access control also can be achieved by the creation of psychological barriers (such as signs, walkways, hedges) -- in short, anything that announces the integrity and uniqueness of an area.

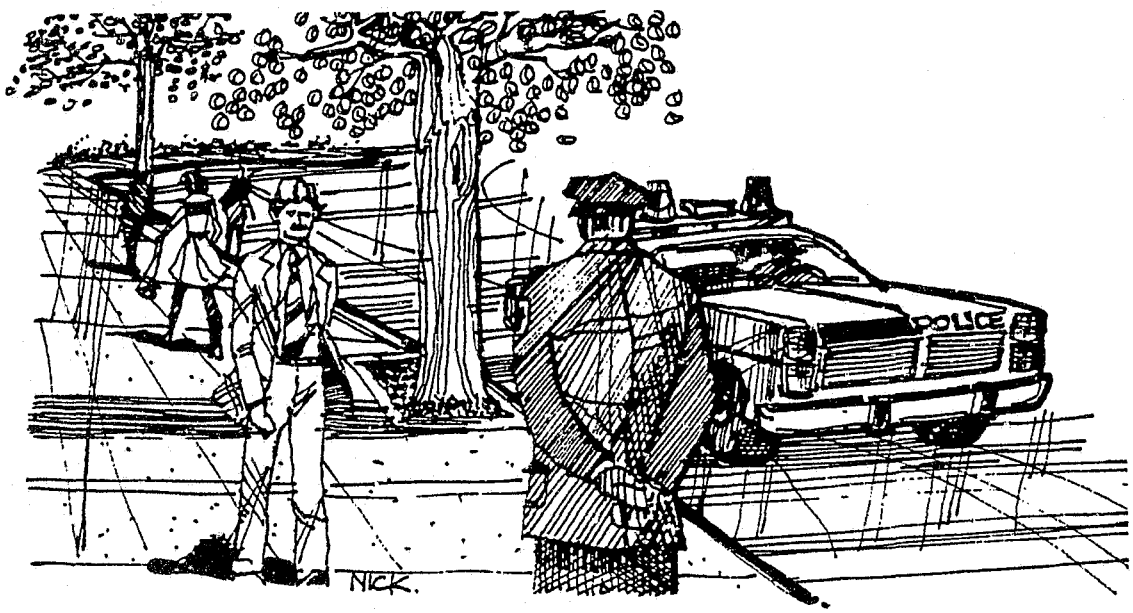
The primary aim of *surveillance* is not to keep intruders out but to keep them under observation. Such strategies are hypothesized to increase the perceived risk to offenders, as well as the actual risk *if* the observers are willing to act when potentially threatening situations develop.

A distinction can be made between organized and natural surveillance. Organized surveillance is usually carried out by police patrols in an attempt to project a sense of omnipresence (i.e., to convey to potential offenders the impression that police surveillance is highly likely at any given location -- see Figure 2-2). In some



Transparent barriers can provide means to control access and egress while enabling good natural surveillance opportunities.

Figure 2-1. Illustration of Access Control Strategy



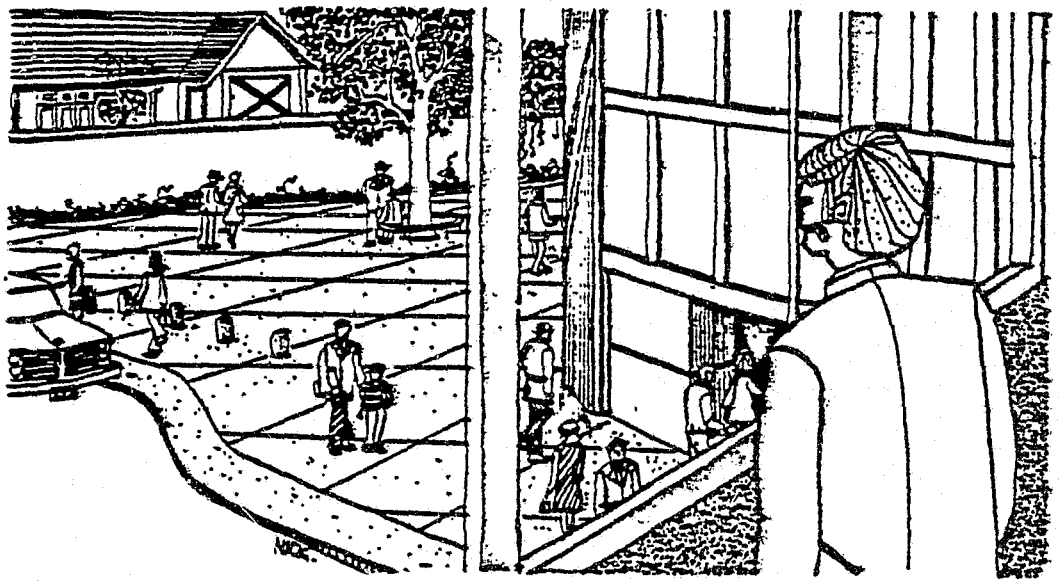
It is theorized that the presence of police patrols on neighborhood streets discourages would-be offenders and promotes a sense of security for residents.

Figure 2-2. Organized Surveillance

instances, surveillance can be achieved by mechanical techniques such as closed-circuit television (CCTV) or alarms.

Natural surveillance can be achieved by a number of design strategies such as channeling the flow of activity to put more observers near a potential crime area or creating greater observation capacity by installing windows along the street side of a building. This technique of defining spaces also is hypothesized to convey a sense ownership and territorial concern to legitimate users (see Figure 2-3).

Activity support involves strategies for reinforcing existing or new activities as a means of making effective use of the built



Natural surveillance from building interiors should be provided when possible.

Figure 2-3. Natural Surveillance

environment. This is based on the observation that, in a given community, there often are resources and activities capable of sustaining constructive community crime prevention. Support of these activities is hypothesized to bring a vital and coalescing improvement to the community and result in a reduction of the vulnerable social and physical elements that permit criminal intrusions.

In contrast to the more mechanical concepts of access control and surveillance that concentrate on making offenders' operations more difficult, *motivation reinforcement* seeks to affect offender behavior and offender motivation by increasing the risk of apprehension and by reducing the payoff to him. The hypothesis also seeks to reinforce positively the motivation of potential victims. Territorial concern, social cohesion, and a general sense of security can result from such positive

reinforcement strategies as altering the scale of a large, impersonal environment to create one that is smaller, more personalized. These results can also occur from improving the quality of an environment.

The CPTED approach integrates *physical* and urban design, community organization and citizen action *(social), management, and law enforcement* crime prevention strategies into combinations or "sets" of strategies. The strategy set must be responsive to the crime environment problems existing or anticipated in a given area. The CPTED approach suggests that 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 of the synergistic effect, 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 prevention awareness and crime reporting, police/community relations, and similar elements, 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. In these strategies, architectural and landscaping techniques are used to help define spaces of concern to citizens. Proper space definition and

appropriate space use can extend the area over which a citizen feels a proprietary interest and responsibility so that his (or her) area now overlaps with that of other responsible citizens. Proper space definition also can increase the citizen's ability to perceive when his "territory" is potentially threatened by discriminating between strangers and people who belong, and permit him to act on that perception. Finally, it can convey to a potential offender that he is intruding on a domain over which a number of people share proprietary feelings, thereby deterring him from criminal intrusion (see Figure 2-4).

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 in residential streets or shopping areas. Thus, natural surveillance may be enhanced.

...agement techniques can serve to reduce opportunities for crime 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 situations in which there are enough people to attract the

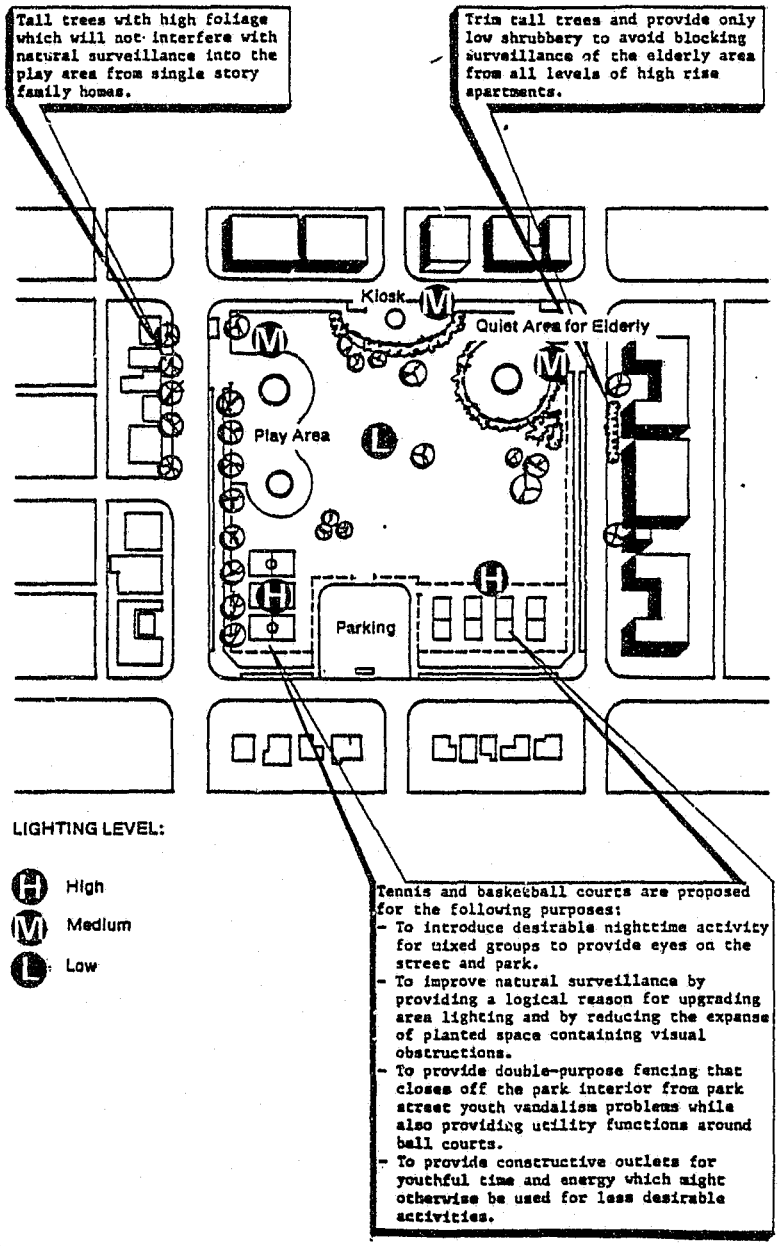
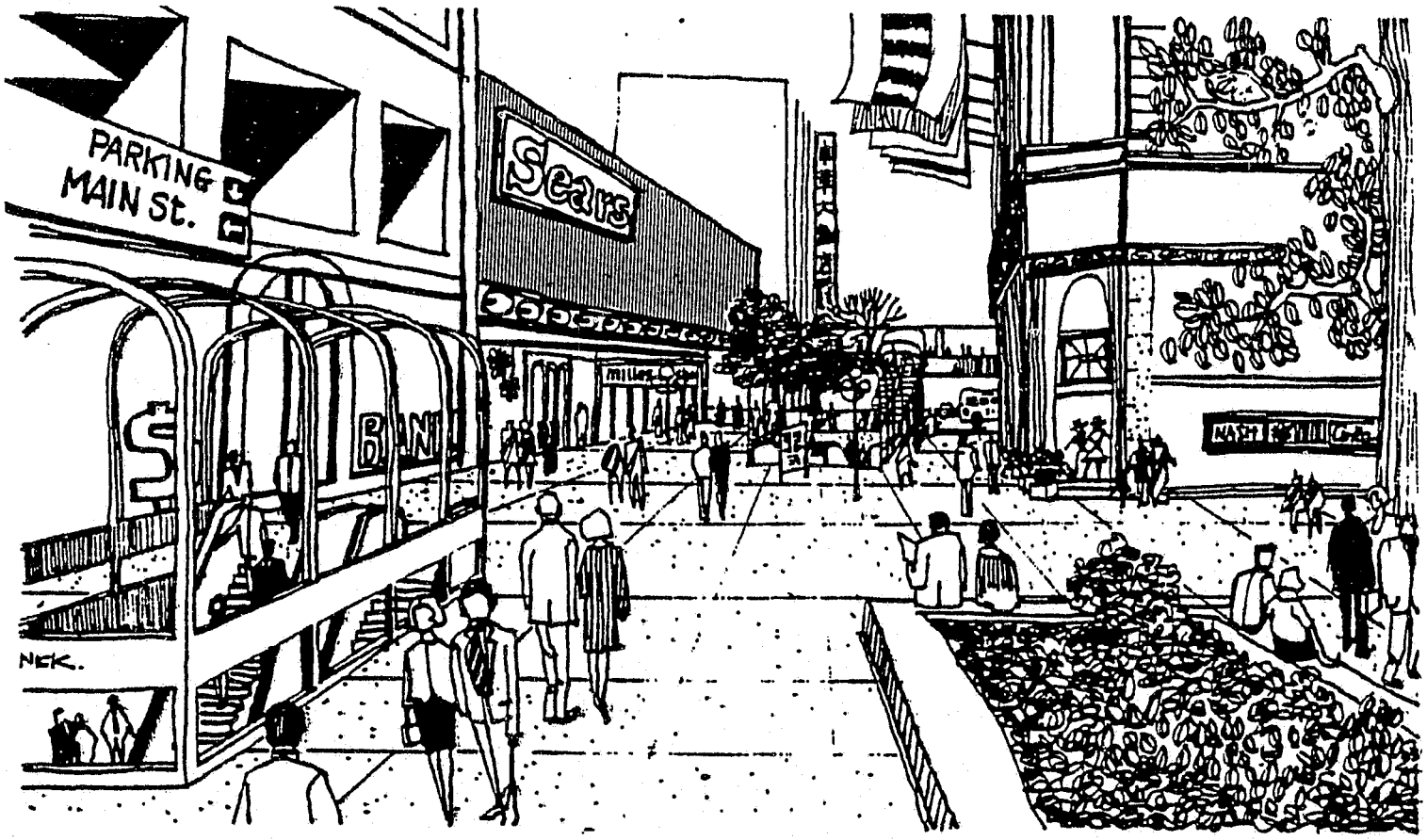


Figure 2-4. Design Changes For A Park Can Improve Territorial Space Definition

attention of potential offenders but not enough people for surveillance of the area (what Shlomo Angel terms "critical intensity zones" -- see Figure 2-5). Physical configurations might be modified to limit pedestrian circulation to a narrow 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 in a CPTED project. More effective police surveillance of an area that has implemented physical, social, and management strategies can increase the potential offender's perceived risk and reduce citizen fears. Law enforcement strategies also include improved police/community interaction. For example, police-conducted security surveys of homes or businesses can remove numerous opportunities for crime, and can increase citizen willingness to cooperate with the police (see Figure 2-6).

The CPTED approach, then, attempts to prevent crime by analyzing and manipulating physical, social, managerial, and law enforcement variables. The operating premise is that the potential offender carries a predisposition to commit a crime, and the environment offers a stage or context in which this act can be facilitated or impeded. Thus, the selection of strategies is based, in part, on an analysis of crime/environment variables that relate to the decisionmaking process of a potential offender. *Opportunities* for crime will be reduced, it is proposed,



While development efforts aimed at increasing activity levels can be used to provide more eyes on the street, "critical intensity zones" where there are enough people to attract offenders, but too few to deter victimization, should be avoided.

Figure 2-5. Channeling Pedestrian Activity

Block watch programs promote police-community cooperation in preventing and reporting dangers.

Figure 2-6. Increasing Police/Community Cooperation

if CPTED strategies can decrease the salience of potential *targets*, increase the *risk* of apprehension, increase the *effort* required to commit a crime, or reduce the *payoff* to the offender. Strategy selection also is based on the decisionmaking process of citizens whose attitudes towards and use of the environment are affected by their perceptions of risk, whether real or false, and the environmental characteristics they associate with risk (such as poor lighting, run down conditions, presence of few people, and lack of social cohesiveness).

A. Benefits from CPTED Programming

The Westinghouse experience, coupled with those of similar projects elsewhere, indicates that CPTED projects, in contrast to more focused crime prevention projects, can produce a variety of benefits for a community. Indeed, there appears to be a continuum of beneficial effects ranging from direct impact on crime and fear to indirect influences on the attitudes of people having only modest involvement in a project area. While not exhaustive, the following benefits (both direct and indirect) appear to be among the main inducements to CPTED planning and implementation.

- Reduction of crime and fear at various environmental scales.
- Integration of approaches to crime prevention.
- Identification of short- and long-term goals.
- Encouragement of collective responses to problems.
- Establishment of an interdisciplinary approach for resolving urban problems.

- Encouragement of better relationships and co-operation among citizen groups, business people, law enforcement officials, and other city service agencies.
- Development of guidelines and standards to improve the security of existing and planned developments.
- Assistance in physical, social, and economic re-vitalization.
- Acquisition of area development funds.
- Institutionalization of crime prevention processes and principles.

1. Reduction of crime and fear of crime at various scales. Crime and fear operate at different environmental scales, which can range from an individual building to an entire metropolitan area. The CPTED process (for identifying crime/environment problems, selecting CPTED strategies, and initiating, implementing, and evaluating CPTED projects) is thus designed to be applied to this range of scales. One technique for considering a range of options, both in terms of crime targets and environmental scales for strategy applications, is the crime-environment map, illustrated in Figure 2-7. For example, a CPTED project can be initiated broadly within a school environment to reduce vandalism, larceny, extortion, auto theft, assault, and other problems associated with that setting. The scope of this type of project is quite comprehensive, seeking to improve the quality of life throughout that environment (i.e., throughout one

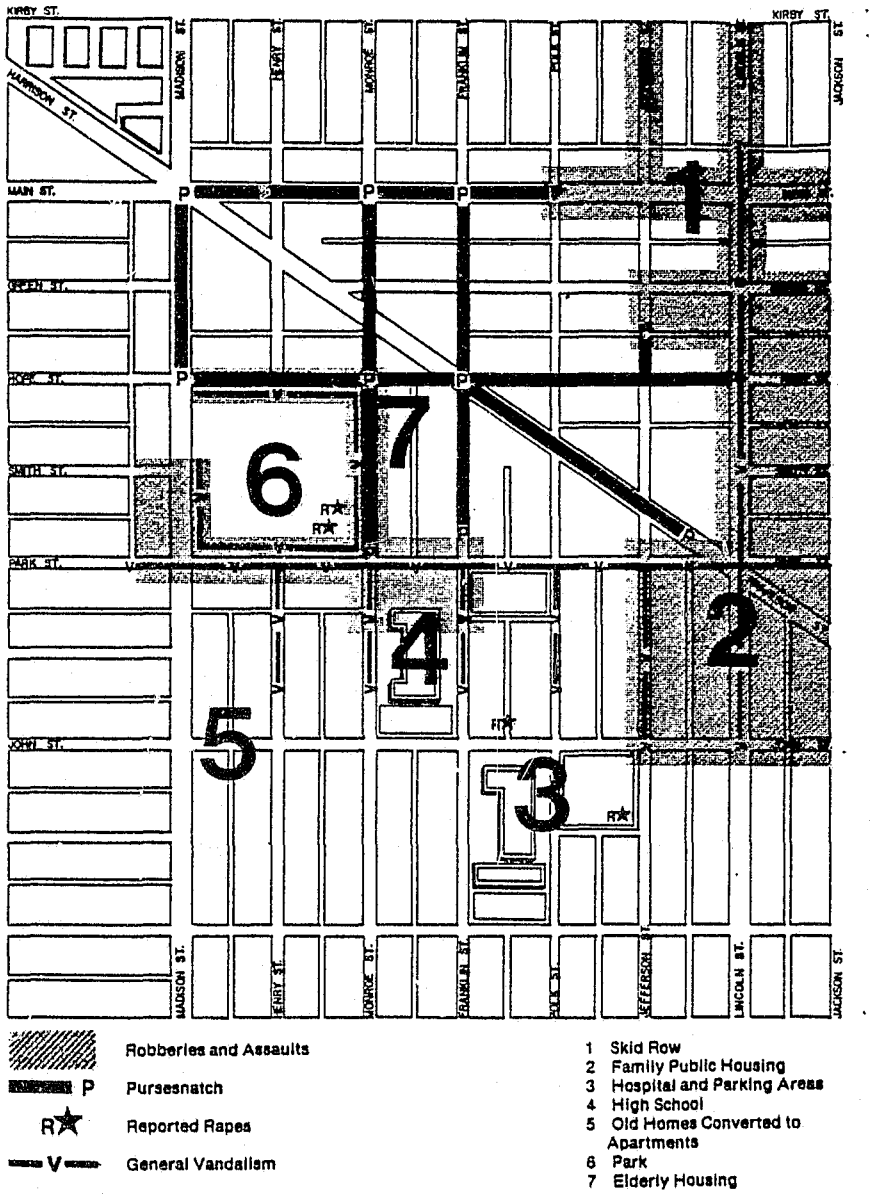


Figure 2-7. Crime-Environment Map

school, or several schools, or the whole system) by reducing a broad array of crime and fear problems. However, a CPTED project also can have a more limited focus (for example, extortion in school restrooms). Similarly, a CPTED project can be initiated against auto theft in all environmental settings throughout a city, or limited to auto theft from alley garages in a three-block district.

2. Integration of crime prevention approaches. As indicated earlier, CPTED principles are derived from an opportunity model of criminal behavior which suggests that offender's behavior can be accounted for by understanding how, and under what circumstances, variables of the immediate environment combine to induce crime. Once an assessment of opportunity is made by studying crime/environment variables, appropriate CPTED strategies can be designed and integrated into a coordinated, consistent program.

Three basic types of prevention approaches can be adopted: Punitive, mechanical, or corrective. Punitive prevention means creating an environment in which it is apparent that a potential criminal is likely to be detected, apprehended, and punished. Mechanical prevention involves placing physical obstacles in the way of the potential offender to make it more difficult for him to commit a crime. Locks and window bars are part of mechanical prevention, but equally important are the layout of streets and buildings, the location of community facilities, and other design principles. Corrective prevention is perhaps the most fundamental of the three because it involves eliminating criminal motives.

Programs that help to reduce alienation or to increase employment opportunities can contribute to corrective prevention.

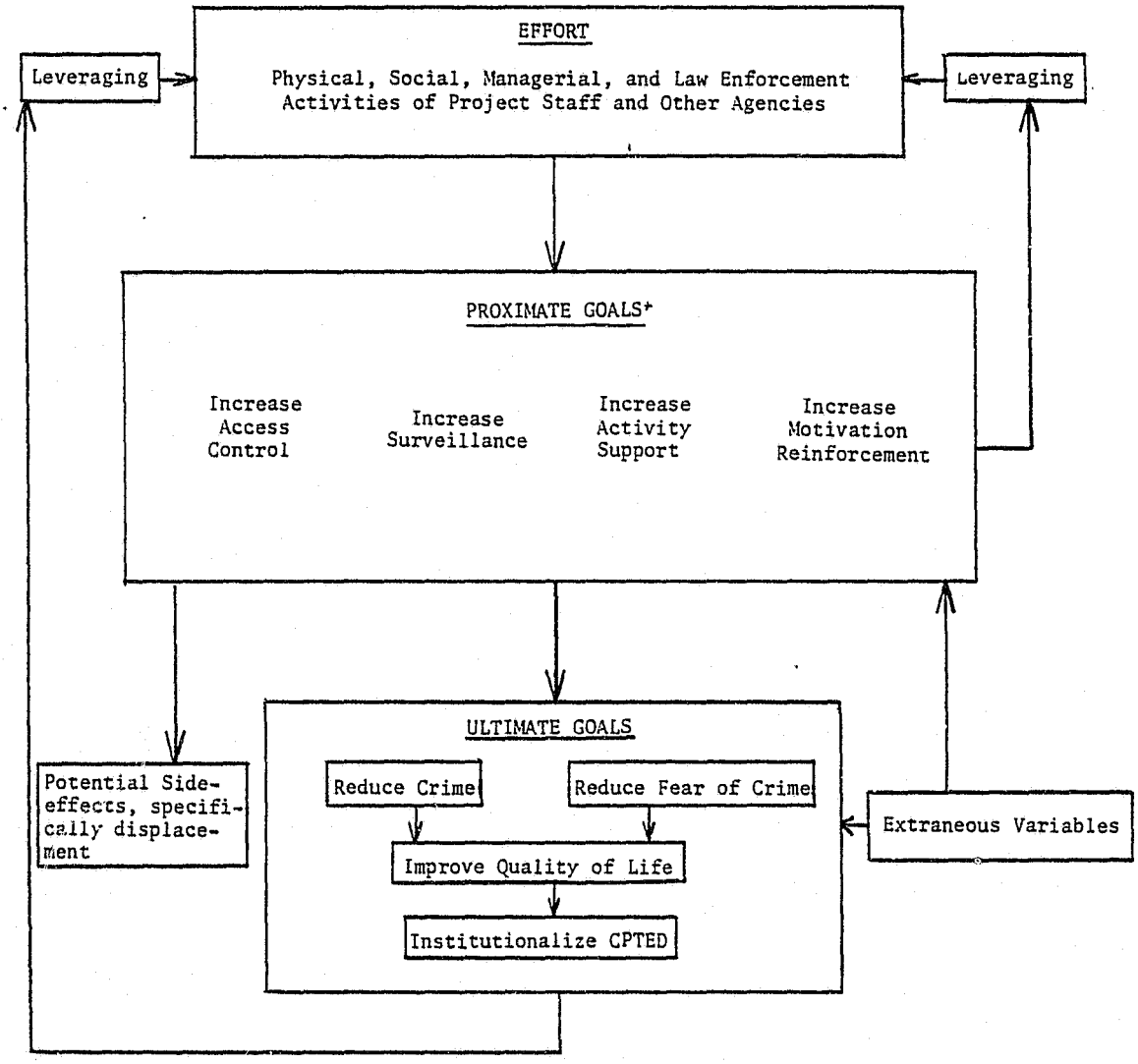
Major CPTED efforts -- by inducing crime prevention planners to blend access control, surveillance, activity support, and motivation reinforcement strategies -- provide the opportunity to incorporate all three approaches, producing startling results in some cases. For example, Seattle's community crime prevention program (relying on neighborhood cooperation, block watch, property identification, and security inspection) has reported a 48- to 61-percent reduction in household burglaries for participants. Also, the potential impact along a commercial and residential strip is great from combining good physical security, improved lighting and visual observation opportunities, enhanced police patrol, and increased pedestrian traffic, together with flea markets, clean-up projects, and positive publicity.

Combined strategies, such as cited in the examples, can have the dual effect of encouraging residents and users of an area to exhibit positive attitudes and protective behavior, while discouraging potential offenders by actually (or apparently) increasing their risk. Results to date in Portland, the commercial demonstration site where these and other strategies were employed, are encouraging. Evaluation revealed that the commercial burglary rate decreased 48 percent during the 20 months following intensive security surveys, while it dropped 9 percent in the city overall for the same period.

3. Identification of short-term goals. Many broad-based social

action programs have ultimate goals that would take years to accomplish and, at the same time (because of a failure to develop proximate goals and adequate measures of them) fail to demonstrate short-term successes. Hence, the confidence of policymakers often is dissipated early. To avoid this problem, the CPTED Program includes an evaluation framework that details intermediate goals that should be achieved if the CPTED effort ultimately is to reduce crime and fear. Thus, the CPTED rationale is that the chances for ultimate program success are directly related to the program's success in achieving the proximate goals of increased access control, surveillance, activity support, and motivation reinforcement (see Figure 2-8).

Thus, for example, evaluation of CPTED in Portland's Union Avenue Corridor showed short-term program accomplishments based on specific indicators of change in the physical and social environment. Indicators related to the physical environment were: The state of the physical security of the Corridor's built environment (i.e., target hardness); the potential surveillability of the Corridor (i.e., how well can one see what is going on); the potential usability of the Corridor (i.e., what is in the physical environment and how can it be used constructively); and specific psychological dimensions of the Corridor related to CPTED concepts (e.g., aesthetic quality, degree of personalization, clarity of defined spaces). Social environmental indicators were: The manner in which citizens and law enforcement



*The four proximate goals are not mutually exclusive. Surveillance increases also serve to increase access control; increased activity support promotes increased surveillance and access control; and increased motivation reinforcement provides support for increases in the other three.

Figure 2-8. CPTED Conceptual and Evaluation Framework

authorities respond to suspicious/criminal activities in the Corridor; the extent of social networks and the degree of community cohesiveness; the degree of territoriality (i.e., behaving as though the generalized built environment is an extension of one's own immediate habitat, thereby creating social barriers to crime); the degree of psychological barriers associated with the Corridor (i.e., the Corridor's reputation); the actual usage of the Corridor by the nonoffender and potential offender populations; and resident and businessmen identification with the Corridor (i.e., to what extent there is a sense of belonging).

In summary -- by providing decisionmakers with short-term indicators of program effectiveness, the CPTED approach increases the confidence with which crime prevention policy decisions and program adjustments can be made.

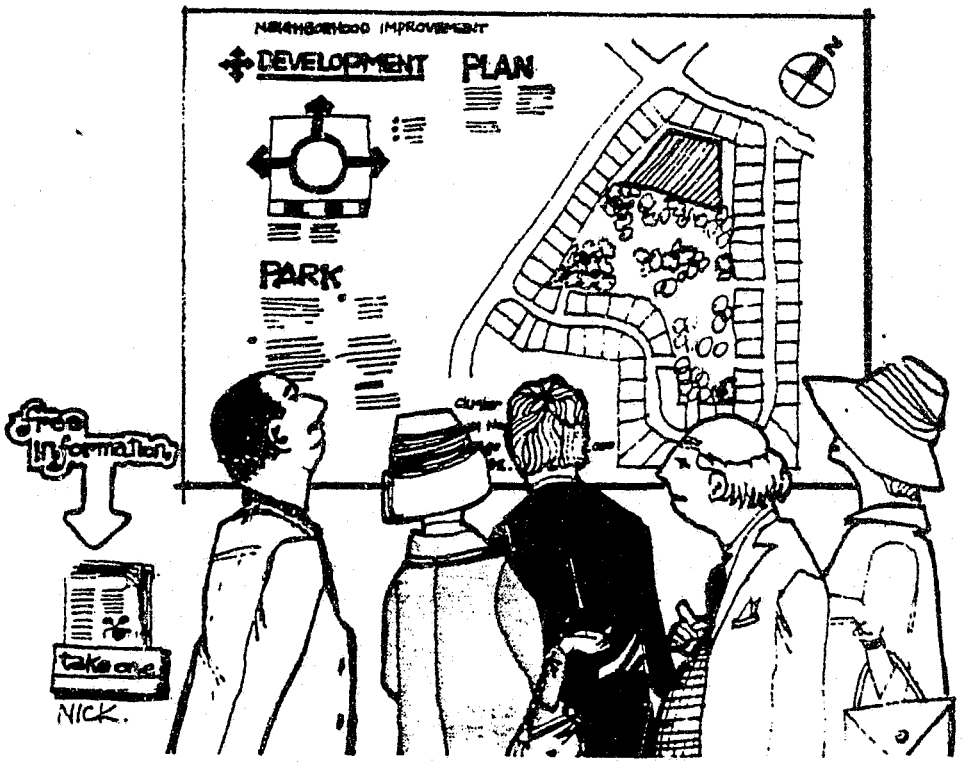
4. Encouragement of collective responses to problems. The CPTED emphasis is on increasing the capacity of residents to act collectively rather than individually. Crime is not typically viewed as a common threat. The National Advisory Commission on Criminal Justice Standards and Goals noted that, when communities are faced with a growing crime and fear problem, individuals tend to perceive the problem as theirs alone and, collectively, their response is to solve it individually. Such isolated responses fragment the community. Individuals fortify their residences and use community resources less, thus reinforcing social isolation and reducing the ability of the community to present

a united front. The CPTED approach, with the heavy emphasis on citizen participation, counteracts this tendency, strengthening the cohesive forces and encouraging mutual support projects (see Figure 2-9).

5. Interdisciplinary approach to urban problems. Specialists with diverse backgrounds are brought together in the course of planning a CPTED project. An interdisciplinary team involving designers, social scientists, police, local government officials, and residents represents a robust approach to the development of anticrime programs (see Figure 2-10). This is contrasted with typical municipal policies in which the responsibility for crime problems is given to the law enforcement agency, with other groups only peripherally involved.

An explicit policy of interdisciplinary teaming ensures more effective cooperation among the diverse groups that must be involved in a typical CPTED project of any magnitude (e.g., public works, economic development department, building inspection, housing and redevelopment authority, social services department, police). Each participant benefits from exposure to the responsibilities, jurisdiction, and skills of the other participants.

6. Encouragement of better police community relationships. An important strategy of the CPTED approach is the coordination of law enforcement and community service activities with citizen anticrime efforts. A major benefit is improved police/community relations which, in turn, have positive effects on other anticrime factors. For example, research has shown that community anticrime projects are more



Citizen involvement in CPTED planning review is essential.

Figure 2-9. Keeping Citizens Informed of Project Activities

It is wise to include representatives from key city departments (i.e., street, park, lighting, and police bureaus, etc.) throughout planning and evaluation to help ensure essential cooperation and support of CPTED proposals.

Figure 2-10. Local Planning

successful when cooperation and relations are good between neighborhood residents and the police.

Moreover, in most environments the CPTED approach would enable citizens, the police, and the business community to work together, thus counteracting the tendency of citizen groups to act in place of either police or other criminal justice institutions. Commonly, business people and citizens have their own forums and, without intermingling, lose the benefit of mutual support and understanding. Similarly, government agencies have their own problemsolving forums from which private citizens and business people are typically excluded. CPTED projects promote liaison activities and formal relationships to encourage deeper and more continuous interaction among involved groups, thereby providing a solid, community-based framework within which services can be delivered more effectively.

7. Development of security guidelines and standards. Although the focus of CPTED programming to date has been on existing environments, CPTED concepts can be applied to new environments as well. In this age of environmental concern, proposed developments (e.g., new towns, shopping centers) often are subjected to evaluations of short- and long-term impact on natural resources, community services, and financial resources. To date, however, few communities evaluate major environmental alterations or proposed new developments in terms of their potential for producing crime and fear problems. Many large subdivisions are considered models of planning and design. Yet, their carefully selected landscaping, wooded areas, pedestrian ways, and

housing designs often fail to consider ways in which opportunities for crime may be built into the setting. The result may be that users of the environment are unable to move freely without fear and with minimal chance of victimization. Unless planners, designers, architects, and administrators are aware of crime/environment relationships, today's design decisions inadvertently may be creating tomorrow's crime problems.

A CPTED project reduces this possibility by encouraging the development of security guidelines and standards with which proposed environments can be evaluated. In turn, these guidelines and standards can be converted into security survey instruments or ordinances and into the content of public information programs to help business people, residents, and others to protect themselves.

As a result of the CPTED activities in Minneapolis, the Governor's Crime Control Planning Board recommended in a staff report that the City adopt a security ordinance requiring residences and businesses to meet minimum security standards. The same report urged police participation in reviewing commercial and housing developments to ensure the incorporation of adequate crime prevention measures. Inglewood, California, introduced a program to include security planning in all new commercial, residential, and recreational buildings. Increasingly, cities are developing security checklists to aid building inspectors who carry out the inspection programs of a city's Department of Public Works.

8. Assistance in physical, social, and economic revitalization. After several decades of urban sprawl and suburban growth, there is a

broad movement to revitalize the Nation's urban cores. This renewed interest in the plight of central cities has been stimulated by various physical, social, economic, and environmental conditions. Many cities have initiated ambitious programs of revitalization, preservation, and development. The effectiveness of some of these programs has been reduced because urban crime and fear problems remained unaddressed. This is especially true when, as is the case in some cities, the level of fear and concern about crime is greater than that justified by actual crime rates.

CPTED can be instrumental in revitalizing urban areas through its impact on physical, social, and economic conditions. In Portland, existing businesses were renovated, blighted areas were cleaned up, street amenities (e.g., bus shelters, lights) were added, and a "safe passage corridor" was constructed. In addition to these physical aspects, a businessmen's association was revitalized and became the critical "people catalyst" for these and many other improvements, as well as increasing social cohesion and awareness within the surrounding area. Finally, economic impacts were felt -- as new businesses entered the commercial strip, old businesses decided to remain, and a $4.5 million street improvement program was started.

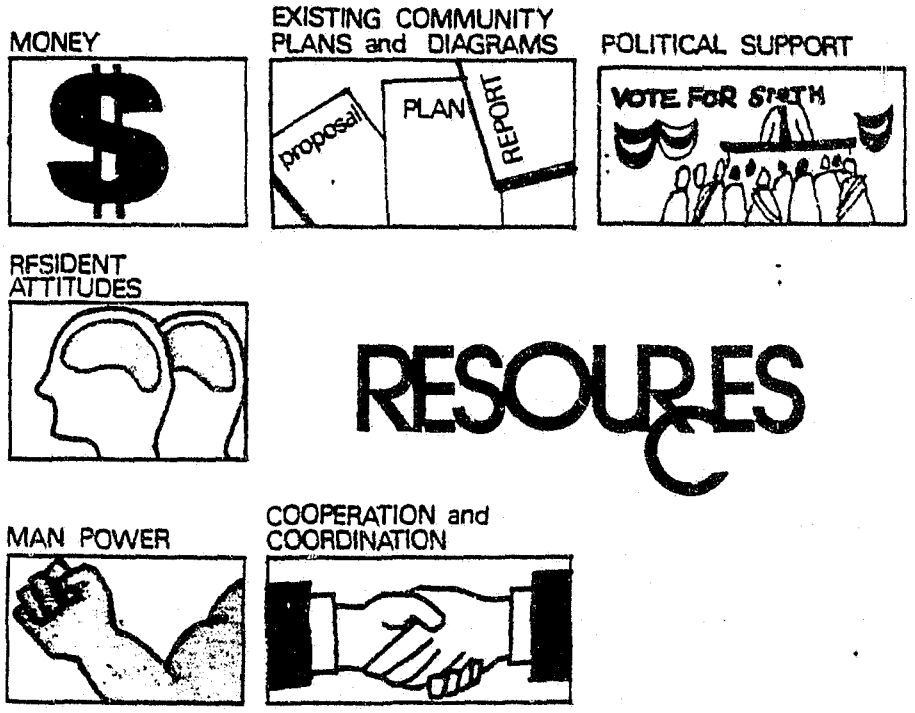
In Jacksonville, Florida, a street improvement program incorporated CPTED principles in its plan for high-intensity lighting, traffic control system, landscaping, pedestrian crossing improvements, bus circulation, and fringe parking -- all to help improve the vitality of its urban businesses. Hartford, Connecticut, combined social strategies

(creating new community organizations and strengthening existing groups) and physical strategies (closed streets, narrowed street entrances, used cul-de-sacs, created one-ways) to revitalize a residential neighborhood.

If neighborhood residents, business leaders, and investors perceive that a comprehensive effort to reduce crime and fear is under way, CPTED can lead to an increase in neighborhood identity, investor confidence, and social cohesion, all contributing to the revitalization of the area.

9. Acquisition of development funds. The incorporation of the CPTED concept into existing programs can provide additional justification for receiving grants, loans, and community development funds. When linked with the achievement of the primary objectives of a program or project (e.g., construction of public housing, park improvement, road improvement), the possibility of reducing crime and fear can increase the chances of obtaining needed funds and other resources and using them effectively (see Figure 2-11). For example, if housing rehabilitation can be coordinated with a project to reduce burglaries and larceny, it will accomplish multiple objectives and also introduce the idea of "packaging" different funding programs. This type of project should be more effective than one that seeks to accomplish rehabilitation objectives alone.

10. Institutionalization of crime prevention processes and principles. CPTED projects can be used to develop the management capability and expertise needed locally to maintain an ongoing crime



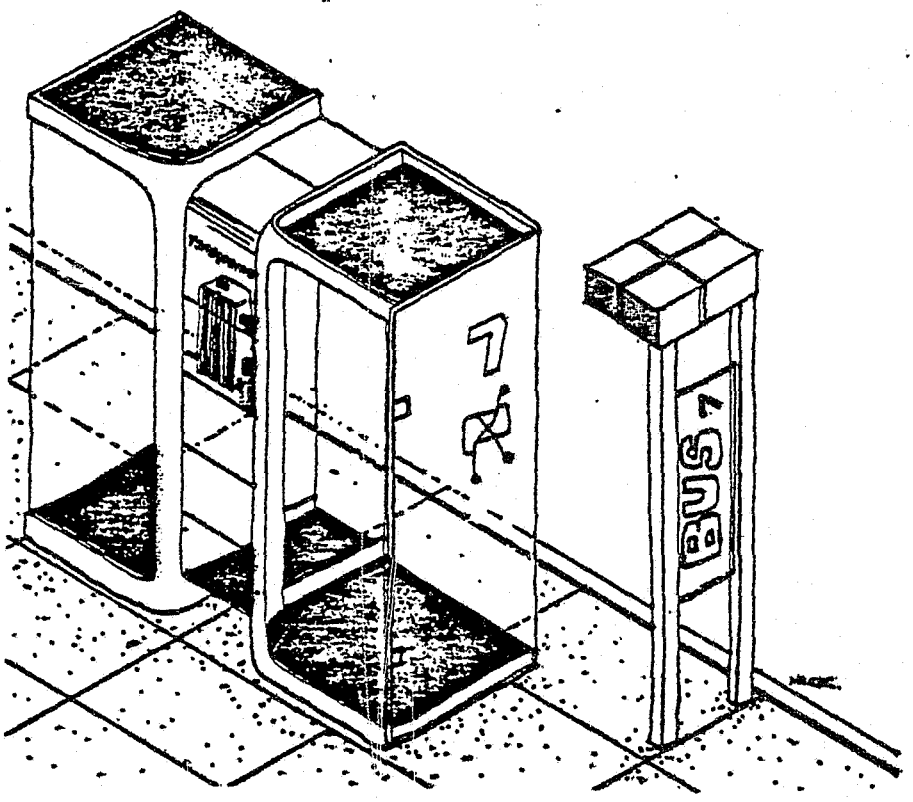
CPTED plans must be consistent with available resources.

Figure 2-11. Resource Planning

prevention effort. Most local communities do not have any significant crime prevention capability or, at best, rely upon the local police department to handle this function (along with its many other responsibilities). CPTED projects can be initiated with an overall objective of developing a continuing capability to deal with crime and fear problems on a communitywide basis. This management capability can be incorporated into existing agencies or organizations (e.g., the crime prevention bureau of the police department) or established in a new organizational entity.

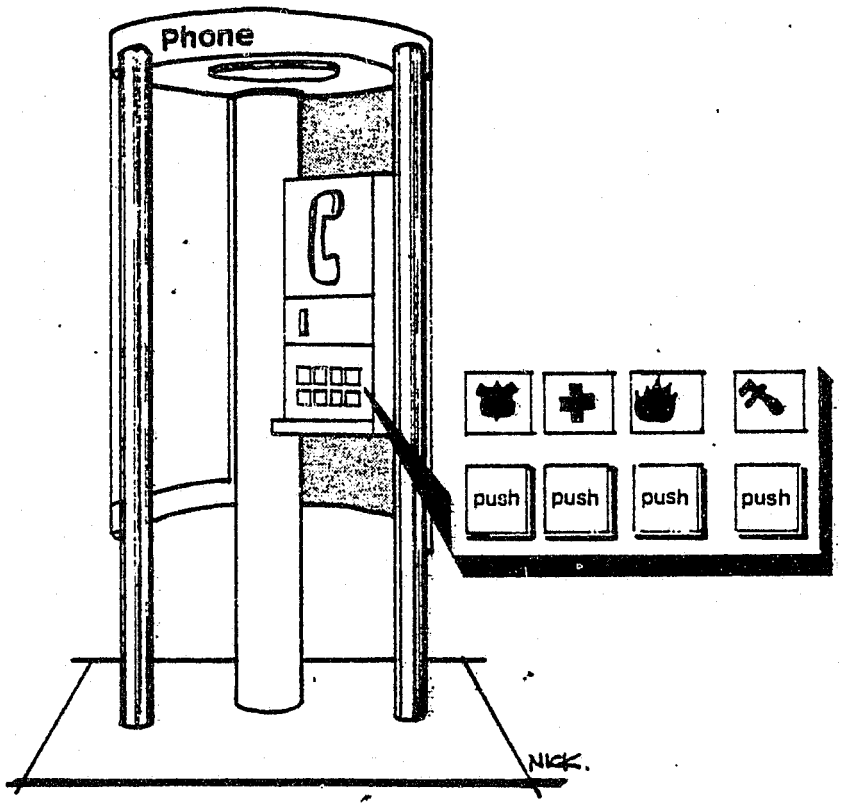
CPTED projects may encourage the adoption of the crime/environment perspective in other agencies or programs. For example, if a CPTED program involves a local redevelopment and housing agency, the CPTED perspective might remain and be applied to future agency activities long after the formal CPTED program has ended. Thus, the original project can stimulate a new and lasting awareness of the effect of environmental factors on crime and fear. A similar effect may result in other municipal agencies (see Figures 2-12 and 2-13).

A CPTED project can lead to the incorporation of CPTED in such areas as establishing zoning ordinances, setting public management policy (e.g., to avoid placing public facilities in crime-prone areas, unless compatible with an overall crime prevention plan for that area), considering the impacts of public developments on potential victim and offender populations, setting building performance specifications,



Bus shelters should be designed to provide good surveillance and vandalism resistance.

Figure 2-12. Transparent Bus Shelters



Dial-free connections with emergency services can improve response time.

Figure 2-13. Dial-Free Telephone

and developing model codes. Similarly, a transit authority may begin routinely to consider the crime prevention implications of its bus scheduling policy, and traffic planners may do the same regarding changes in street traffic patterns. The routinization of CPTED principles in related environmental processes multiplies the benefits of other more direct crime prevention efforts, such as neighborhood block watch and police patrol.

CHAPTER 3. CPTED DEMONSTRATIONS

The large-scale CPTED demonstration projects were undertaken to determine the viability of the CPTED approach in commercial, public schools, and residential environments. The demonstration projects, together with their associated research evaluation efforts, would form the basis from which the validation and refinement of CPTED concepts would flow.

An important aspect of the demonstration projects is that they were funded by non-NILECJ sources. That is, while the CPTED Program provided design, planning, and management guidance, suggested funding sources, and supported the solicitation of funds, the demonstration communities had the ultimate responsibility for capital expenditures and for support of the local personnel who managed and implemented the demonstration projects. At the same time, the CPTED Consortium sought opportunities for the greatest leverage available for the "seed money" given the Program.

The CPTED Consortium members reviewed qualified sites for demonstrations. Those considered were broadly compatible with the idealized experimental models emerging from the Phase I research activities. Final selection was based on the following criteria:

- Willingness of the local government, law enforcement agencies, and residential/business/school communities to participate.
- Local planning and implementation resources.
- Ability to work within the planned CPTED project schedule.

- Availability of baseline data to assess the existing crime and fear problems in the area prior to project implementation.

Three sites were chosen: Portland, Oregon (commercial); Broward County, Florida (schools); and Minneapolis, Minnesota (residential). Detailed information on the demonstrations is found in the following documents:

- CPTED Commercial Demonstration Plan: Portland, Oregon (March 1976).
- CPTED Schools Demonstration Plan: Broward County, Florida (March 1976).
- CPTED Residential Demonstration Plan: Minneapolis, Minnesota (November 1976).
- CPTED Final Report on Commercial Demonstration: Portland, Oregon (May 1978).
- CPTED Final Report on Schools Demonstration: Broward County, Florida (July 1978).
- CPTED Final Report on Residential Demonstration: Minneapolis, Minnesota (July 1978).

Each Demonstration Plan characterizes the environmental type and its crime problems in the context of the applicability of the CPTED approach; presents the site selection considerations; discusses the crime/environment analysis of the specific site and details the strategies and directives designed for that site; develops a management plan, including funding strategies, for carrying out the project; and proposes an evaluation design.

Each Demonstration Final Report presents the revised evaluation plan and analyzes the project's planning and implementation process, noting factors that caused the project's actualization to diverge from the original plans and highlighting lessons learned in the process. In addition, the Final Reports on the Commercial and Schools Demonstrations include both process and impact evaluations.

Brief descriptions of the demonstration sites and projects follow.

A. Commercial Environment

1. Site characteristics. The Union Avenue Corridor in Portland selected for the commercial demonstration runs along Union Avenue for 50 blocks, and the demonstration area includes two blocks on each side of the strip. Land use is mixed, with a large proportion of residential properties bordering the commercial establishments. There are approximately 230 operating businesses and 4,500 residents in the 200-block corridor. The demonstration area incorporates parts of eight neighborhoods, and the population of the corridor is racially balanced.

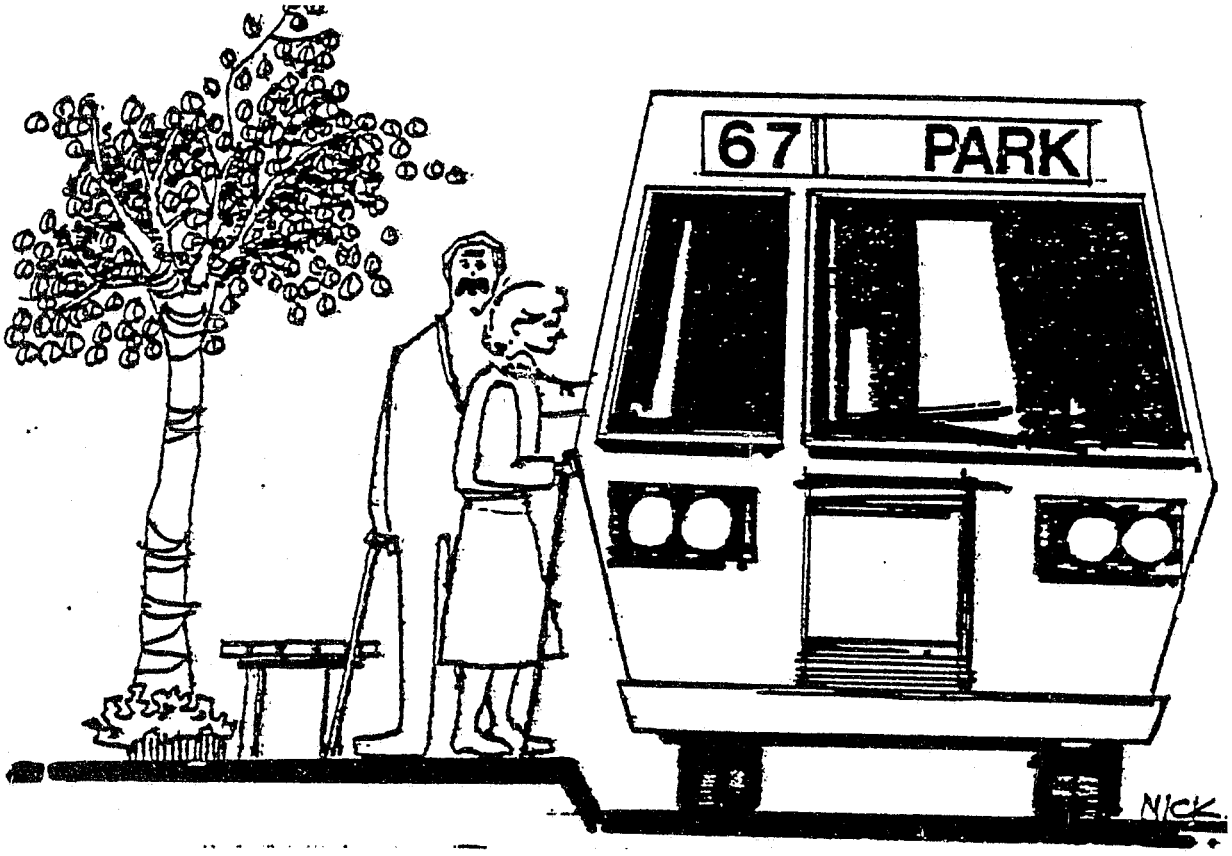
2. Problem focus. The 572 reported serious crimes for 1974 were distributed as follows: 14 percent robberies, 5 percent assaults, 6 percent pursesnatch, and 75 percent burglaries (52 percent residential, 23 percent commercial). About 62 percent of robbery, assault, and pursesnatch crimes occurred during hours of darkness. Assault, robbery, and pursesnatch crimes were not uniformly dispersed within the corridor but were clustered in the vicinity of commercial nodes. Victims of the crimes against persons often were elderly, predominantly white, and equally divided between males and females.

3. Strategies. The crime prevention strategies developed for the demonstration integrated physical and urban design, citizen and business community, management, and law enforcement components. Major strategies included:

- Improved and expanded street lighting to improve nighttime surveillance and enhance the area's safety image.
- Security advisor services, including security surveys of residential and business structures and the promotion of citizen involvement in crime prevention through, for example, the revitalization of a business booster's association.
- Corridor promotion, including specific promotional activities such as Union Avenue cleanup days and weekend markets, to help put more "eyes on the street" and increase the sense of community among residents and users.
- CPTED design reviews of proposed construction and site development plans to help institutionalize crime prevention considerations (see Figure 3-1).
- A transportation program focused on reducing street crime exposure of the elderly and handicapped (see Figure 3-2).
- Transfer of $4.5 million in highway improvement funds to enable a complete overhaul of Union Avenue

CPTED planning can involve physical, social, economic, management and law enforcement mechanisms aimed at various levels of scale ranging from community-wide to individual building sites.

Figure 3-1. CPTED Planning



Special transportation programs sponsored by public or private organizations can reduce the need for vulnerable residents such as elderly and infirm to be exposed to street crime dangers.

Figure 3-2. Transportation Programs

that would add left-turn lanes, a median strip, landscaping, and trees to make the street more amenable to vehicular and pedestrian traffic, thereby augmenting the overall revitalization effort.

- Redesign of two Union Avenue feeder streets to serve as safe passageways from residential and recreational areas, especially for the elderly.
- Construction of well-lighted and highly visible bus shelters.
- A "Cash-Off-The-Streets" project to discourage pursesnatching and robbery by providing services that would reduce the need to carry cash (for example, by having social security checks mailed directly to Corridor banks and by enabling individual participants to have certain bills and purchases paid through direct transfer of funds). Buttons or other means would be provided for subscribers to signal the fact that they are not carrying cash (see Figure 3-3).
- Coordination of law enforcement activities, including patrol deployment, with the physical design modifications and citizen involvement efforts.

4. Implementation status. Implementation of CPTED strategies began in late 1975, with the majority completed by mid-1977. There are, in

Special programs can be implemented to encourage people not to carry large amounts of cash outdoors.

Figure 3-3. Cash Off the Streets

addition, other project elements into which CPTED principles have been incorporated by local planners, some of which may not be completely implemented for several years. Examples of the latter include construction work on the highway improvement funds overhaul, which will not even begin until spring of 1979; construction of an 80-unit housing complex for the elderly located on one of the redesigned feeder streets began in November 1977, but will not be completed until 1979; and a business district in another part of the city continues to utilize the CPTED technical assistance that was provided during the Union Avenue project's implementation phase.

5. Evaluation. Evaluation of program process and impact indicated generally favorable results. During February 1976, members of the Police Department's Crime Prevention Unit conducted 210 security surveys of virtually all Corridor businesses. Followup surveys showed that, by March 1977, roughly 55 percent of the businesses were in complete or partial compliance with the survey recommendations, with all costs incurred by the business owners. During the 20 months following the February 1976 surveys, the Corridor's average monthly commercial burglary rate was 48 percent below the average monthly rate for the prior 16 months; compared to a 9 percent reduction for the city as a whole. (Caution should be used in crediting this reduction solely to the building surveys or in assuming such a decrease will continue.)

Strengthening of business commitment is another indication of a reverse in the Corridor's decline. For example, a dormant businessmen's organization was reorganized as the Northeast Business Boosters in June 1976. Since then, it has met monthly, maintained an average membership of 100,

and strongly supported the CPTED efforts. Both an assessment of the existing financial data and interviews with a sample of the businessmen indicated that the health of Corridor businesses has improved since the early 1970s. Comparisons with similar surveys conducted in 1974 revealed a greater percent of business owners with no plans to move in the next year or two and a lower percent viewing the present crime level as the most harmful factor to their business' success.

CPTED impacts can be seen in the Corridor's residential areas and other Portland residential areas, as well. Approximately 160 Corridor residents received security surveys. Since most of the recipients were low-income residents, the Portland Crime Prevention Bureau was able to use Housing and Community Development funds to buy locks that were installed by local veterans working with a Comprehensive Employment and Training Act grant from the Department of Labor. (The Crime Prevention Bureau emphasized that locks were only one part of any successful burglary prevention program, with neighborhood cooperation being another and perhaps a more important element.) This illustrates a basic principle of CPTED: Crime prevention efforts can be improved by using limited resources to leverage additional resources, resulting in the integration of a variety of services and agencies into a comprehensive program of crime prevention.

B. Schools Environment

1. Site characteristics. School environments, because of numerous opportunities for natural surveillance and access control, were viewed as responsive sites for CPTED programming. Four public high schools in Broward County, Florida, were selected for the schools demonstration.

The Broward County School System is the 12th largest in the country (140,000 students; approximately 22-percent black) and essentially suburban. There are 20 high schools in the system, with about 2,000 students per school. Students are bused to maintain an approximately 1-to-4 black-to-white ratio in each school.

Broward County and its principal city, Fort Lauderdale, were areas of increasing crime, with violent crimes growing faster than the State average and property crimes being the largest contributor to total offenses. Crime in Broward County schools had been well-documented since 1969-70, and recent data were computerized. The Internal Affairs department of the school system handles crime reporting and security (and safety) matters. During the 1974-75 school year, it handled 3,092 incidents of all types, an increase of 77 percent over 1971-72.

The demonstration schools reflect design features incorporated in most U.S. schools: One (McArthur High School) is an open, one-story building on a large campus; the other three (Deerfield, Boyd Anderson, and South Plantation) are standard two-story buildings with double-loaded corridors and internal stairwells.

McArthur is located on the western boundary of the City of Hollywood. Its 40-acre campus is surrounded by residential areas on three sides and a commercial strip along the fourth side. The majority of the students come from middle-class homes within the immediate vicinity of the school.

Deerfield Beach is located in a mixed residential area near the western boundary of the City of Deerfield Beach. This area is composed of lower and lower-middle class socioeconomic level families who provide the majority of the high school population.

Boyd Anderson is located in the City of Lauderdale Lakes. The high school shares its physical site with two other county schools, a middle school and an elementary school. The main access to the school is channeled through the middle of the county property housing the three schools, thereby isolating more than half the school from natural surveillance during nonschool hours. The side and rear portions of the high school are bordered by mixed residential housing inhabited by the lower to lower-middle class families that send most of the students to Boyd Anderson.

South Plantation is located near the southern border of the City of Plantation. The location is isolated on three sides by highways and is separated from a residential area on the fourth side by a distance of nearly two city blocks. The students come primarily from middle to upper class socioeconomic level families.

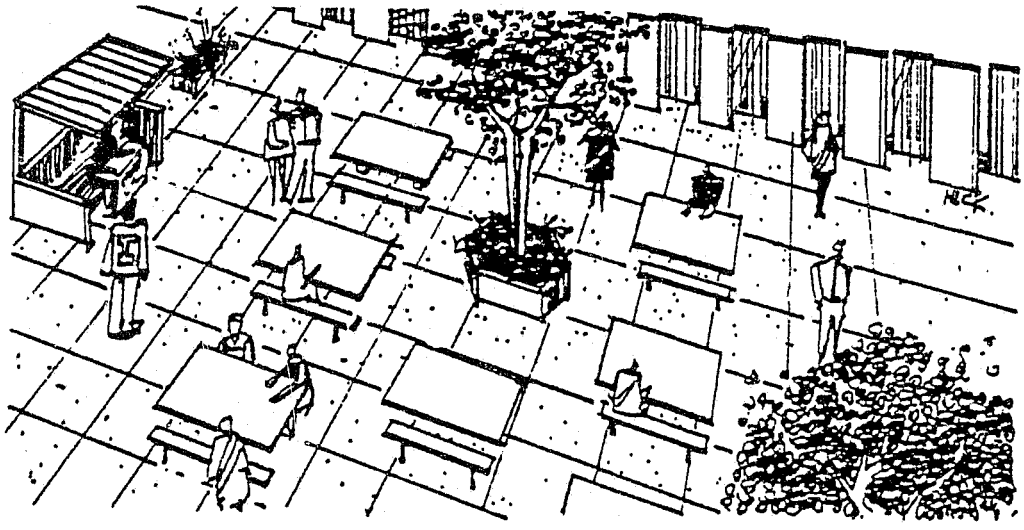
Each school is attended by over 2,300 students and has a high attendance record (91.3 percent average). Non-Hispanic whites comprise the largest percentage of students (ranging from 68 percent at Boyd Anderson to 85.2 percent at McArthur), and achievement test averages are slightly lower than the national average for Boyd Anderson, Deerfield Beach, and McArthur, while they are slightly higher for South Plantation.

2. Problem-focus. During the 1974-75 school year, the demonstration schools reported 409 incidents of the crimes of major concern to staff and students -- assault, breaking-and-entering, theft, and vandalism; a 77 percent increase over the previous year. Crime/environment analyses for these crimes indicated five crime-prone locations: Parking lots, school grounds (the external spaces on a school campus, including bus loading zones and informal gathering places), classrooms, corridors (including stairwells), and locker rooms.

In addition, although not identified as the site of many criminal incidents, one-fourth of the students in the demonstration schools expressed fear concerning use of the restrooms.

3. Strategies. In contrast to traditional target-hardening approaches, CPTED strategies were adopted that encouraged an open and natural environment supporting the social and educational processes of a school while, at the same time, reducing the opportunity and propensity for criminal behavior. Key strategies developed for one or more of the schools included the following:

- Transformation of empty, little-used courtyards into landscaped patios located in easily surveilled areas to reduce the assaults and vandalism associated with informal gatherings of students in parking lots and corridors; as an amenity that enhances positive student interaction, student concern for the school should be increased as well (see Figure 3-4).
- Provision of portable two-way radios to key faculty and staff at the school with the 40-acre campus to increase communications and improve responses to actual or potential troublesome situations.
- Redesign of restrooms to increase natural surveillance, thereby reducing fear of assaults: Doors would be locked open, with privacy provided by redesigned anteroom walls that still would allow any disturbance to be heard in the halls.



Short vandal-resistant benches and tables have been provided to restrict group sizes and encourage relaxed conversation. Planters divide large spaces into smaller areas to break down institutional scale and introduce soft greenery and shade in paved places. A snack/ticket sales facility can provide a surveillance point for supervisory personnel.

Figure 3-4. School Courtyard Enhancement

- Installation of new or additional audible burglar alarms to reduce breaking-and-entering opportunities.
- An educational program, including CPTED workshops for faculty and student leaders, together with CPTED handouts. This program would promote student and faculty awareness of and involvement in crime prevention activities.
- Redesign of a bus loading zone and revision of procedures to increase natural surveillance, control pedestrian flow, and decrease ratio of students to supervisors. These measures would reduce confrontation-producing congestion and opportunities for theft and vandalism.
- Construction of secure bicycle compounds that would be kept locked throughout the school day, together with the location of nonsecure bicycle compounds in areas where heavy legitimate activity would provide natural surveillance to help reduce bicycle theft.
- Provision of natural border definition and access limitation for vehicular and pedestrian traffic in the student parking lots to reduce opportunities for theft, vandalism, and trespassing.

- Colorcoding of student lockers, by class period, to enable easy recognition of bonafide users. Together with the locking of these areas when not in use, the colorcoding would help to reduce theft opportunities.
- Location of a portable police precinct at one of the schools to be used primarily for shift changes, thereby providing 24-hour limited surveillance.
- Placement of multicolored graphic designs in corridors to define the intended functions of those areas. This would increase territorial concern and clearly define transitional zones, thereby reducing opportunities for vandalism and confrontation-producing congestion (see Figure 3-5).
- Relocation of a school security office to an unobtrusive area under the stairwell of one school; thereby improving natural surveillance of the central corridor.

4. Implementation status. Implementation of the project began in September 1976 and was completed in January 1978. The major implementation problem was the significantly longer-than-planned period involved in completing the physical modifications. While these delays caused adjustments in the implementation of some strategies, most were implemented as originally designed and programmed.

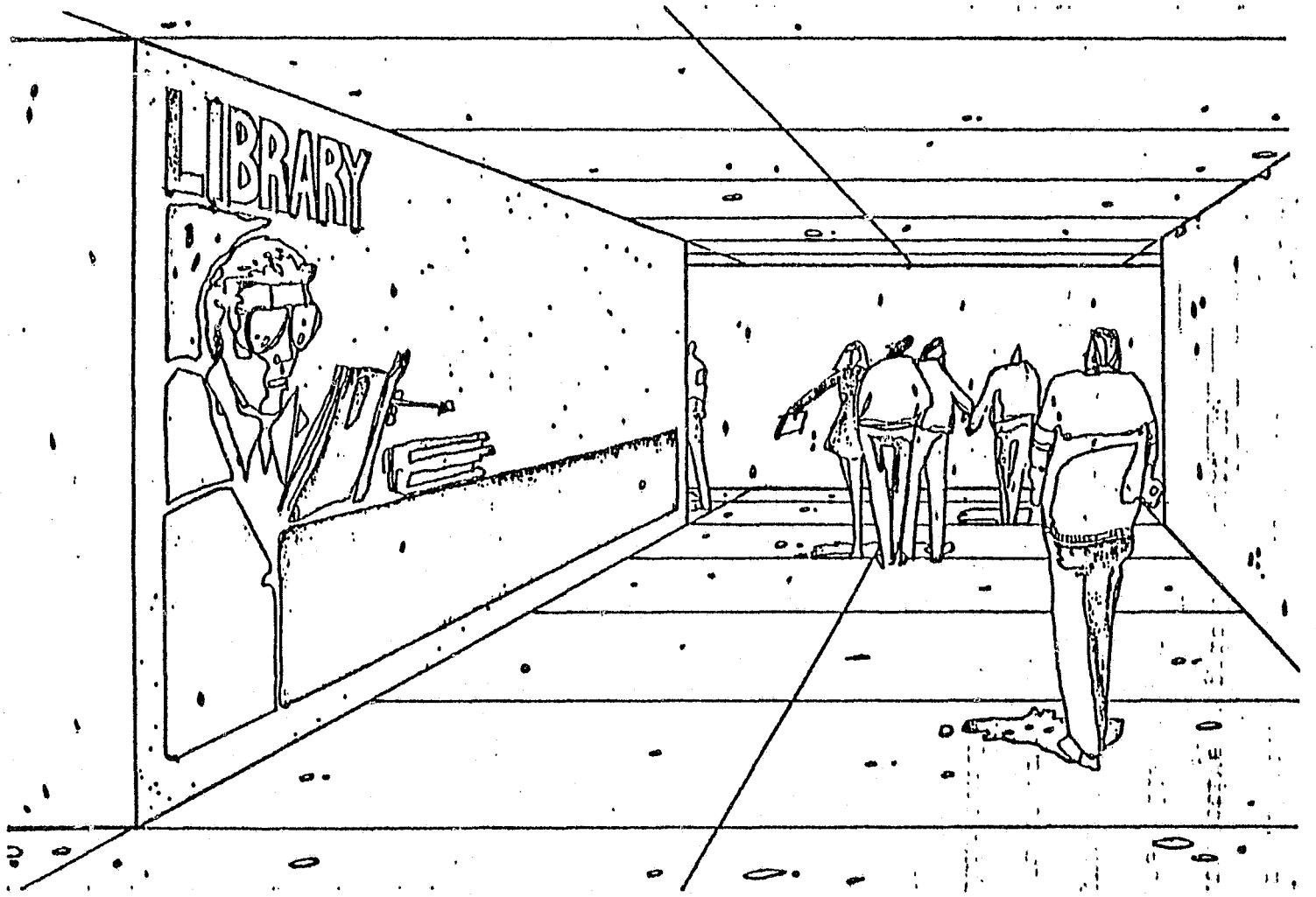


Figure 3-5. Attractive Graphics on Walls
Identify Different Functional Areas in Schools

5. Evaluation. The evaluation involved behavioral observations, indepth interviews with key persons, five student victimization and fear surveys, staged "suspicious incidents," and an examination of school crime records. (Because these records are not yet available for the 1977-78 academic year, they are not included in the impact assessment.) In spite of the short post-implementation period available for evaluation, a number of positive results can be discerned. Observational and key-person interview data indicate improvements in access control and surveillance. Specifically, the two-way radios have decreased the response time to calls for assistance, the restroom redesign has decreased antisocial behavior in lavatories, the audible burglar alarms appear to have deterred breaking-and entering, the changes in the bus loading zone have reduced congestion, the portable police precinct has increased the amount of time there are security officers on campus, and the relocation of the school security office has improved opportunities for surveillance. Additionally, observational data on student reactions to the corridor graphic designs and the transformation of courtyards into landscaped patios suggest increased motivation reinforcement and activity support. Neither the corridors nor the courtyards have been vandalized, and the patio's benches and tables are being fully utilized.

Results from the student surveys were mixed. The surveys revealed no significant attitudinal changes in students' willingness to report suspected crimes, in proprietary feelings about their school, or in their overall fear of theft or assault. However, the two project schools that

received the greatest CPTED effort -- Boyd Anderson and McArthur -- did show a higher student rating of the crime prevention efforts to teachers and other adults. At the subenvironmental level (e.g., restrooms, corridors), there was also some evidence of improved attitudes. For example, students reported that, in their judgment, the restrooms were safer.

The victimization questions revealed a 10- to 26-percent reduction in the theft rate at the project schools, compared with an 8-percent mean reduction at the nonproject schools. Boyd Anderson showed a 33 percent reduction in the assault rate.

"Suspicious incidents" were staged in the parking lot of each demonstration school and at two other county high schools. Although the number of staged incidents was too small to provide a conclusive test, it appears that the students at the project schools were more alert to suspicious behavior than the students at the nonproject schools.

In summary, the CPTED project in the Broward County high schools tentatively can be associated with several moderately positive impacts, both at the subenvironment level and overall.

6. School security guidelines. One concrete impact of the project has been the development of The Broward County School Security Model: Guidelines for School Security (June 1978), by the school system's Internal Affairs Office. These guidelines, which are based on experiences in Broward County, offer not only crime prevention information but also suggestions for setting up a school security program to deal with existing crime problems. The guidelines include information on the organization of a

school security program and its administration and staffing. Additionally, they include suggestions for establishing a school crime reporting system that is useful not only in maintaining accurate records but also in identifying crime problems and their locations within the school or school system.

C. Residential Environment

1. Site Characteristics. The Willard-Homewood Neighborhood in Minneapolis selected as the site for the residential demonstration is an inner-ring residential neighborhood. This is defined as a predominantly residential area located within city boundaries, usually near the central area of the city but exhibiting many of the physical and design characteristics of suburban areas. The Willard-Homewood Neighborhood contains approximately 2,800 dwelling units, 62 percent of which are single-family and 23 percent duplexes. The majority are in excess of 50 years of age; some 24 percent warrant rehabilitation, and there are many abandoned or boarded up homes. From 1960 to 1970, the minority population increased from 27 to 35 percent, while the total population remained fairly constant.

2. Problem-focus. The 735 serious crimes reported for the Willard-Homewood Neighborhood during 1974 included 34 percent residential burglary, 19 percent larceny, 14 percent simple assault, and 11 percent auto theft. In addition to occurring more frequently than any other reported crime, residential burglary was the most fear-producing. In a comparison of reported crime rates for the neighborhood and the city, Willard-Homewood had equivalent violent crime rates (9.3 incidents per 1,000 inhabitants versus

9.1 for the city) and lower property crime rates (51.8 incidents per 1,000 inhabitants versus 69.8 for the city). Despite this, neighborhood residents and City officials consider Willard-Homewood one of the higher crime areas in the city.

3. Strategies. The CPTED strategies for the Willard-Homewood Neighborhood combined physical modifications, increased police activity, and expanded community organization efforts. Specifically, the Willard-Homewood Neighborhood workplan called for the activities described in the following paragraphs.

a. Target hardening. Inadequate access control and poor security practices on the part of neighborhood residents facilitated illegal entry and provided opportunities for burglary and larceny. Target hardening is being accomplished through two major initiatives. First, improved access controls are being implemented in roughly 10 percent of the inhabited residential dwellings (a total of approximately 250 units) through the installation of modern hardware devices. Second, improved residential security practices are being obtained through the use of information dissemination and educational devices, specifically manuals and workshops.

b. Resident surveillance. Residents of the Willard-Homewood Neighborhood were reluctant to involve themselves in security practices beyond their individual residences. This problem was exacerbated by the large number of working families leaving residences unoccupied during the day (the area's peak burglary period) requiring extended surveillance. A Resident Surveillance Program is being accomplished through two major

initiatives. First, 60 percent of the approximately 40 block clubs in the Willard-Homewood Neighborhood are being involved in a traditional block watch program. Second, a housesitting project is being designed and implementation assistance provided. This project will select and train one housesitter for each of 25 blocks.

c. Neighborhood identity. The lack of social cohesion, neighborhood identity, and intraneighborhood scale facilities has contributed to a negative image and relatively high fear level, and has impacted social controls at the neighborhood level. A three-pronged strategy is designed to foster social cohesion in the Willard-Homewood Neighborhood.

First, subneighborhood "focal areas" are being created to foster closer ties among residents in well-defined, 10- to 20-block areas. The initial step in the creation of such focal areas is to increase the number of active block clubs in the Willard-Homewood Neighborhood by approximately 50 percent. Once a large number of block clubs are active, they will be organized into confederations along geographic lines (i.e., 10- to 20-block focal areas). Thus, residents will be able to identify with a collective, cohesive community structure that is larger than a single block club yet not so large that identity is lost (see Figures 3-6 and 3-7).

Second, the social organizations created above are being reinforced by a series of physical improvements in the focal areas. These improvements, designed to identify subneighborhoods and foster a sense of territoriality, include unusual sidewalk and street paving materials, neighborhood

You are invited to join your neighbors at the first Community Crime Prevention meeting on your block. Topics to be discussed include:

- ☐ Neighborhood crime problems.
- ☐ The Neighborhood Watch Force.
- ☐ Premise security surveys.
- ☐ Operation I.D.
- ☐ The role of police.
- ☐ The concerns of this block.

Community Crime Prevention is an exciting new program aimed at solving the crime problems of this particular neighborhood. Please attend this meeting to express your concerns and give us your ideas. Your involvement is essential.

Host _____

Address _____

Time _____

Date _____

Figure 3-6. Announcement of Community Crime Prevention Meeting

Information about the neighborhood can help to stimulate community awareness, involvement and pride.

Figure 3-7. Encouraging Community Involvement

entrance gateways, street signs that identify the neighborhood name as well as the street name, distinctive landscaping, and similar elements.

The final part of the strategy is a juvenile advocacy program, sponsored by the Minneapolis Urban League. It is designed to help reduce the high level of juvenile delinquency that is associated with the neighborhood's apparently large number of unguided, unsupervised, and uncontrolled juveniles.

d. Rehabilitation. Vacant, abandoned, or dilapidated structures provided opportunities for illegal activities. In addition, these structures created fear among residents and were viewed as supporting undesirable and unsupervised juvenile activity. The negative impact of these structures is being reduced by rehabilitating 250 dwellings for residential or positive alternative uses in accordance with security-related Minneapolis Housing and Redevelopment Authority (HRA) building code standards. HRA plays a major role by transferring dwellings to certain Willard-Homewood Neighborhood not-for-profit groups who are responsible for rehabilitating those homes and returning them to residential use. HRA also is transferring abandoned homes to the Urban Homesteading Program and selling them in turn for $1 plus the cost of rehabilitation, as well as providing loans for the purchase of abandoned homes "as is."

e. Alley modifications. The present condition of alleyways in the Willard-Homewood Neighborhood offers little indication of where public property ends and private property begins. This creates a lack of space definition that contributes to a low sense of territoriality and

inadequate access control. To begin the remedy of these problems, the following approaches are being implemented, with the aid of crime prevention workshops and public relations packets.

First, the residents' knowledge of what constitutes suspicious/criminal behavior in alleyways should be enhanced and an increase in residents' surveillance/control of alleys promoted as a crime prevention technique. Second, CPTED security design improvements should be implemented in 10 block-long alley sites. The Department of Public Works is responsible for implementation, and systematically encourages complementary improvements in adjoining private properties.

4. Expanded Demonstration. Two additional inner-ring neighborhoods, Lowry Hill East and Hawthorne, have been added by the City to the CPTED demonstration. Unlike the Willard-Homewood Neighborhood, neither has a significant minority population. The Lowry Hill East population is mainly young, single, and transient, and the neighborhood is characterized by large, older houses, and both new and older apartment houses; 80 percent of the property is rental. In Hawthorne, 57 percent of the homes -- mostly one- and two-family -- are owner-occupied. The expansion of the crime prevention demonstration into these contrasting neighborhoods increases the potential value of the evaluation efforts.

The proposed crime prevention programs in these three neighborhoods possessed distinct individual profiles that required articulation at the neighborhood level but, at the same time, reflected similar concepts and strategies that needed to be coordinated at the citywide scale. For

example, training of inspectors for premises security surveys and the purchase of necessary target-hardening hardware would be accomplished at the city scale, with the resulting savings benefitting the programs and residents. At the citywide scale, educational materials and methods, which had general applicability but enough flexibility to be tailored for the individual neighborhood, could be developed. Working with neighborhood organizations and the neighborhood coordinators, the City's crime prevention demonstration manager would provide the necessary communication link between the three projects and facilitate, where applicable, experience transferral.

At the citywide scale, the demonstration manager was to facilitate the implementation of the environmental design strategies. This facilitation was to be accomplished through the coordination of various governmental agencies, such as the City Planning Department, City Public Works Department, and HRA. Many of the law enforcement and administrative crime prevention strategies also needed to be coordinated at the citywide scale, even though the initiation and implementation of such strategies could be at the neighborhood level. Changes in legislation that could affect the problem of crime prevention would possibly originate at the neighborhood level but, where appropriate, would be enacted at the city level. Finally, many varied community resources were to be coordinated at the citywide scale. Table 3-1 summarizes the similarities and differences within the three-neighborhood effort.

TABLE 3-1

CPTED Residential Demonstration Strategies

Strategy	Planned Use		
	Willard-Homewood	Lowry Hill East	Hawthorne
Target Hardening	X	X	X
Housing Rehabilitation	X		
Backyard and Alley Modification	X	X	X
Housesitting	X		
Alley Surveillance/Patrol	X	X	X
Block Watch	X	X	X
Neighborhood Identity	X	X	X
Neighborhood Councils	X	X	X
Social (Juvenile Advocacy)	X		
Landlord Responsibility		X	X
Cash Off the Streets			X
Lighting*		X	
Escort System		X	
Traffic Circulation		X	X
Commercial Security**	X	X	X

*Included in the Demonstration Plan for the Willard-Homewood Neighborhood but not funded under the Governor's Crime Commission grant.

**Commercial Security is not so major a thrust in the Willard-Homewood Neighborhood as in the other neighborhoods.

5. Implementation status and evaluation. Strategy implementation began in May 1977 and continues to the present. A preliminary evaluation report will be available in October 1978. While it is too early to recognize any crime prevention impacts, the block and neighborhood level organizing activities are meeting with excellent results. Enthusiasm for the project also is reflected in the highly favorable response to target-hardening surveys conducted by officers from the local police precincts. Probably most significant has been the ability of the efforts to leverage additional efforts and commitments. For example, a local public relations firm donated its services, valued at approximately $10,000, to create and produce crime prevention awareness materials for distribution in the three neighborhoods. In addition, award of a Federal grant to enable the expansion of the program into a citywide demonstration is imminent.

CHAPTER 4. THE RESEARCH PROGRAM

It was clear from the outset that the CPTED research program should be a multidisciplinary effort. Thus, a group of social scientists with backgrounds in criminology, architecture, urban planning, environmental psychology, and systems analysis came together to form a Research team. This team worked in concert with consortium members involved in dissemination, demonstrations, and overall management throughout the 4-year Program. The charter of the Research team was twofold: First, to assume responsibility for issues relating to theory, research methods, measurement, and data analysis; and second, to document and organize the new knowledge emerging from the Program in a format suitable for potential user groups.

A. Reviewing the State-of-the-Art

To meet the first research objective, literature reviews were conducted to document the state-of-the-art in a number of areas, such as defensible space research, community participation, crime displacement, and evaluation methods. These reviews revealed significant inadequacies in both the conceptual and empirical research bases of CPTED. Several issues required considerable attention if CPTED theory was to progress from a state of offering limited heuristic guidance to a system of logical constructs that could be used to interpret crime/environment complexities and could be validated empirically. Some of the preeminent issues concerned the definition and parameters of CPTED, the relationship between crime and fear of crime within the model, the dearth of evidence regarding the effectiveness of specific strategies, and whether crime displacement in its various

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1 OF 2

forms is engendered or deterred by the CPTED approach. Attempts were made to resolve these issues, but with the limited research that has been conducted to date, these issues remain far from settled (see Section 6.H for recommendations).

B. Defining the Proper Blend of Crime/Environment Settings

The Research team also concerned itself with defining the blend of environmental settings and crime problems that should be tackled by the Program. The steps taken were threefold:

- Develop an environmental taxonomy for each of the demonstrations. This framework was set forth in The Elements of CPTED, a broad survey and analysis of environmental approaches to crime prevention (see Section 4.G.1).
- Synthesize available crime and fear information, and analyze significant contrasts between environmental classes and subcategories. 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 produced Crime/Environment Targets, which summarizes this study (see Section 4.G.1).
- Establish criteria for choosing among environmental/crime/fear combinations for demonstrations, and apply

those criteria and define the framework for the three demonstrations.

C. Feasibility Testing of Generic Strategic Models

Early in Phase I, discussions between NILECJ and Consortium personnel gave rise to the issue of the feasibility of generating strategic models for the demonstration environments. A strategic model was defined as a hypothetical, prototypical representation of a set of coordinated and interrelated design strategies that could be adapted in a tactical manner to a particular site. Only limited exploration of this issue was pursued because it quickly became apparent that current CPTED theory and available data sources were insufficient for the types of sophisticated analyses and integration involved in creating such models. As originally planned, these models were to be developed in advance of final plans for the demonstrations and would further provide the framework for developing the CPTED Program Manual and Technical Guidelines. However, the strategic models were products in advance of their time. They would have required a much more intensive research and demonstration program before models could have been produced that would purport to be of universal applicability and utility (see Strategic Models Report, February 1977).

D. Establishing Local Field Laboratories

As problems involving the refinement of research methods unfolded, the need became clear for more efficient field testing of data-gathering approaches and instruments. The Demonstrations, as real-world environments, could not meet all of the field test requirements because they represented

too limited a subsample of settings for systematic study and evaluation of crime/environment analyses. Hence, communities in and around the Washington, D. C., area were involved in the field testing process. As a result, new measuring instruments (such as the OTREP Environmental Assessment Package, which is used to measure attributes of the physical environment [see Guideline No. 1], and the Environment Usage Questionnaire, which measures the relationship between behavior patterns and fear of crime [see Guideline No. 3]) were created for use in future CPTED projects. Additionally, current research techniques were augmented for conceptualizing the types of experiments possible within CPTED projects and for statistically analyzing crime/environment research data. Evaluation plans were developed, refined, and documented for each of the three demonstration sites. Field work in local police departments, planning agencies, and housing development was conducted to assess the utility and validity of the various approaches, measuring instruments, and forms of data analysis that were developed. These activities were instrumental in advancing the state-of-the-art in CPTED research methodology.

E. Producing the CPTED Program Manual and Technical Guidelines

The second objective of the Research team, documenting knowledge, was accomplished through a number of activities. Perhaps the most substantial effort involved the collection, organization, development, and final documentation of knowledge into the CPTED Program Manual. This state-of-the-art document, described in detail in Section 4.G.2, is designed for use by municipal officials and others who might consider conducting a CPTED project in their community to accomplish this task. The research team worked

closely with individuals involved in all phases of the demonstrations and with other experts in areas relevant to CPTED.

The experiences of Phase I helped the Research team reconceptualize the Program Manual and the Guidelines. Rather than delineating procedures with the notion that, if followed, they would yield proven results, these documents were written with the recognition that every project site has unique, intangible factors and local nuances that flavor crime/environment circumstances. These factors, in turn, influence the types and levels of CPTED strategies that should be implemented.

While these documents offer carefully-thought-through and tested procedures for planning and implementing a project, users will still have to exercise considerable creative judgment in accomplishing the necessary data gathering for diagnosing crime and fear problems, determining what solutions should be adopted, and evaluating these solutions. In other words, the planning and implementation framework offered should be treated as a heuristic process and not as an invariant, determinant procedure.

The final draft of the Program Manual was evaluated by planning, local government, law enforcement, and other individuals located in more than 25 different cities. The extensive effort committed to the documentation of CPTED-relevant information ensures maximum utility for the future conduct of CPTED and other crime prevention programs.

F. Further Refining the Conceptual Basis of CPTED

One approach adopted to address CPTED theoretical issues proved to be novel and productive. Following the identification of key issues and areas

suitable for refined conceptualization, a program was developed with guidance from NILECJ that allowed scholars across the Nation to become involved in generating a series of concept and research papers that offered valuable insights into CPTED theory and process. Each author focused on particular aspects of CPTED, integrating the principles into other theoretical perspectives and documenting relevant research. These draft papers will be used to form a CPTED Theory Compendium (see Section 4.G.5 for the list of authors and topics).

G. Research Products

A substantial commitment of resources has been devoted to the documentation of CPTED experience and knowledge. These documents address virtually every phase of research activity.

1. Reports laying the foundation of CPTED theory and research. Four important products were developed during or as a direct result of Phase I activities. They are:

- Crime/Environment Targets: A CPTED Planning Document (April 1975) -- Describes approaches to synthesizing available crime and fear information, and comparing environmental settings with types and severity of crime problems.
- The Elements of CPTED (April 1975) -- Develops an environmental taxonomy for each potential demonstration site, and refines the existing theoretical framework.

- CPTED Annotated Bibliography (June 1976) -- Provides a comprehensive list of source materials.
- CPTED Process Case Studies Report (March 1977) -- Analyzes the relationships among the events, participants, and the planning process in each demonstration site, and formulates a theoretical framework of the process.

2. The CPTED Program Manual (April 1978). This Phase II document was prepared to assist urban designers and criminal justice planners in determining the applicability of the CPTED concept to the solution of crime or fear-of-crime problems in various environments. The three-volume Program Manual provides guidance for planning and implementing a CPTED project.

- Planning and Implementation Manual (Volume I) -- Presents a planning framework that is generally applicable to a large CPTED program, similar to those conducted at the demonstration sites. Covered are the major operational phases: Policy determination, project initiation, planning, implementation, and evaluation. With this document, the potential CPTED project manager can obtain a realistic picture of the resource and time requirements for a successful CPTED program, together with framework that can serve as the

basis on which site specific projects can be developed and accomplished.

- Strategies and Directives Manual (Volume II) -- Through the course of the demonstration projects, it became apparent that the number of different CPTED strategies for use in programs was extremely large and the diversity of these strategies was similarly quite extreme. This manual organizes these many and varied strategies into a logical and easily understood catalogue. It also provides suggested guidelines for actual physical design directives which are used to implement each strategy. This allows a local CPTED team to adapt these strategies to local site conditions, and hopefully, this will stimulate new strategies for unique site characteristics. Appended to this manual is an up-dated revision of the CPTED Annotated Bibliography.
- Analytic Methods Handbook (Volume III) -- Presents the crime/environment analysis process with respect to the different phases of a CPTED project. The different types of crime/environment variables that should be examined are discussed, and a variety of data collection and analytic methodologies are reviewed. Appended are more detailed sections dealing

with theoretical issues and methods concerning evaluation research and the use of police statistics.

3. CPTED Technical Guidelines in Support of the Analytic Methods Handbook (April 1978). This document discusses techniques of investigation and analysis in varying degrees of technical sophistication appropriate for each topic. These guidelines (numbered 1 through 5) are written to aid the experienced analyst in the application of familiar techniques to specific analytical and decisionmaking processes used in planning a CPTED project.

- Environment Assessment Methods (Guideline No. 1) -- Different procedures (e.g., mapping, scaling, security surveys) for collecting information about the environment are presented, with emphasis placed on the analysis and interpretation of such information in relation to crime phenomena.
- Behavioral Observation Methods (Guideline No. 2) -- A number of approaches suitable for the observation of human behavior relevant to crime/environment analyses are described, and issues relating to the validity of observations, coding analysis, and training are covered.
- Assessing the Fear of Crime (Guideline No. 3) -- Presents thorough discussions of the fear of crime experienced by residents and users of the environment, as well

as of the potential impact of fear on the quality of life. A measuring instrument, the Environment Usage Questionnaire, is presented which assesses self-reported behavior of individuals in the project area, together with their victimization fears. A final section covers potential sources of fear stemming from both environmental and crime conditions.

- Use of Victimization Surveys (Guideline No. 4) -- Covered are the merits and limitations of victimization surveys as indicated in a review of relevant literature along with procedural guidance for conducting such surveys (e.g., interviewing, sampling, and validity considerations).
- Application of Quantitative Analytic Techniques (Guideline No. 5) -- Describes the many different statistical procedures and models that can be used for the analysis of crime statistics and behavioral and environmental data. The discussion spans the range of statistical manipulations, from sample frequency distributions through factor analysis and different multivariate techniques. Issues in hypotheses testing, sampling, and measurement reliability and validity are also covered.

4. Other technical guidelines. Guidelines were also produced in support of Volumes I and II of the Program Manual. They are:

- Decision Aids and CPTED Evaluative Criteria (Guideline No. 6) (July 1978) -- Assists decision-makers in identifying, among alternative program proposals, the one most attractive for implementation. The decision aids for systematically determining this preference are drawn from the rapidly expanding literature on multiobjective decisionmaking. Their relevance for CPTED stems from the multiple and conflicting operational, economic, social, and political objectives typical of CPTED projects.
- Planning Public Outdoor Areas (Guideline No. 7) (June 1978) -- Focuses on two design elements, outdoor lighting and outdoor landscaping, and includes information on building materials and plant types. The lighting component covers hardware options and construction standards within the context of CPTED design principles, and the landscaping component includes a discussion of types and functions of design elements, with numerous illustrations amplifying the text.
- Citizen Involvement in CPTED Projects (Guideline No. 8) (June 1978) -- Discusses the question of how citizens can play a more direct role in CPTED projects.

Participation methods are examined, and recommendations are offered.

- Security Engineering Design in Commercial and Institutional Facilities (Guideline No. 9) (June 1978) -- Covers CPTED-related security considerations pertaining generally to all aspects of the built environment and specifically to commercial and institutional settings. It covers a discussion of commercial security practices and design considerations for site, perimeter, and building security.

5. CPTED educational documents. Two lengthy documents were produced during Phase II with the aim of providing practitioners and academicians with a more thorough understanding of CPTED:

- CPTED Multidisciplinary Curriculum (March 1978) -- In September 1975, a multidisciplinary course entitled Crime Prevention Through Environmental Design was introduced at the University of Illinois' Urbana-Champaign campus. The course was sponsored during the first semester by the Department of Industrial Design and joined in co-sponsorship by the Department of Architecture in January 1976. Thirty-six graduate and advanced undergraduate students, representing a diverse range of professional

disciplines, completed the CPTED course during its first year. This two-volume document presents the curriculum , discusses the instructor's observations about the success of the course, and presents recommendations to guide the development of similar courses at other educational institutions.

- CPTED Theory Compendium (March 1978) -- Multidisciplinary specialists outside of the CPTED Consortium produced 14 papers advancing aspects of the theoretical foundation of the CPTED Program. The authors focused on problem areas that are close to their own interests and experiences and that have implications for the CPTED approach:
  - Robert Bechtel (Department of Psychology, University of Arizona), "Undermanning Theory and Crime."
  - Donald Black and M.P. Baumgartner (Department of Sociology, Yale University), "Self-Help in Modern Society."
  - Barbara B. Brown and Irwin Altman (Department of Psychology, University of Utah), "Territoriality and Residential Crime: A Conceptual Framework."

- John E. Conklin (Department of Sociology, Tufts University), "Crime Prevention Through Environmental Design in the Urban Shopping District."
- Frances Goldberg and William Michelson (Department of Sociology, University of Toronto), "Defensible Space as a Factor in Combatting Fear Among the Elderly: Evidence from Sherbourne Lanes."
- William Ittelson (Department of Psychology, University of Arizona), "Crime Prevention in the Context of Environmental Psychology."
- Frank Landy (Department of Psychology, Pennsylvania State University), "Motivation Models Applied to CPTED Issues."
- Arthur Patterson (Division of Man-Environment Relations, Pennsylvania State University), "Crime Among the Elderly: The Role of the Physical and Social Environment."
- Albert Reiss, Jr. (Department of Sociology, Yale University), "Environmental Determinants of Victimization by Crime and Its Control: Offenders and Victims."
- Thomas Reppetto (John Jay College of Criminal Justice), "Crime by Design: Some Observations from the Past."

- Anne Schneider and Peter Schneider (Political Science Department, University of Oregon), "Private and Public-Minded Citizen Responses to a Neighborhood-Based Crime Prevention Strategy."
- Robert Sommer (Department of Psychology, University of California), "Developing Proprietary Attitudes Toward the Public Environment."
- George Sternlieb, Robert W. Burchell, and Stephen Casey (Center for Urban Policy Research, Rutgers University), "Municipal Crime Rates and Land Use Patterns."
- Raymond G. Studer (Division of Man-Environment Relations, Pennsylvania State University), "Behavior Technology and the Modification of Criminal Behavior Through Environmental Design and Management."

CHAPTER 5. DISSEMINATION AND TECHNICAL ASSISTANCE PROGRAMS

A. Dissemination

The Dissemination component of the CPTED Program sought to promote a general awareness of CPTED, to disseminate emerging knowledge and to impact the policies, programs, and processes of those who design environments. These activities were initiated during the first 2 years of the CPTED Program (Phase I) and were given greater emphasis during the latter portion of the final 2 years (Phase III), when a number of products were available for circulation.

1. Phase I activities. During Phase I, the dissemination function included five major functions: Technical Assistance Referral Services (TARS), Clearinghouse, Curriculum Development, Policy Guidance, and Conference/Seminar Participation.

TARS involved establishing a pool of CPTED consultants and providing a referral service to groups requesting sources of information or specialists who could provide CPTED technical assistance. The pool consisted largely of Consortium personnel since few qualified specialists were discovered outside the Consortium. Due to the intensive commitment of Consortium resources to project activity, the limited amount of authoritative information then suitable for dissemination, and the absence of Phase I funds to finance technical assistance, TARS was deemphasized throughout most of Phase I.

However, the enthusiasm generated in the crime prevention community by the CPTED Program resulted in many requests for assistance in technical

matters. To handle the requests for information and technical assistance, the CPTED Technical Assistance and Dissemination Office was established. The office processed requests for information in such areas as: Techniques and methodology for crime/environment analyses; identification of environmental design problems; management and organization problems in CPTED programs; development of CPTED strategic models; and general issues in the implementation and evaluation of CPTED programs. Because of the greatly increased volume of requests at the end of Phase I, a limited technical assistance component was authorized by NILECJ in Phase III (see Section 5.B).

The CPTED Program's Clearinghouse was conceived as a vehicle for collecting, cataloging, and disseminating relevant CPTED information. Because the cataloging and distribution mechanisms of the National Criminal Justice Reference Service (NCJRS) were already in place, the Program focused on supporting the use of the existing service. A new "Environmental Design" category was established as a major interest area in NCJRS, and public notification led to a large volume of requests for information on environmental design. More than 6,500 NCJRS registrants added environmental design to their interest profiles at NCJRS.

The Curriculum Development task called for identifying potential curricula that would facilitate CPTED technology transfer. Early assessment led to the conclusion that such development was premature. Rather, curricula could be generated most effectively after CPTED theory and applications experience were more advanced. Nevertheless, a member of the CPTED consortium, architect Larry Bell, developed, taught, and evaluated a graduate-

level CPTED course at the University of Illinois (see Section 4.G.5).

The Policy Guidance function sought to develop techniques to introduce CPTED policies and planning considerations in key organizations at the Federal, State, and local levels. This activity proved to be a critically important contributor to the success of Phase I. Demonstration implementation funding was not included in the funding of the CPTED Program. Rather, LEAA expected the Consortium to support the identification of sources and the negotiation of funding support for demonstration implementation. The Policy Guidance function was fully committed to this effort, and it successfully developed and secured grants in cooperation with each demonstration site.

Finally, to stimulate dialogue and information exchange, a program of selective participation in regional and national conferences and seminars was undertaken. This activity enabled the discussion of ongoing CPTED-related developments and the collection of reactions and suggestions from a number of knowledgeable individuals in relevant fields and disciplines.

2. Phase III activities. The Phase III Dissemination activity was designed to provide the research and criminal justice communities, urban planners and architects, governmental agencies, and community groups with information needed to understand and apply the CPTED approach. Four major tasks were involved. Conference/Seminar Participation, Implication Papers, Interaction with Interest Groups, and a Document and Materials Dissemination Office.

- Conference/Seminar Participation -- CPTED Program personnel made presentations at selected

conferences and seminars during late 1976 and 1977. This provided an excellent mechanism for the rapid distribution of ideas and the collection of feedback from practitioners, administrators, and researchers. Persons in attendance exhibited a high level of interest in the CPTED Program, and many requested additional materials and documents.

- Implication Papers -- A series of reports, prepared for publication in professional journals, provided coverage for selected CPTED issues of interest to different professional communities. One report on comprehensive planning for crime prevention, prepared for design and planning professionals, was published in Planning Magazine. It describes the Portland project and emphasizes planning, implementation, and interagency coordination issues. Another journal article with an evaluation thrust provides an exposition of the methodology, experimental design framework, data analyses, and other research-oriented issues of interest to applied scientists and program evaluation researchers. A third article is slanted for citizens and community organization leaders. It addresses such topics as increasing citizen participation, achieving effective community organization, improving social cohesion in neighborhoods, and other important factors in relation to

citizen-based crime prevention projects. The latter two have not as yet been published.

- Interaction With Interest Groups -- Public and private interest groups ranging from national organizations to small local groups provided a mechanism by which CPTED information and materials were disseminated to diverse audiences. Many contacts were made as a natural byproduct of CPTED program activities. For example, during the course of the demonstrations site selection process, CPTED team members met and discussed the CPTED concept with officials and public interest groups from 17 selected localities. Scores of government, community, and business groups were contacted within the demonstration cities during the course of the Program.

- Document and Materials Dissemination Office -- This function provided responses to numerous requests for CPTED Program and related information. As the Program neared completion, the number of information requests increased substantially, undoubtedly due to the wider publicity of products and results of the research, demonstrations, and other dissemination activities. The requests came

nationally and internationally from individuals and groups covering a wide variety of disciplines, including education, law enforcement, government, social work, architecture, criminal justice planning, psychology, sociology, criminology, anthropology, and urban planning in Federal, State, and local agencies.

Most of the materials and documents available for dissemination were developed in the course of conducting the Research, Demonstrations, and Technical Assistance activities of Phases I, II, and III.

In summary, the CPTED dissemination activity, despite the early dearth of suitable material and the constraints on the release of documentation, has been wideranging and varied. With the CPTED information category established in NCJRS, a great deal of CPTED-related material is now accessible by the general population.

B. Technical Assistance

During Phase III, a modest technical assistance activity enabled some direct assistance to communities requesting CPTED help. Two major technical assistance projects undertaken in Cleveland, Ohio, and East Orange, New Jersey, provided local community leaders with guidance and recommendations for security planning. These assignments were opportunities for the consideration by these communities of CPTED principles that, at the same time, were being developed and refined in the demonstration sites.

Cleveland's request for technical assistance, made by the Security

Task Force of the Greater Cleveland Growth Association, was for assistance in improving security in the downtown Terminal Tower Complex-Public Square Area. This complex is centered about a railroad/rapid transit station built 50 years ago in the heyday of rail transportation. Crime/environment analyses of the Public Square area determined that the amount of actual crime occurring in the environment was not the real source of the problem. The worry over crime expressed by users reflected apprehension about the downtown area in general, as well as the notoriety of a few specific incidents within the complex.

Although available data permitted limited crime/environment analyses, recommendations were offered to: Create a coordinated internal security force; design a crime reporting system; disseminate security guidelines to tenants; actively prosecute offenders; consolidate security personnel in a central location; increase public utilization of certain areas of the concourse, and acquire funding for further CPTED activities.

These recommendations were helpful in attracting a State grant for an indepth study of the Public Square area, together with preliminary analyses of surrounding downtown areas. This grant and the resulting crime research set the stage for planning additional anticrime strategies.

East Orange's Criminal Justice Planning Unit desired to integrate the defensible space concept into the planning stages of a mall to be constructed along Central Avenue. It was hoped that, by so doing, adequate surveillance and access control would be designed into the area to promote more shopping and, at the same time, reduce vandalism. The mall was to be about 1300 feet long, with one- and two-story commercial buildings fronting onto Central Avenue.

A serious crime problem was found and discussions with key individuals indicated that fear also was restricting citizen use of the area. Parking was found to be insufficient and in poor locations for surveillance activities.

To overcome existing and projected crime problems, recommendations were made to: Create a mall security committee to coordinate security matters; create an overall mall security plan; include neighborhood and office people in planning phases; organize a business boosters group; closely monitor all crime data; conduct security surveys; install windows at the rear of stores to improve surveillance; design the mall with adequate lighting and no visual obstructions; and maintain adequate police patrols. These and other more limited contacts suggest that CPTED technical assistance is a needed service in communities seriously committed to a proactive approach to crime problems.

CHAPTER 6. LESSONS LEARNED AND RECOMMENDATIONS

The CPTED Program has demonstrated the viability of its principles in diverse environmental settings and has documented the state-of-the-art in a series of manuals and technical guidelines designed for use by the crime prevention community. Unique in terms of its flexibility and heuristic value, the CPTED perspective profitably can be extended to many different areas in anticrime planning. The successful application of CPTED in the demonstration sites can be repeated elsewhere. There are, however, many object lessons that have emerged from the demonstrations. If proper attention is given to certain key factors, the chances of implementing a successful program are greatly improved. What follows is an examination of such factors, together with a discussion of the lessons learned and related recommendations. Each factor is treated in greater detail in the Program Manual, the Technical Guidelines, or the demonstration reports. Therefore, at the end of each discussion relevant sections of these documents are referenced. The recommendations presented in this chapter were selected eclectically on the basis of greatest importance and urgency at this point in the development of CPTED theories, demonstrations, and research.

A. Community Involvement Is Essential

The probable success of a project, particularly on a long-term basis, closely is related to the number and diversity of local groups that are involved meaningfully in the planning and implementation process. Residents and users of the community must feel that the CPTED projects are

working for them and are in their best interests, or they are not likely to participate.

Experience from the demonstrations indicates that the nature of participation will change as a project moves from planning to implementation. During the planning phase, participation is broad-based and advisory, as the emphasis is on policies, goals, and options; whereas, during implementation, the focus shifts to local citizens and individuals within agencies or organizations with direct implementation responsibility. Since changing roles can create difficulties in the timing of, and commitment to, as well as in the general understanding of a project, the planners should structure their activities accordingly.

Care should be exercised that enthusiastic selling of a CPTED project does not create the expectation of a rapid and dramatic decrease in crime. In fact, increased awareness of crime, publicity on how to report crimes and suspicious events, and projects that increase citizen surveillance may result in an increase in the rate of *reported* crime. Citizen awareness of this possibility, together with realistic goals, will help allay increased fears or frustration when a dramatic rate decrease does not occur. Moreover, special efforts must be made to minimize overreactions that may result from the mere mention that a community is in need of a special crime prevention effort. For example, overly enthusiastic participants could create a "police state" image in a locality adopting CPTED efforts.

Group meetings are helpful for reaching the actively involved individual. However, citizens may attend only one meeting and, unless committed to a specific task or at least to a specific organization,

may not be active again. It is desirable to have a mechanism whereby those who wish to participate can be accommodated immediately. At the same time, some individuals may attend meetings or otherwise express interest yet prefer not to be active in the effort. They can be placed on a distribution list for program communications. Later, when a need develops that is in accord with their interests, they may decide to volunteer.

A final consideration regarding citizen participation is that the defined problems and needs of a community may change during the course of a project. Continuity of participation will depend greatly on project planners' being responsive to these changes and keeping citizens informed of program modifications. (A full discussion can be found in Sections 3.5, 4.3, and 6.3 of Volume I [Planning and Implementation Manual] of the CPTED Program Manual and in Technical Guideline 8.)

Recommendations:

- CPTED projects should be locally initiated and locally organized, with support of public agencies.
- Sponsors of a project should meet with civic, community, and private groups to identify salient crime and fear problems in the target area and to determine project policies.
- A list of citizens representing different interests and viewpoints (including critics of the proposed crime prevention projects) should be prepared, and interviews should be undertaken.
- Educational programs should be developed to show that

the project is in the self-interest of everyone and that everyone should participate.

- Responsibility for motivating particular segments of the population should be assumed by peers. For example, a merchant within the target community would be a desirable contact for meeting with other merchants.
- The core leadership of project management, especially those in charge of daily activities, should be small.
- The senior operating staff should comprise individuals who have authority to speak for key groups and agencies.
- Citizens should be active participants in all phases, including such technical activities as conducting field surveys, collecting police data, setting up educational seminars, and project monitoring.
- Points of contact should be designated for every participating group or agency, and a listing showing designees, their contact groups or agencies, and their areas of interest should be circulated to all participants.
- Citizens should be kept informed through a community newsletter and/or the creation of a registry of interested persons.
- An information center should be established at a local business or home to display proposed plans, public letters, issue statements, and other relevant items.

- Local press and media broadcasts should be used for public service announcements and news features concerning the project.
- News release items should focus on unique, innovative, or new activities and impact associated with the project.
- Existing CPTED resources, especially the Program Manual and the citizen involvement guidelines, should be made available to citizen organizations to help them develop a plan of action.
- These documents need to be developed further. Specifically, a substantive field test of user effectiveness and utility of the materials should be undertaken and, as a result, the contents should be expanded to include more detailed procedural information.
- Needs are being created by new Federal initiatives in nationwide crime prevention activities for citizen groups. Many of these local groups lack sufficient information and expertise for crime prevention projects. Therefore, technical assistance and training and education services should be provided to generate and support these groups.

B. The Planning and Implementation Process Can Be Complex and Time-Consuming

The CPTED Program demonstrations required more than a year to progress

from the initial conception of a plan to the beginning of implementation. The attainment of implementation objectives has taken still longer and, in many instances, objectives have been modified because of the unanticipated extra time (and associated escalated costs) involved. Typically, numerous interdependent activities are progressing simultaneously, each in varying degrees of completion. When one activity stalls because of the inherent slowness of organizational bureaucracy or difficulties in obtaining final funding approvals, other activities can be adversely affected in both expected and unexpected ways. Ignoring the interdependent nature of CPTED project activities certainly will result in extra effort and delay.

When several public and private organizations are attempting to bring about changes in one project area, competition for funds is likely. Thus, early management objectives should be to identify what is planned for the community by various groups and to create mechanisms for interorganization cooperation so that a broader base of community support can be achieved, relevant information can be distributed and shared, and strategies for fund raising can be developed. (Section 2.2 of Volume I of the Program Manual provides guidance in discerning the interrelated nature of project activities and suggests procedures for integrating them effectively. Additionally, the chapters on project implementation in the demonstration final reports provide case study material.)

Recommendations:

- If a given jurisdictional level intends to

initiate large-scale CPTED programming, a special crime prevention unit should be formed (or an existing unit's charter should be amended to establish its purview over CPTED programming).

- Crime prevention units responsible for significant CPTED programming should be attached to the mayor's or county coordinator's office.
- The staff of such units should have diverse skills in the areas of project planning, financial management, citizen participation, as well as in prevention techniques.
- Crime prevention units should have direct access to appropriate leveraging resources (both people and funds).
- The CPTED Program Manual should receive wide dissemination to crime prevention units and to related agencies, such as State, regional, and city planning offices.

C. Implementation May Require Multiple Funding Sources

CPTED programming typically involves strategies derived from law enforcement, social, management, and physical design approaches. Because of this multiplicity of strategies and the typical absence of a large, supportive implementation fund earmarked for CPTED projects, funding strategies must be fairly innovative. CPTED planners may find that various funding sources and programs, public and private, will have to be tapped and integrated. Moreover, they should be prepared for lengthy delays.

In the implementation of the CPTED demonstrations, major funding support was received from Federal agencies. The preparation of funding requests suitable for submission took some 4 months of Consortium assistance and coordination on behalf of the local grantee, while the time lapse from formal submission of the request for funds until their receipt at the local level was about 4 to 6 months. Thus, in the case of demonstration funding, the time required after firm identification of the funding source was close to a year.

When local representatives/decisionmakers commit themselves to a project, it is useful to obtain informal written agreements from them to stave off the competitive pressures for their funds and to ensure that all key people are aware of the agreements and their implications, if changes occur later. In the same vein, it is also useful in the CPTED work plan to identify resources that will match funding needs and requests. This is true even when the "match" is only informally agreed to by the providing agency. The presence of committed or nearly committed resources can be persuasive to other potential funding sources.

Social strategies (e.g., block watch) require the least expenditures and have the most varied potential resources, whereas physical design strategies typically require substantial expenditures that can be provided from a more limited array of sources. In addition, public hearings may be required before authorization can be given to implement physical modifications. For a large CPTED project, it is not unlikely that almost

a year will be required before any substantial physical strategies can be initiated, and the implementation team must actively coordinate and assist in the processing of requests if even that timing is to be achieved. (Sections 4.3 and 6.4 in Volume I of the Program Manual cover funding).

Recommendations:

- Project planners should anticipate that numerous public and private funding sources will have to be identified, lobbied, and dovetailed in developing a credible CPTED work program.
- Before implementation is underway, many, if not all, of the funding questions should be explicated in the final plan.
- Potential funding sources should be listed in the plan, showing a connection between a given strategy and its funding source(s).
- Each potential source should be explored with authoritative local representatives/decision-makers and, once a commitment is made, an informal agreement should be written.
- If the jurisdiction has (or has access to) a lobbyist or public interest group in Washington (e.g., the National League of Cities), the complete funding source list should be coordinated

with it in the hope that additional programs with potential for funds can be identified at the Federal level.

- If appropriate, intergovernmental grant mechanisms should be explored to simplify the grant and coordination procedures. Similar coordination should take place at the State and local levels.

D. Project Planners and Implementers Must Have Ready Access to Community Leaders and Decisionmakers

CPTED projects will require commitments from key individuals in public and private institutions. In any community, there are recognized leaders who may or may not hold any formal political or organizational office. These persons nevertheless can provide vital information concerning existing fiscal, organizational, and human resources. They can identify persons and organizations who represent the various viewpoints and interest groups. Suggestions can be obtained concerning which groups should be directly involved and which should assume a supporting role in the program. Also, their participation can be enlisted in forming and planning the crime prevention effort.

Until a CPTED planning capability is instituted in the community, project leaders will find that they are competing with mainline institutions (such as the public works department) for political and financial support. For example, funds might be available for changing the surface texture of streets and sidewalks in the project area, thus enhancing

territorial feelings among residents and the aesthetic appearance. However, these funds might go towards installing new sewer lines because of the greater leadership visibility of that project. In other words, CPTED projects will require the same basic leadership visibility (and hence the political support) as other ongoing projects that involve multiple agency participation. Implementation can only be facilitated by gaining access to organizational and political leadership. (See Section 4.4 in Volume I of the Program Manual.)

Recommendations:

- Each jurisdiction should ensure that at least one key city (or county or school board) committee, responsible for law enforcement and crime prevention, incorporates CPTED programming in its routine deliberations.
- Other key committees of the jurisdiction (e.g., community development, public works) should be given policy guidance and explanatory briefings about the CPTED implications of their focus.
- A staff position should be assigned to coordinate the activities of different municipal agencies that will be involved in CPTED programming (e.g., police department, city planning department, public works).

- The principal crime prevention planner should build regular communications with key citizen and business leaders to enlist their immediate involvement in a CPTED project and to facilitate linkages between private and public decisionmakers.

E. Site Selection for a CPTED Project is a Key Consideration

There are certain characteristics that will influence the appropriateness of a given area as a project site. Unless these factors (e.g., viable community organizations, crime problem characteristics, ongoing activities and projects) are considered, CPTED planners can expect to experience greater difficulties in reducing crime and fear. Planners must be aware of these issues because of their direct implications concerning program design, funding, execution, and program duration considerations.

Although CPTED projects can be initiated in areas that do not have current attention or focus by the community, the CPTED concept will be most successful when it is introduced into a community that has supportive programs underway or planned or scheduled, or otherwise is a focal point of community interest. For example, the Portland demonstration was integrated with the Union Avenue redevelopment effort, and the Minneapolis demonstration complemented an ongoing public works improvement effort and a neighborhood rehabilitation project initiated with community redevelopment funds. (See Section 4.5 in Volume I of the Program Manual and the chapters on site selection in the demonstration final reports for discussions of site selection criteria.)

Recommendations:

- Site selection consideration should include the following:
  - The types of crime problems at the candidate site should be those that can be alleviated by CPTED (see Section 1.2 in Volume I of the Program Manual).
  - Crime/environment data should be readily accessible, or there should be a commitment to obtaining or generating such data.
  - The potential CPTED project should have strong interest and support from the target community.
  - Supportive programs, such as housing rehabilitation or public services, should be underway or fully committed for the site.
- If a site is selected with a minimum of positive characteristics, primary attention should be given at the outset to eliminating site deficiencies by such means as building a local CPTED constituency, redirecting public funds into the site, or establishing a political priority for the area.
- Planning commitments should be deferred until site characteristics look promising.

F. Specialists Will Be Required

It is important to identify the technical and informational requirements of a given project and to determine the mix of specialized skills that will have to be called upon for the successful implementation of CPTED strategies. Only after this assessment has been completed can management guidelines be developed, optimally coordinating the use of local and outside technical resources. Most local communities involved in CPTED projects will require technical assistance during each phase of the project. In the case of the CPTED Program demonstrations, the technical requirements were drawn from within the Consortium, but few communities or municipalities can access the requisite specialists locally; thus, most must look to State or Federal agencies.

Outside "experts" may encounter resentment and distrust if they seek to impose ideas, however beneficial, on a community. Members of the community may feel that these outsiders do not know the area's particular needs and will not be responsive to local interests. For example, in Minneapolis the residents at first responded negatively to a neighborhood rehabilitation plan presented by the Consortium and the City because it appeared to be a program to displace people. Residents perceived the plan as one for tearing down homes or for undertaking improvement that would result in higher real estate taxes and rents, forcing families to move. Attitudes changed once the consultants convinced area residents that the CPTED approach was entirely consistent with their objectives of both neighborhood stability and improved quality of life. Perhaps more

importantly, the residents came to understand that the responsibility for policy and decisionmaking was to be vested with them. Consortium planners were there only to provide technical assistance and guidance so that participating citizens could use their skills effectively. (See Technical Guideline No. 8.)

Although the research, demonstration, and dissemination activities of the CPTED Program generated hundreds of requests for CPTED technical assistance, the Program offered very limited technical assistance. This was due to both funding limitations and concept limitations, the latter recognizing that knowledge of the effectiveness of many CPTED strategies was embryonic.

With the completion of the demonstration evaluations and the development and refinement of research products, the CPTED Program now has an established base of knowledge that is suitable for a technical assistance activity. This is very timely, given that Congress has created a Community Anti-Crime Program to provide resources for local citizens and communities to combat crime through a variety of crime prevention activities, including CPTED projects. This program will create a nationwide need to provide crime prevention technical assistance to a host of grantees.

Recommendations:

- New Federal crime prevention initiatives should include a nationwide technical assistance component for the following needs:
  - Guidance on crime/environment analytic techniques for empirically defining the nature and severity of problems.

- Development and refinement of specific crime prevention strategies within the context of site-specific problems.
- Establishment of crime prevention planning and coordination mechanisms, including organizing community, business, and law enforcement components.
- Establishment of appropriate project monitoring and evaluation procedures.
- Guidance on crime prevention project implementation, including a management strategy detailing local participation.
- Provision of state-of-the-art materials and the training of users in their application to different crime prevention projects.

- TA specialists should enlist the aid of community members. The specialists should provide consultation and also support the objective of making the program and its participants self-reliant.
- TA specialists should be used for CPTED capacity-building activities for local staff. Workshops and training sessions should be used to accomplish this.

- Once a program plan has been developed, TA Specialists should withdraw, allowing local participants to maintain project activities on a day-to-day basis.

G. Evaluation is an Essential Component

Evaluation is a systematic process for assessing the degree of success in achieving preestablished objectives. Hence, the planning process should require the: Formulation of objectives; identification of appropriate measurement criteria; documentation of what physical, social, and institutional changes were implemented; documentation of how they were implemented; assessment of the impact produced by the changes; and the formulation of recommendations.

Baseline data can be used to determine several factors: Which strategies are applicable to other parts of the community; whether strategies need to be modified during the course of the project; whether there has been a change from baseline conditions that will confound the assessment of the effectiveness of the CPTED project, as a whole, or individual strategies; and whether the specified goals and objectives are being achieved (i.e., is there a significant reduction in crime and the fear of crime in the target environment?). At each of the three demonstration sites, three key issues were addressed with more or less success.

The first concerned whether the project was designed effectively (i.e., were the environmental intervention plans consistent with both the CPTED theoretical framework and the site's crime and fear problems?). The chief difficulty with answering this question is that the CPTED approach

is so broad and its theoretical foundation so incipient that virtually any planned crime prevention activity can be considered part of CPTED. Thus, the question arises, are youth employment programs or Cash-Off-The-Streets programs proper CPTED strategies? To date, the issue of project scope is open.

The second issue addressed is whether the implemented strategies adequately represent the demonstration plan. The problem for the evaluators is to determine whether the objectives for the implementation of strategies, once established, were in fact achieved. A related issue concerns just how far a given CPTED strategy can be carried before social norms are violated. With surveillance strategies, for example, there is always the risk of unintended intrusion into the private territories of nonoffenders.

The final issue was whether the implemented strategies had, individually or collectively, achieved project objectives. For every project objective, there needs to be a series of measures linking the stated objectives to observed or recorded activities. Cause-and-effect inferences must be articulated clearly so that they can be adequately tested. Meaningful tests demand complex and well-controlled research designs.

Planners will have to decide who will perform the evaluation. Basically, this becomes a choice between an inside and an outside evaluation (i.e., an evaluation conducted by persons within the project implementation agency or one conducted by a group that has no affiliation with the agency). As learned in the CPTED Program demonstrations, inside evaluators have the advantage of being thoroughly familiar with CPTED principles and

applications, and project planners can feel more confident about their understanding of the dynamics involved. Inside evaluators also are better able to provide data for leveraging additional funds as the CPTED concept becomes institutionalized. In Portland, for example, even though the LEAA Lighting and Nighttime Deterrence Grant ended City officials continued to allocate funds supporting the Security Advisory Program because of encouraging preliminary findings. The chief drawback to internal evaluation is that, because of their involvement in the projects, inside evaluators may be susceptible to pressures to make the project look like a success. Even if the evaluators remain objective, their recommendations may not carry so much clout as those of outside evaluators because of possible biases. In spite of these difficulties, however, crime prevention units overseeing CPTED projects can successfully incorporate an in-house evaluation capability to monitor projects, thereby helping to improve implementation procedures, reallocate funds, or redefine project objectives. Evaluation cannot be effectively conducted in isolation from the planning team, the implementers of the CPTED design plan, or the agency or organization running the project. (See Appendix D to Volume III [Analytic Methods Handbook] of the Program Manual, Technical Guideline 6, and the chapters on project evaluation in the demonstration final reports).

Recommendations:

- Planning for an evaluation should begin at the time that planning commences for the CPTED project itself

(i.e., when policymakers and planners consider adopting a CPTED approach to crime control and fear reduction). At that time, expectations clearly can be identified and established.

- Evaluation reports should be prepared on a regular basis. They should furnish information on the system process, system costs and, if possible, system results.
- Community participants also should provide periodic reports to the evaluators regarding their assessments, changes in the baseline conditions, and other variables that may impact the evaluation plan.
- The project planning team constantly should reevaluate strategies and refine, amend, or change them, depending upon their effectiveness in achieving the established goals and objectives.

H. Unresolved Theoretical Issues Can Present Dilemmas for CPTED Planners

With respect to advancing the CPTED state-of-the-art, the Program's research activities introduced and clarifed a number of questions calling for further refinement and solid answers. The Program Manual and Technical Guidelines attempted to provide the best information available, together with qualifications or indicators of areas where current knowledge is

questionable or lacking. However, there are several issues that greatly could benefit from additional research. As noted in Section 4.A, there are four issues that, left unresolved, will continue to create dilemmas for CPTED planners: Definition of the CPTED purview, the relationship between crime and fear of crime within the model, the lack of evidence regarding the effectiveness of many individual strategies, and the potential for crime displacement.

The first of these issues is important with respect to circumscribing the domain of CPTED strategies. This concerns the interdependent objectives of first, reducing crime and fear, and, then, of improving the quality of life. The question is the extent to which the conceptual approach should involve social as well as physical improvement programs. An example is the conversion of empty lots into neighborhood parks. As a byproduct, there may be positive influences on crime and residents' feelings of safety. On the other hand, while successful in serving a number of neighborhood functions, the park may have no demonstrable effect on crime or fear. It is presently thought that CPTED knowledge should be incorporated into efforts to beautify neighborhoods, develop recreation facilities, and improve transportation services, as well as other quality-of-life issues that relate to crime prevention, even if such projects relate only tangentially to crime concerns. It would also seem reasonable to involve CPTED in new communities or locales where crime may be a problem in the future. This would also be consistent with the concept of "prevention."

The second issue, concerning the relationship of crime reduction to fear reduction, stems from the observation that some CPTED strategies may be double-edged. Once institutionalized, they may function to reinforce fear rather than reduce it. Target-hardening tactics may increase one's sense of security when inside the "hardened" environment, but this approach also might heighten one's sense of danger when outside that environment. The possible drawback to CPTED planners is that focusing on the security of the home may present a hindrance to encouraging more positive environmental attitudes. If this is the case, it is important to establish under what crime/environment conditions certain CPTED strategies may be counterproductive.

CPTED strategies also may benefit the community by reducing fear but with no effect on victimization rates. Unfortunately, there is little known about the positive or negative psychological effects of crime prevention programs. It may be found at a later time that particular strategies are justified in the sense that they further encourage people to use community resources, in spite of an unchanged crime situation.

The third issue, strategy effectiveness, concerns the validity of activity support and motivation reinforcement principles. Perhaps the most effective CPTED mechanisms are access control via physical means (e.g., locks, fences) and organized surveillance (security guards, block watch programs). CPTED may be on less firm ground for arguing the validity of approaches aimed at fostering social cohesiveness and defensive territorial attitudes. A basic assumption is that physical change can promote social

cohesion. While there are a number of studies relating social interaction behavior to physical design, none to date has shown that social cohesion is affected positively or negatively by physical change when the *same* population is involved before and after the changes. In other words, once social relationships are formed within a community, altering the physical configuration of that community may not affect the way people continue to relate to each other.

What makes this situation even more difficult for CPTED planners is that only marginal physical changes are likely in the sense that erecting physical or psychological barriers, for example, is not so significant a change as altering the form and positioning of buildings. Closing streets, constructing a small park, or redesigning alleyways in a neighborhood essentially are marginal changes in terms of affecting basic social propensities.

The final issue is displacement. If CPTED projects are limited to geographically bounded communities, the question arises whether a local team should concern itself with what happens outside of that community. If it should, then to what extent? On the one hand, CPTED strategists should be aware of displacement possibilities in all its forms, not just geographic, when designing anticrime solutions. However, the CPTED approach is not a total prevention program; it purposely limits itself to geographically bounded environments and addresses a limited range of crime problems. (See Appendix B in Volume III of the Program Manual for a more extensive discussion of state-of-the-art issues).

To provide an indication of the types of research projects that would explain the effects of CPTED strategies on crime and fear, generate hypotheses for further research, and effectively direct the efforts of those agencies engaged in crime prevention, four examples of recommended studies are presented, representing only a few of the many possibilities.

Recommendations:

- Determine the Etiology of the Fear of Crime:
  - Collect data from a large number of urban neighborhoods to determine normative standards on the relationship between crime rates and levels of fear.
  - Isolate communities with average crime rates but high fear levels, and identify the environmental factors that account for these discrepancies.
  - Apply the findings to large-scale urban rehabilitation or Federally assisted developments to demonstrate and evaluate the impact of environmental planning on fear of crime.
- Research Approaches for Establishing Proprietary Attitudes in Urban Settings:
  - Continue to review and integrate the emerging literature on CPTED-related residential and nonresidential areas.

- Develop new approaches to establishing proprietary attitudes among users in high-density residential and commercial environments (such as designing community outdoor play areas, murals, spaces that serve diverse but compatible functions; and establishing residences in public buildings).
- Develop and implement a demonstration and evaluation program to test concepts in different types of mixed public and residential environments.

- Develop Environmental Correlates of Effective Citizen Anticrime Behavior:
  - Develop valid measures of specific behaviors involved in citizen anticrime activity (e.g., different facets of intervention behavior, crime reporting, cooperation with police).
  - Define a sample of environments (such as housing developments or residential areas), and obtain data on these measures, together with data on a host of potential predictor variables (relating to social cohesion, environmental design, community organization, etc.) for each selected environment.

- Analyze the data to identify variables that encourage specific anticrime behaviors.
- Test findings by manipulating these factors and examining the influence on behavior and crime in a demonstration project.

- Study Techniques for Improving Citizen Participation:
  - Continue to review literature on citizen participation in community improvement programs in general and community anticrime projects in particular.
  - Identify factors associated with active and widespread citizen participation behavior and with successful community organizations.
  - Develop and apply a citizen involvement model to existing community organizations or programs, or use the model to initiate and design a community anticrime project.
  - Evaluate the model and its impact on resident participation behavior, crime, attitudes, and community spirit.

END