

CPTED

A Tool for Urban Neighborhood Revitalization

January 1978



Westinghouse National Issues Center
Arlington, Virginia 22202

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1. INTRODUCTION

Within the past 20 years, increasing attention has been given to the role of the man-made environment in creating opportunities for criminal behavior. It is clear that a host of environmental factors influence the creation of fear and the nature and circumstances of a wide variety of criminal events. Programs looking at how the environment, the criminal, and the victim interact have been developed under the labels of Defensible Space, Comprehensive Security Planning, Environmental Vulnerability, Turf Reclamation, and Crime Prevention Through Environmental Design (CPTED). This last program, Crime Prevention Through Environmental Design, has emerged as the most comprehensive and viable approach to the analysis and design of environmentally based solutions to crime and fear while, at the same time, preserving the quality of life in the affected environments.

The CPTED Program has been developed, refined, and (to a real degree) institutionalized over the course of the four-year (1974-1978), multimillion-dollar program* sponsored by the National Institute of Law Enforcement and Criminal Justice (NILECJ), the research office of the Law Enforcement Assistance Administration. The Westinghouse National Issues Center is leading this effort with the assistance of a large and diverse consortium of firms and individual consultants. The scope of the effort has been nationwide, including major thrusts in the areas of research, demonstration, information dissemination, and technical assistance.

As the research and demonstration efforts are coming to a close under current NILECJ funding, the question is posed: What is the potential for maximizing the benefits from the technology, skills, and resources created under the auspices of Crime Prevention Through Environmental Design? A variety of products, techniques, and guidelines have been developed, based on the empirical foundation of demonstrations and companion research and technical assistance activities in several communities across the country. A major potential seen for CPTED is as a tool for urban neighborhood revitalization, throughout the Nation. The application of CPTED is proposed, in this paper, as a compelling instrument to effect the restoration of confidence and safety in our urban communities.

*The CPTED Program conducted by Westinghouse did not include the funding needed for the demonstration sites to implement the demonstrations. Rather, Westinghouse assistance to the demonstration sites included grant development and other funds leveraging activities to help the sites secure implementation funding.

The following sections detail the historical precedents of the CPTED Program, proceeding then to describe the major facets of the four-year Westinghouse effort. The concluding section offers an action and research agenda for further Federal initiatives.

1.1 The CPTED Concept

The Crime Prevention Through Environmental Design (CPTED) concept highlights the interaction between human behavior and the physical environment in the battle against crime. The two basic aims of CPTED are, first, to reduce opportunities for crime that often are inherent in the structure of buildings and the layout of neighborhoods and, second, to promote changes in attitudes among the population at risk. By reducing the apparent opportunity for crime, people should be less fearful of moving freely about their environment. The assumption underlying these aims is that physical changes can have their maximum impact on crime and the fear of crime only when the user population actively supports and maintains the changes and aids in the detection and reporting of crimes.

1.2 Background of CPTED

Although CPTED is a relatively new concept, the elements that comprise it are not new. They are perhaps as old as the discovery that human behavior and perceptions are influenced by the environment. However, interest in the relationship between physical design and crime has been stimulated by ideas presented by more contemporary investigators. In the 1960's, concern about the detrimental effect of urban renewal programs led many to study the psychic and social costs of rebuilding environments, particularly with respect to a diminished sense of security among residents. Elizabeth Wood studied public housing projects and emphasized the importance of physical design in allowing residents to exercise control over their environment. She supported designing for natural surveillance by residents through visible identification of a family and its home, and through enhanced visibility of public spaces.

Oscar Newman supported Wood's ideas by showing that physical design features of public housing affect the rates of resident victimization. These design features included building heights, number of apartments sharing a common hallway, lobby visibility, entrance design, and site layout. His 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 development of defensible space design principles for housing complexes.

Jane Jacobs applied many of these same design principles to urban planning. In her view, the essentials for crime prevention were a sense of community cohesion, feelings of territoriality, and responsibility for one's "turf." Continuous street surveillance would be a

natural byproduct of residents' and shopkeepers' desire to control the nature of use and treatment of their environment. She further contended that neighborhood land uses should be more diversified to create more opportunities for natural surveillance and encourage the development of stronger social control networks.

Since then, several people have focused on urban design and crime. Shlomo Angel, for example, developed the critical-intensity-zone hypothesis: Public areas become unsafe not when there are either few or many potential victims present but when there are just enough people on the scene to attract the attention of potential offenders, but not enough people for surveillance of the areas. He suggested alteration of physical configuration to concentrate pedestrian circulation and, thereby, eliminate critical intensity zones.

In the early 1970's, criminologists such as C. Ray Jeffery and Thomas Reppetto became more focused on the role of the physical environment in fostering or discouraging crime. Jeffery pointed to the need for more research on the relationship between crime and the environment, and Reppetto concluded in his study of residential crime that future research should be directed towards the development of a crime prevention model that would blend together the deterrent effects of the criminal justice system and citizens' anticrime efforts. He suggested that improved environmental design might be the most effective way.

1.2.1 Evolution of the CPTED Concept

Following the creation of the National Institute of Law Enforcement and Criminal Justice (NILECJ) in 1969, under which the Westinghouse CPTED Program is being administered, a number of events and projects occurred that contributed to the evolution of the CPTED concept. A chronology of the major developments is given below.

In 1969, the U. S. Senate Select Committee on Small Business began the investigation of Crimes Against Small Business, which influenced the course of target hardening, crime insurance, and police patrol for the next five years. In 1970, NILECJ funded six major studies that began the integration of the CPTED-related areas of target hardening, architectural and city planning design, and community cohesion.

In 1971, the ideas of Jacobs and Newman were expanded upon in the Rand reports, Public Safety in Urban Dwellings, and Vertical Policing Programs for Highrise Housing, respectively. At the same time, HUD initiated its Federal Crime Insurance Program and NILECJ developed Minimum Building Security Guidelines. In 1972, significant publications and reports included Newman's Defensible Space, NILECJ's Architectural Design for Crime Prevention, Harry Scarr's Patterns of Burglary, and Rand Corporation's Private Police in the United States. The HUD/LEAA interagency committee on Security in Public Housing was also formed.

In 1973, the CPTED approach crystalized with the announcement of NILECJ's intention to inaugurate comprehensive CPTED programs in residential, transportation, public schools, and commercial environments. Additional data and theory contributing to the CPTED framework came from five major NILECJ-supported reports concerning Robbery (Feeney), Burglary (Part II, Scarr), Street Crime (Malt), Urban Housing (Repetto), and Residential Security (Sagaly). Related developments included HUD's conference on security in housing, and Newman's publication, Residential Security.

Finally, as the Westinghouse Consortium began the NILECJ CPTED Program in 1974, project evaluations of the Kansas City streetlighting program indicated successful results; the Hartford CPTED program was pushing forward; and Newman's Design Directives for Achieving Defensible Space was completed.

A number of projects continue to build on the HUD-supported work of Newman. For example, Richard Gardiner expanded Newman's concepts to neighborhood-scale areas using an approach called Environmental Security Planning. This approach integrates defensible space concepts and security planning in general into land use planning. William Brill developed the notion of "environmental vulnerability" to crime in local housing authority projects through a series of empirical investigations. His crime/environment analysis assessed physical and social factors, environmental management and community organization techniques, residents' attitudes about crime and self-reported behavioral adjustments, and the relationship between fear levels and reported crime rates. And Seymour Rosenthal has developed a more socially based approach to neighborhood security, which he termed Turf Reclamation, in which an individual trained in community organization and group interactions works with both the police and residents to increase neighborhood cohesion, police cooperation, and resident confidence restoration.

2. THE CPTED PROJECTS

CPTED projects are currently under way across the country, testing various strategies and applications of the crime prevention concept. The following sections examine a number of these projects, in particular, the Westinghouse demonstration projects. These projects are examined in terms of objectives, criteria, and strategies actually implemented. A brief summary of the theoretical background for the CPTED strategies is also presented, as well as the framework for implementing and evaluating the CPTED Program.

2.1 LEAA/Westinghouse CPTED Research and Demonstration Program

In 1974, a major exploration of techniques for Crime Prevention Through Environmental Design was initiated with an award to a consortium of firms headed by the Westinghouse Electric Corporation. The consortium organizations represented a broad range of public and private interests, and contributed an equally broad range of skills and experience to the effort. A partial organizational list includes:

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

In addition, a number of key consultants were involved almost continuously in the first two years' CPTED activities. A partial list, with disciplines represented in parentheses, includes:

Thomas Reppetto (Police Science, Sociology, Public Administration)
James Tien (Systems Analysis)
Larry Bell (Architecture, Industrial Design, Urban Planning)
John Zeisel (Sociology, School Security Design)
Richard Gardiner (Architecture, Urban Design)
W. Anthony Wiles (Urban Planning)
Charles Wellford (Criminology, Sociology)
W. Victor Rouse (Urban Planning)
George Rand (Psychology, Urban Planning)

The overall purpose for the two-year, \$2-million effort was to demonstrate the usefulness of defensible space concepts in several areas through large scale demonstration and evaluation projects in schools, residential, commercial, and transportation environments. Research and dissemination activities were to play major roles throughout.

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

- To modify and expand the concept of defensible space, tailoring the concepts for the unique characteristics of the four environments.
- To select appropriate and cooperative local demonstration sites for each environment (the NILECJ mandate deliberately precluded the involvement of Federally-assisted housing developments as CPTED demonstrations since Newman and others had focused on these environments).
- To develop general strategies for each environment and specific plans for each demonstration.
- To support the implementation of two demonstration plans and initiate an evaluation process for each.

The Program concentrated upon predatory offenses against persons (criminal homicide, forcible rape, robbery, and assault) and property (burglary, auto theft, larceny, and vandalism).

The expectations for the CPTED Program during its first two years were overly optimistic. Early in the effort, it became obvious that the amount of scientific knowledge upon which the Program could be based was inadequate. Indeed, similar conclusions were being drawn at about the same time by others working in the field (e.g., Reppetto, Gardiner, and Jeffery).

The Westinghouse project team found the concept of defensible space, as defined in Newman's early work, to be too limited in scope for direct application in each of the four Program environments (Newman himself was beginning to seek ways to go beyond the narrow focus of his earlier work). The degree to which physical design alone could be expected to generate strong proprietary attitudes in users of public environments was very questionable. For example, no design directives existed that could be used to develop territorial feelings in the thousands of individuals briefly passing through a subway station.

When the limitations of the defensible space concept became understood, NILECJ directed the project team to develop an expanded and more comprehensive approach that would be more responsive and useful in a variety of environments. Through this effort, the CPTED concept of crime/environment analysis, comprehensive planning, and community involvement evolved. In this process, the transportation environment was dropped from further consideration as a separate demonstration site, although strategies focused on that environment were incorporated in the plans for the other demonstration projects.

There now was a more realistic assessment of what could be accomplished during the two-year program. As a result of that assessment and a recognition of the merit of the work that had been accomplished in the period 1974-1976, NILECJ awarded Westinghouse a second two-year, \$2-million contract to carry the CPTED Program through July 1978.

2.1.1 The Demonstrations

Working closely with the research team, the consortium's demonstration team began to seek qualified sites in which to install demonstrations as the preliminary CPTED framework unfolded. Those considered resembled the idealized experimental models proposed by the research team and were successively filtered with the following criteria:

- Willingness of the local government, law enforcement agencies, and residential/business/school communities to participate.
- Local planning and implementation sources.
- 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.

The following jurisdictions were visited for data collection and demonstration site consideration:

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

Three sites were chosen that met the criteria: Portland, Oregon (commercial); Broward County, Florida (schools); and Minneapolis, Minnesota (residential). Brief descriptions of the sites follow. Subsequent subsections delineate the linkages between the CPTED concept and the demonstration strategies, the planning and implementation framework through which the strategies were actualized, and the evaluation methods to be used in each project.

2.1.1.1 Commercial Environment Demonstration

The Union Avenue Corridor in Portland, Oregon, was selected as the site for the commercial demonstration. The demonstration area runs along Union Avenue for 50 blocks and includes 2 blocks on each side of the strip. Land use is mixed, with a large proportion of residential properties bordering the commercial establishments. 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. The demonstration project addresses assault, robbery, burglary, pursesnatch, and the fear of crime. There are, in addition, other programs into which CPTED principles have been incorporated by local planners that may not be implemented for several years.

The crime prevention strategies integrate physical and urban design, citizen and business community, management, and law enforcement components. Some of the key strategies are:

- Safe Streets for People -- Provides outdoor lighting and sidewalk and landscaping improvements.
- Corridor Promotion -- Residents and frequenters of the corridor have participated in neighborhood clean-ups and Sunday markets.
- Transportation Service -- Specially designed bus shelters incorporate such crime prevention features as high visibility and adequate lighting; special bus service is provided for the elderly and the handicapped.
- Security Advisor Services -- Target-hardening surveys and recommendations have been provided to commercial establishments and residences.

Strategy implementation began in January 1976 and is presently continuing. The final evaluation report will be completed in March 1978. There are a number of preliminary indications of positive impact:

In the spring of 1977, interviews with corridor business people found that more than half had increased sales in the last two years and that 90 percent of them had no intention of relocating in the near future. In part, this turnaround could be attributed to police security surveys. A total of 210 surveys (including 176 businesses) were conducted along the corridor. Follow-up work showed that by March of 1977, roughly 55 percent of the businesses were in complete or partial compliance with the survey recommendations. In the first 10 months of 1976, there was a 29 percent reduction in commercial burglaries on Union Avenue, compared to a 9 percent reduction for the city as a whole. This reduction carried over into the first quarter of 1977, at which time a sharp decline, 61 percent, was registered. (Caution should be used in crediting this reduction solely to the building surveys or in assuming such a decrease will continue, because of the limited time period on which these findings were based.)

Renovations of existing businesses and the opening of new ones are additional indications of a reverse in the decline of the avenue. For example, approximately 20 new businesses have opened in the last year, and the Salvation Army is spending \$250,000 to renovate its facility.

CPTED impacts can be seen in surrounding residential areas of Portland as well. The Portland Crime Prevention Bureau used HUD 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, neighborhood cooperation being another and perhaps a more important element. This illustrates a basic principle of CPTED, the integration of a variety of services and agencies into a comprehensive program of crime prevention that minimizes cost and maximizes effectiveness.

2.1.1.2 Schools Environment Demonstration

Four public high schools in Broward County, Florida, are the sites for the schools demonstration. The Broward County School System is large (140,000 enrollment -- the 12th largest in the country), essentially suburban, and generally representative of many systems around the country. There are 20 high schools in the system, with about 2,000 students per school. Students are bused to maintain an approximate 1-to-4 black-to-white ratio in each school.

Crime/environment analyses for assault, breaking-and-entering, theft, and vandalism indicated four major high-crime locations: Parking lots, school grounds, classrooms, and lockers. 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.

School environments, because of numerous opportunities for natural surveillance and access control, represent responsive sites for CPTED programming. In contrast to traditional fortress-like 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 propensity for criminal behavior. Key strategies developed for the schools environment demonstration include the following:

- Mini-Plaza Construction -- Little-used courtyards were transformed into attractive mini-plazas to draw informal social activities away from unsafe and unsupervised areas.
- Improved Security Communication -- Portable two-way radios were provided to key school personnel.

- Redesign of Fear-Producing Enclosures -- Doors to restrooms are now locked open (while ante-room barriers maintain privacy) to make surveillance easier.
- Parking Lot and Bicycle Compound Surveillance and Safe Activity Proximity -- Student patrols were initiated and compounds relocated in areas where routine school activities provide natural surveillance.

Implementation of the strategies began in September 1976 and was completed in January 1978. The evaluation report will be completed in July 1978. Preliminary indications of positive impact have already been noted:

Defacing of walls has decreased in corridors where student-painted murals were part of the CPTED project. The two-way radios have enabled the apprehension of at least one violent criminal suspect who otherwise might have escaped. Students now voice less concern about the restrooms. Significantly, administrators state that students are more likely to report crimes now because of their confidence that reports will not be ignored.

2.1.1.3 Residential Environment Demonstration

The Willard-Homewood neighborhood in Minneapolis, Minnesota, was selected as the site for the residential demonstration. It is an inner-ring residential neighborhood, which is defined as a predominantly residential area, located within city boundaries, usually near the central area of the city but which exhibits many of the physical and design characteristics of suburban areas. Willard-Homewood contains primarily single-family dwellings, a significant burglary problem, and an increasing rate of person-to-person crimes such as assault and robbery.

The area contains approximately 140 blocks, covers over 427 acres, and has 2,884 parcels of land. The land use characteristics are as follows:

- Sixty-two percent single-family residences.
- Twenty-three percent duplex residences.
- Fifteen percent commercial establishments, parks, schools, and similar uses.

During the period 1960-70, the population of the neighborhood remained fairly constant at around 9,000 persons. However, the percentage of black families increased with a concomitant decrease in persons over 55 years of age. The education and median income levels were lower than the average for the city.

Two additional inner-ring neighborhoods, Lowry Hill East and Hawthorne, have been added to the Minneapolis demonstration as an expansion of the NILECJ/Westinghouse program. Unlike Willard-Homewood, neither has a significant minority population. Lowry Hill East is mainly young, single, and transient. The area is one of the most densely settled in the city, with a population of just under 8,000, 36 percent of whom are between the ages of 18 and 24. Lowry Hill East is characterized by large, older houses and new and old 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 neighborhood is made up of many families with children, 23 percent of which are on AFDC. Twenty-two percent of the residents are 62 years or older.

The CPTED demonstration plan for Willard-Homewood focused on three target scales within the neighborhood: The individual dwelling unit, site/block, and neighborhood.

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

- Dwelling Unit:
 - Target hardening.
 - Design modification.
- Block:
 - Housing rehabilitation.
 - Alleyway modification.
 - Housesitting.
 - Alleyway patrol.
 - Block watch.
- Neighborhood:
 - Neighborhood identity.
 - Neighborhood councils.
 - Social programs.

Common features among the three neighborhoods are the home and business security surveys conducted by police and a neighborhood coordinator with one or two aides to staff the programs. One of the features of the Minneapolis program is the system for coordinating city and neighborhood proposed in the Willard-Homewood demonstration plan and the attempt to build upon what already exists in each neighborhood. Existing residential and business groups have been encouraged to participate in CPTED activities and new local organizations have been formed.

Strategy implementation began in May 1977 and continues to the present. A preliminary evaluation report will be available in May 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.

2.1.1.4 CPTED Strategies

The primary emphasis of the CPTED approach is on natural strategies (or solutions) that are designed to reinforce desirable existing activities, eliminate undesirable activities, create new activities, or to otherwise support desirable use patterns so that crime prevention becomes an integral part of the specified environment. There are four operating hypotheses that provide the underlying rationale for all CPTED implementation strategies. They are: Access control, surveillance, activity support, and motivation reinforcement.

Access control strategies focus on decreasing criminal opportunity by keeping unauthorized persons out of a particular locale. 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 can also be achieved by the creation of psychological barriers, such as signs, parkways, hedges -- in short, anything that announces the integrity and uniqueness of an area.

The primary aim of *surveillance* strategies 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). In some 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 of ownership and territorial concern to legitimate users.

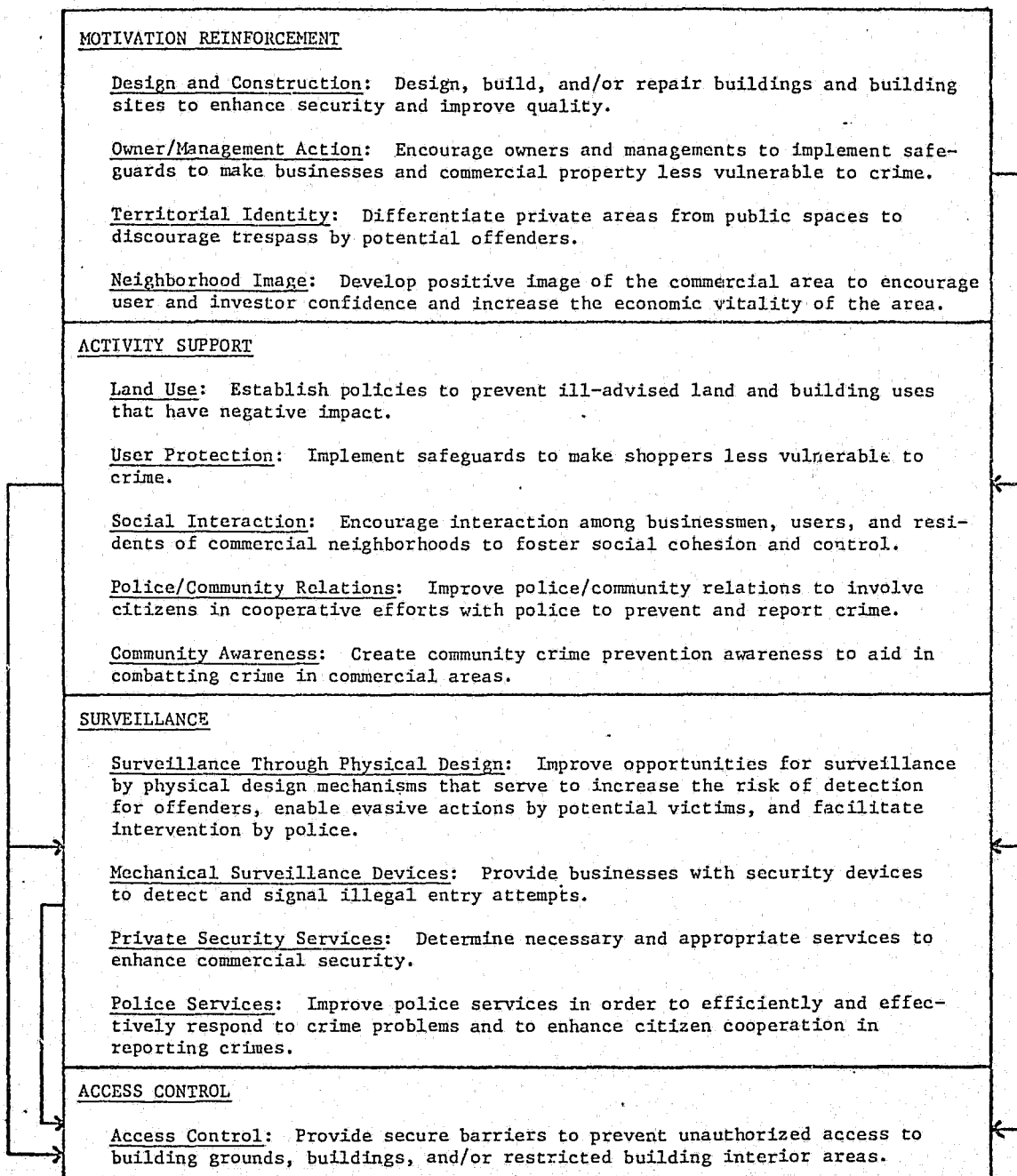
Activity support involves strategies for reinforcing existing or new activities as a means of making effective use of the built environment. This is based on the observation that, in a given community, there are often resources and activities capable of sustaining constructive community crime prevention. Support of these activities is hypothesized to bring a vital and coalescing improvement to a given community and result in a reduction of the vulnerable social and physical elements that permit criminal intrusions.

In contrast to access control and surveillance strategies, which concentrate on making offenders' operations more difficult, *motivation reinforcement* strategies seek to affect offender motivation and, hence, behavior relative to the designed environment by increasing the perceived risk of apprehension and by reducing the criminal payoff. These strategies also seek to positively reinforce the motivation of citizens in general to play a more active prevention role by enhancing the community's identity and image.

Territorial concern, social cohesion, and a general sense of security can result from strategies that alter the scale of a large, impersonal environment to create one that is smaller and more personalized. They also can result from improvements in the quality of an environment by such measures as upgrading the housing stock, the school facilities, or the interiors of subway cars; organizing occupants; or changing management policy. These strategies can improve not only the image the population has of itself and its domain but also the projection of that image to others. The definition and raising of standards and expectations are hypothesized to decrease social estrangement as well as the motivation for criminal behavior.

The four key operating hypotheses provided the basis for specifying project objectives for each of the demonstration environments (see Figures 2-1 through 2-3). In turn, the objectives provide the basis for the selection of strategies. Although they cannot be neatly categorized because many strategies include a combination of approaches, the strategy selection process is simplified by the use of the following frame of reference:

- Physical Strategies -- Create, eliminate, or alter physical features that affect criminal actions, for example, by providing



The four key hypotheses are not mutually exclusive. Surveillance objectives also serve to control access; activity support involves surveillance; and motivation reinforcement provides support for the other three hypotheses.

Figure 2-1. Relationship of Commercial Environment Objectives to CPTED Operating Hypotheses

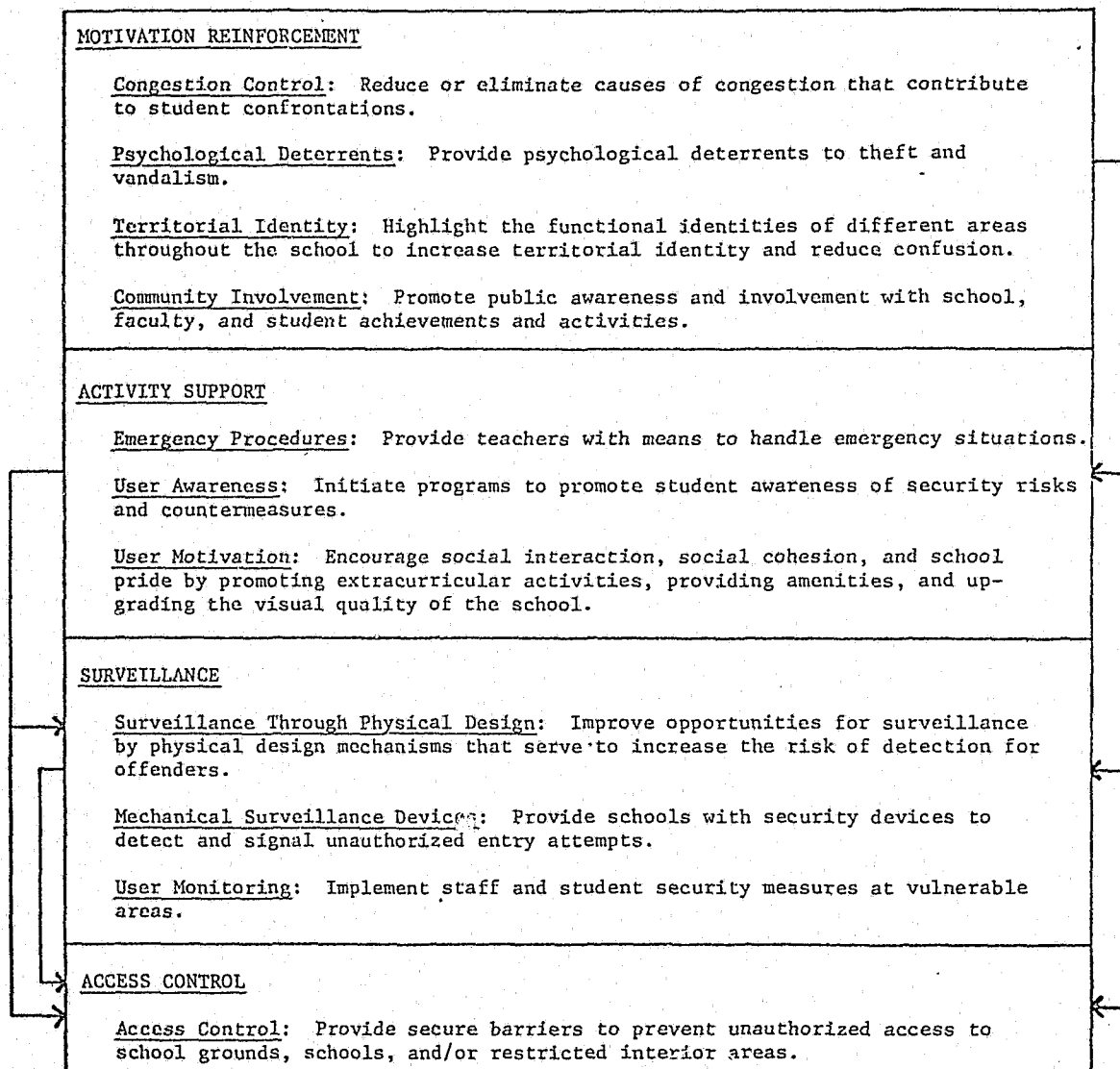


Figure 2-2. Relationship of Schools Environment Objectives to CPTED Operating Hypotheses

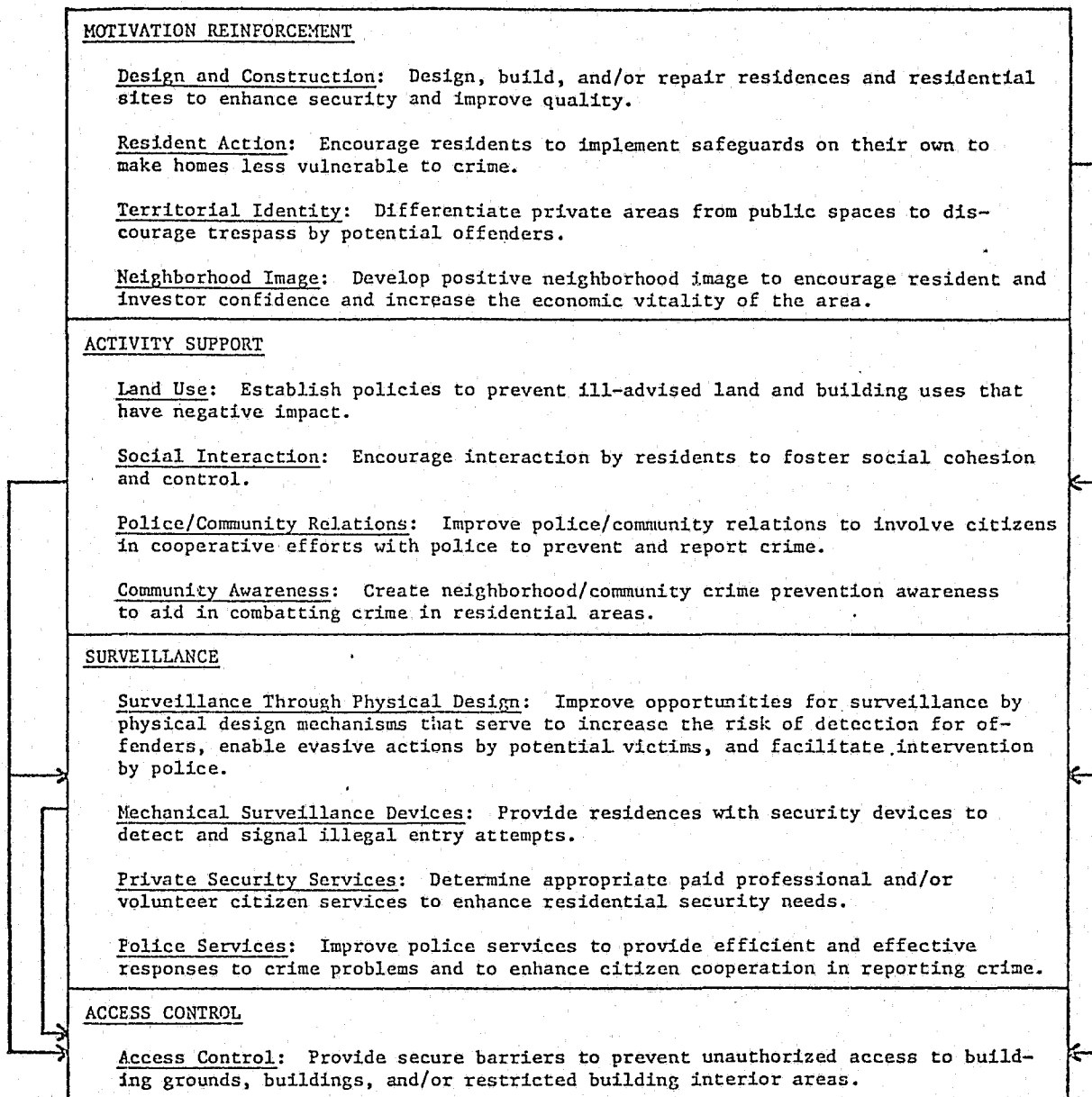


Figure 2-3. Relationship of Residential Environment Objectives to CPTED Operating Hypotheses

special barriers to impede undetected access. This could be achieved by installing grilles on ground floor windows, cutting down concealing shrubs, and erecting high fences.

- Social Strategies -- Create interactions among individuals. An example is to involve neighborhood residents in crime prevention programs. This could include establishing neighborhood watch activities, holding seminars on how to reduce individual vulnerability to crime, and increasing police/community cooperation programs.
- Management Strategies -- Have a policy and practice thrust. One management strategy is to amend zoning ordinances to reduce the vulnerability of structures to burglary by establishing minimum security standards. Management strategies also include those that affect the economy, with the assumption that improving income levels, employment rates, and the quality of the physical environment (via monetary inputs) will ameliorate crime problems.
- Law Enforcement Strategies -- Concern both public police support and private security forces. One strategy in this category is to increase police patrol in a high-crime-rate area, while another involves hiring private security guards to patrol particular blocks, building sites, or buildings.

2.1.1.5 The Planning and Implementation Framework

The CPTED planning and implementation process was organized into four phases: Policy Determination, Project Initiation and Organization, Project Planning, and Project Implementation (see Figure 2-4). Each phase of the CPTED planning process can be viewed as a major decision point. The Policy Determination phase determines the applicability of CPTED concepts to local issues and concerns. If CPTED is applicable, local planners and decisionmakers must specify the objectives and scope of the CPTED project, determine the location and size of the project site, accomplish major organizational requirements (such as determining citizen participation and project management, evaluating available resources).

The Project Initiation and Organization phase defines key problems and issues for analysis, defines project objectives and requirements, organizes the project planning team and its operating procedures, identifies community interests, and develops the overall work program and schedule.



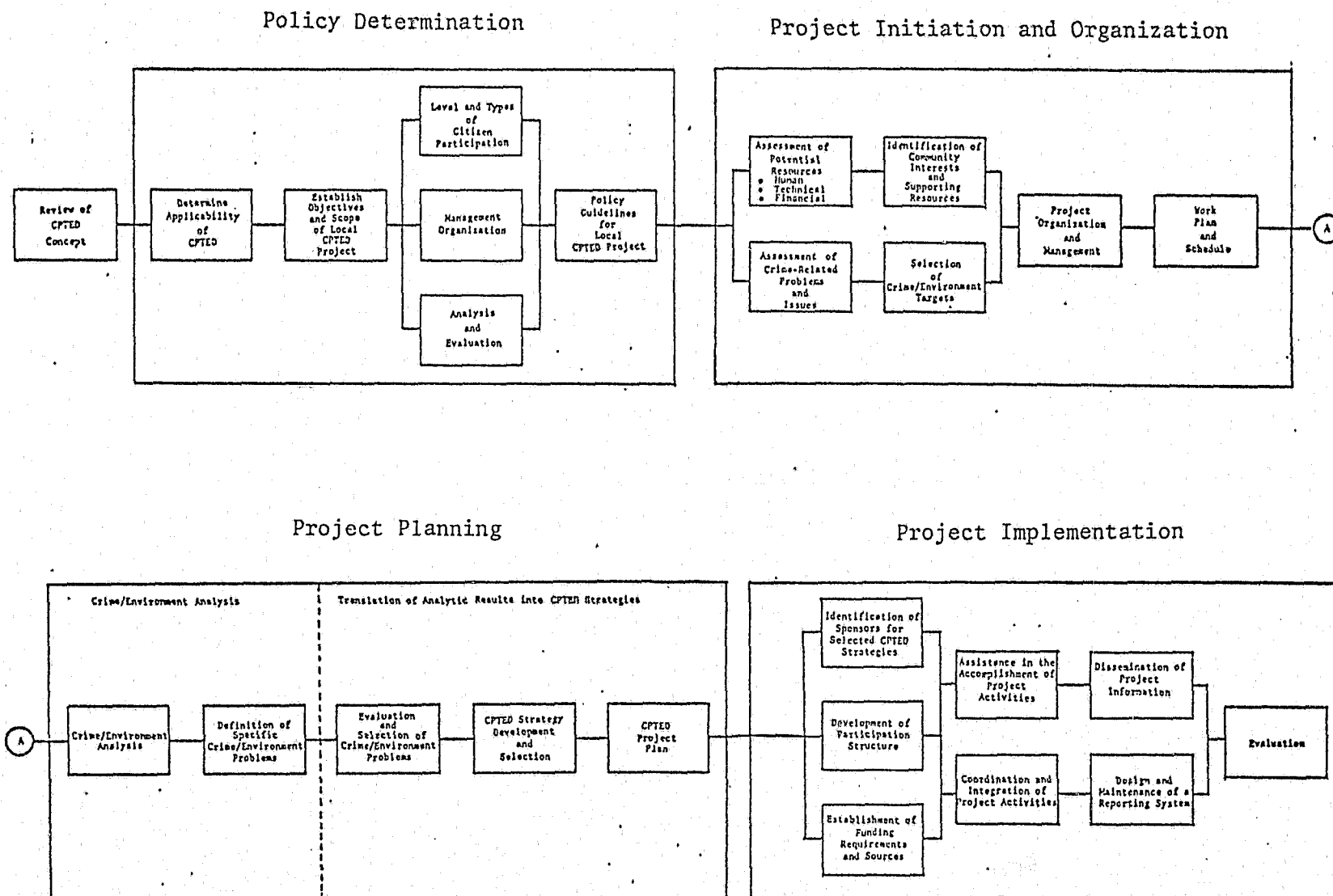


Figure 2-4. CPTED Planning and Implementation Process

The *Project Planning* phase includes a series of analyses that define the crime and fear-inducing locations to a point where they can be treated by CPTED, and it provides insight into factors that contribute to the defined crime/environment problems. During this phase, a CPTED project plan is produced that specifies the strategies, directives (describe the means by which a given strategy can be fulfilled), methods of implementation, and funding for the alleviation of selected problems.

The *Implementation* phase involves the construction of the physical portion of CPTED strategies and the carrying out of programmatic activities.

2.1.1.6 CPTED Evaluation Methodology

CPTED evaluation plans address three general issues:

- Was the project initiated effectively?
- How well were the project plans implemented?
- Did the project meet its stated goals?

Resident and user surveys, key-person interviews, records analysis, and direct observation are being utilized to answer the general question underlying all three issues:

- What are the reasons behind the successes and failures of the project?

Some hypotheses are even being tested by observing the reactions to staged suspicious incidents.

A distinct evaluation focus corresponds to each issue above. *Effort* evaluation treats the first issue by examining the relationship between the conceptual framework of the project and its operational framework. Did the project that was actually undertaken mesh in all important considerations with the plan from which it emerged? If not, was the conceptual framework unrealistic, or was there inadequate commitment to make it work?

Process evaluation addresses the second issue. It attempts to identify the important factors which have influenced the implementation of specific strategies. Did some strategies take longer to effect than they were expected to? Did the deviation have an impact on other strategies? How did the strategy package interact with other programs?

Finally, *impact* evaluation assesses the results: Were crime rates and levels of fear of crime reduced? Are people using and enjoying areas that previously were avoided? Are CPTED principles being incorporated into other programs?

In summary, the evaluation methodology should highlight the lessons that can be applied to future CPTED and related programs.

2.2 Other CPTED Projects

In addition to the Westinghouse demonstration projects, CPTED-type projects are currently underway in a number of cities across the nation. Some of these programs are briefly described below.

2.2.1 Hartford, Connecticut

Another CPTED project was begun in 1973, when NILECJ asked the Hartford Institute of Criminal and Social Justice to develop a program to investigate how social and physical environment changes, coupled with a different response by police, could result in a reduction in crime and the fear of crime.

Planners in Hartford chose the North Asylum Hill area as the site of their demonstration project. This is an area in transition, a residential area characterized by apartment houses, multifamily homes, and an increase in minority population; one that is beginning to see some deterioration in the form of abandoned buildings.

The Hartford project has three major goals: (1) Restructuring the physical environment in order to reduce crime and the fear of crime (the principal crimes there are burglary, robbery, and pursesnatch); (2) involving area residents and merchants in individual and group activities to help reduce crime; and (3) encouraging more responsive and effective police activity in the area. This project was the first such project tried on a neighborhood scale rather than just in a building or on a single block.

To help restore the residential character of the neighborhood and give residents more control over and pride in their area, the project was focused on changing traffic patterns by closing some streets, narrowing entrances to others, and converting some to one-way. The role of the residents was enhanced by the creation of new community organizations and strengthening existing groups. The citizens' groups and a police advisory committee (which included representatives from the citizens' organizations and police) also helped greatly in establishing communication among the project directors, the police, the city, and the citizens.

2.2.2 Chicago, Illinois

Four CPTED-type projects are currently underway in Chicago:

- Community Security Project -- The CPTED approach is being used to study security and related issues in a variety of planned developments, varying from a 15-unit, privately-owned townhouse development to a 2,600-unit, high-rise apartment complex. Extensive victimization and fear of crime surveys are being conducted to investigate the impact of physical design and other factors on crime rates and resident attitudes.
- Cabrini-Green High-Impact Program -- This is a 3-year, \$5.4-million comprehensive security program, combining architectural improvements with new management and human service techniques to reduce crime rates and fear of crime in high-density public housing buildings for low-income families.
- Industrial/Residential Security Project -- This is a 3-year study of eight industrial areas. The findings are being applied to two nonresidential demonstration sites to test the CPTED approach. The project objectives are to: Reduce crime and fear; change user perceptions of the crime problem; encourage new businesses to locate in these areas; analyze the cost of crime to different industries; and test the transferability of strategies in different industrial areas.
- Dearborn Park Project -- Instruments and a methodology are being developed to examine security-related issues in large community developments before they are constructed. This approach includes analysis of land use, site and building plans, crime data, and a host of environmental and community related factors.

2.2.3 Denver, Colorado

Three CPTED-type projects are currently underway in Denver:

- Public Housing Security Projects -- CPTED crime/environment analyses indicated that burglary penetration occurred primarily on the first-floor

level through front doors and windows. Target hardening strategies (dead bolt locks and solid-core doors) are being applied to 3,900 public housing units, and a major evaluation project has been designed to examine the effect of this project on burglary rates, clearance rates, ratio of attempted to completed burglaries, and average loss per burglary in the project area. A second project, the Community Security Liaison program, places 20 community representatives, trained in CPTED crime prevention issues, in high-crime public housing complexes to detect crimes in progress, facilitate police/community cooperation, and locate defensible space deficiencies.

- Streetlighting Project -- CPTED crime/environment mapping indicated a disproportionately high crime rate in the Capitol Hill District. The uniform high rate in this area (as opposed to a pattern of "hot spots" in other areas of the city) and other crime and environment data, suggested the need for improved nighttime lighting. Project evaluations have indicated that, with the new lights, there is increased pedestrian usage of the area at night, high user satisfaction, and reduced criminal victimization. Other Denver areas are being analyzed for similar projects.

2.2.4 Additional CPTED-Type Projects -- In the course of providing the technical assistance to communities involved in planning and implementing CPTED-type projects, and in surveying the range of such activities across the country, a number of additional projects have been identified. Some of the salient ones are noted below:

- San Jose, California -- Community participation, Operation Identification, truancy, and burglary data monitoring (all to reduce burglary).
- Jacksonville, Florida -- Urban street improvements (lighting, traffic control, landscaping, pedestrian crossing -- \$15 million); pedestrian plaza.
- San Antonio, Texas -- Paseo del Rio (River walk -- lighting, law enforcement patrols, and community involvement).

- Baltimore, Maryland -- Three empirical research projects examining environmental design and resident behaviors and attitudes.
- Cincinnati, Ohio -- Millvale Public Housing Project (renovation of building extensions, sidewalks, lighting, recreation, landscaping, drainage).
- Trenton, New Jersey -- Hermitage Avenue Project (includes police/community relations, community organization, security patrol, cooperative home ownership).
- Irvine, California -- Integrated Urban Planning and Crime Prevention Program.
- Minneapolis, Minnesota -- Glenwood Homes Public Housing Design Modifications (renovations to increase defensible space).
- Atlanta, Georgia -- The THOR Program of target hardening and opportunity reduction (includes commercial and residential security surveys, Operation Identification, community participation, and public awareness).
- Boston, Massachusetts -- Public Housing Security Program (includes a comprehensive program of community participation and neighborhood identification, opportunity reduction, fear reduction).
- New York, New York -- Housing Quality Zoning (attempts to encourage security conscious design via new zoning amendments).
- San Diego, California -- Developing long-range crime prevention projects based on the crime-environment analysis of a 42 city block area.

3. PRODUCT DEVELOPMENT IN THE WESTINGHOUSE CPTED PROGRAM

The ultimate goal of CPTED demonstration projects is the development of workable strategies that can be used in business districts and communities elsewhere. The findings of the demonstrations have been carefully documented and are available for those planners who wish to apply them to their localities. Key elements in CPTED planning and implementation, including community participation and funding allocation for instance, are detailed in some of the Westinghouse reports and guidelines that have been produced. A comprehensive listing of existing and planned products documenting all CPTED efforts and findings is offered in this section.

3.1 Demonstration Development Products and Key Supporting Activities

Prior to 1977, the aim of all Westinghouse CPTED products was to support and advance the demonstration activities. The research team began with the task of defining the blend of environmental settings and crime problems that should be tackled by the CPTED Program. Three important early documents provided the necessary framework:

- Crime/Environment Targets: A CPTED Planning Document (April 1975) -- Described 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) -- Developed an environmental taxonomy for each potential demonstration site and refined the existing theoretical framework.
- CPTED Annotated Bibliography (June 1976) -- Provided an up-to-date list of source materials.

Additionally, detailed planning documents were prepared for each demonstration. These include:

- CPTED Commercial Demonstration Plan: Portland, Oregon (March 1976).
- CPTED Schools Demonstration Plan: Broward County, Florida (March 1976).
- CPTED Residential Demonstration Plan: Minneapolis, Minnesota (August 1976).

The development of these plans and initiation of their implementation led to the emergence of certain key planning activities that were common to

all three demonstrations and, in retrospect, are now known to be essential for successful follow-through of CPTED projects.

3.1.1 Community Participation

Thorough organization and coordination went into involving the local citizenry in the demonstrations. Community participation is not only important to the success of a CPTED project but is important to the overall concept of CPTED. The underlying hypothesis of CPTED is that crime and fear can be reduced by the effective design and use of the environment. Since local participants are environmental users, it is important to work closely with them from project inception. Their attitudes, knowledge, and insight had considerable impact upon the successful implementation of CPTED strategies.

A related objective for community participation is the development of a framework for continued involvement. If participation is successful, it can assist in the institutionalization of the CPTED concept through incorporation of the concept into other community programs. For example, in Minneapolis, more than 80 meetings were held with community residents during the planning stage alone.

3.1.2 Key Decisionmakers

These large-scale CPTED projects involved many agencies. Unless key decisionmakers within these agencies are firmly committed to the project and prepared to make necessary policy decisions, CPTED planners and implementers may find it impossible to coordinate the requisite human and financial resources in a timely manner. The key decisionmakers were identified by persons from the local community. Contacts were made with political figures (such as the mayor, city council, chief administrative officer, and other elected officials) and representatives of special-interest groups (such as neighborhood or citywide business organizations). Once decisionmakers were contacted, the CPTED planners found it essential to keep them informed and to maintain access to them.

3.1.3 Requirement of Multiple Funding Sources

Funding the demonstrations was a prime consideration throughout the planning and implementation process. Since none of the project areas had a large amount of its own resources, and there is no general funding source for CPTED projects as such, it was necessary for the CPTED planners to consider various funding sources and design a work program that combined them intelligently.

3.1.4 Exploiting Local Opportunities

Although CPTED projects *can* be initiated in areas that do not have current attention or focus by the community, it was found that the CPTED

concept is most successful when it is introduced into an opportunity area. An opportunity area is an environment that has supportive programs that are underway or scheduled, or for other reasons is a focal point of community interest. For example, the Portland CPTED demonstration was integrated with the Union Avenue redevelopment effort, and the Minneapolis CPTED demonstration completed an ongoing public works improvement effort and a neighborhood rehabilitation project initiated through community development funds.

3.1.5 Transition from Planning to Implementation

Both management and citizen participation requirements changed as the demonstrations progressed from the planning to implementation stage. During the planning stage, the management emphasis was on research and coordination of diverse interest groups. During implementation, the management emphasis shifted to construction management, implementation scheduling, fiscal control, and other more tangible activities. Thus, it was found to be desirable to change both project leadership and team makeup as the transition occurred.

A similar shift was found with the citizen participation activities. During the planning stage, participation was broad-based and advisory, as it concentrated on policies, goals, and program options. During implementation, participation focused on organizations and individuals with direct implementation responsibility. Since these changing management and participation roles can create difficulty in the timing of and commitment to a CPTED project, the planners found it necessary to be aware of potential difficulties and to structure their activities accordingly.

3.2 Current and Planned Products

In contrast to these earlier products that enhanced the demonstration projects, there are several products developed by Westinghouse that are based on the experience and knowledge gained *from* the demonstrations. These products were developed with the explicit purpose of articulating and formalizing the process involved in planning and implementing a CPTED project. Among these documents are:

- CPTED Process Case Studies Report (March 1977) -- This report analyzed the relationships among the events, participants, and the planning process in each demonstration site, and formulated a theoretical framework of the process.
- CPTED Program Manual (December 1977) -- This multi-volume 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 Manual also provides detailed guidance for the planning *and* implementation of a CPTED project. Volume I, the Planning and Implementation Manual, describes the planning framework and related project management activities. Volume II, the Strategies and Directives Manual, presents a catalog of strategies (or solutions to identified problems), together with examples of specific design directives to implement those strategies in a given environment. Appended to Volume II is an annotated bibliography of CPTED-related materials that can be referenced by the Manual user in search of a greater detail on the historical and theoretical aspects of the CPTED concept. Volume III, the Analytic Methods Handbook, provides a catalog of analytical techniques. Although the topics presented deal with highly technical and/or scientific disciplines, the content is presented to the maximum degree possible in nontechnical language covering, for example, such topics as procedures for using police crime data and CPTED project evaluation.

- CPTED Technical Guidelines in Support of the Analytic Methods Handbook (December 1977) -- This document deals, in varying degrees of technical sophistication appropriate to each topic in the CPTED context, with such areas of investigation and analysis as victimization survey methods, behavioral observation methods, quantitative analytical and decisionmaking techniques, and environmental assessment methods. These guidelines are not intended to acquaint the generalist planner with techniques and tools of a highly technical and complex nature. Rather, they have been prepared to aid the experienced analyst in the application of familiar techniques to the specific analytical and decisionmaking processes used in the planning of a CPTED project.
- School Security Guidelines (January 1978) -- The experiences in Broward County, Florida, have resulted in this document which offers not only crime prevention information but also suggestions for setting up a school security program to deal with existing crime problems.

These guidelines include information on the organization of a school security program, administration and staffing, and suggestions for establishing a school crime reporting system that is useful not only in maintaining accurate records but also for determining crime problems and locations within the school.

- CPTED Guidelines for Planning Public Outdoor Areas (available February 1978) -- This document focuses on two design elements, outdoor lighting and outdoor landscaping, and includes building materials as well as plant materials. 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.
- CPTED Technical Guidelines on Citizen Involvement and Participation Methods (available February 1978) -- This document is concerned with the question of how citizens can play a more direct role in CPTED projects. Participation methods are discussed and recommendations are offered.
- CPTED Theory Compendium (available March 1978) -- The research team will develop an edited volume of articles written by multidisciplinary specialists outside of the Westinghouse consortium (psychologists, sociologists, criminologists, urban planners) who are producing papers advancing aspects of the theoretical foundation of the CPTED Program. Fourteen authors are involved, focusing on problem areas that are close to their own interests and experiences, and have implications for the CPTED approach (see the attached table).
- CPTED Multidisciplinary Curriculum (available March 1978) -- In September 1975, a multidisciplinary course titled 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, joined

TABLE 3-1

Contributors to the CPTED Theory Compendium

<u>Name/Discipline</u>	<u>Topic</u>
Irwin Altman (Psychologist)	A theoretical analysis of residential home design and crime.
Robert Bechtel (Environmental Psychologist)	Undermanning theory and CPTED theory.
Donald Black (Sociologist)	Social control theory and CPTED theory.
John Conklin (Criminologist)	Fear of crime and CPTED in the urban shopping district.
William Ittelson (Environmental Psychologist)	CPTED and the field of environmental psychology.
Frank Landy (Psychologist)	Motivational models applied to CPTED.
William Michelson (Sociologist)	The role of the designed environment in the victimization of the elderly.
Arthur Patterson (Environmental Psychologist)	Fear of crime among the elderly and CPTED.
Albert Reiss, Jr. (Sociologist)	Environmental control -- offenders and their victims.
Thomas Reppetto (Criminologist)	The historical precedents of CPTED.
Anne Schneider (Political Scientist)	Citizen responses to neighborhood-based crime prevention programs.
Robert Sommer (Psychologist)	CPTED in the public environment.
George Sternlieb (Urban Planner)	Land use planning and crime.
Raymond Studer (Urban Planner)	Crime control through environmental management and design.

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 document developed by Westinghouse 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 Demonstration Reports (available July 1978) -- Final drafts of reports on the implementation status of three demonstrations will be prepared. Each of these drafts will include a thorough treatment of the CPTED evaluation activities and findings.

4. THE APPLICABILITY OF CPTED TO URBAN PROBLEMS

CPTED crime prevention programs can offer significant aid to urban revitalization efforts. While not a panacea for all urban ills, CPTED projects do offer the benefits of significantly aiding in the reduction of crime, one of the major factors associated with urban problems. This section demonstrates how CPTED can benefit the urban community, not only in the reduction of crime and the fear of crime but also by such means as coalescing community effort, developing management capability, and encouraging better police and community relations.

4.1 Nature of Urban Problems Responsive to CPTED Programming

Today's major urban environments are characterized by a series of problems that adversely affect the quality of life and continue to resist the corrective efforts of municipal planning agencies. While these problems occur in different domains of urban affairs, they share in common, to varying degrees, an ability to be adversely influenced by urban crime rates and levels of fear of crime. Until crime rates and the fear of criminal victimization experienced by residents and users of the urban environment are reduced, corrective programs addressing contemporary urban problems can never be completely successful.

A brief review of urban ills can paint a bleak picture of today's urban environments. Older, substandard and overcrowded housing exists in too many areas. The urban labor force contains higher proportions of the unskilled and semiskilled, and concomitant higher unemployment rates and depressed family incomes. The economic vitality of certain urban areas is either deteriorating or very difficult to maintain. Urban retail shopping is diminishing, the diversity and quality of urban shops are reduced, and the physical appearance of these areas often suffers from neglect. As businesses move out of urban core areas, investor confidence and new business starts decline, and the erosion of the tax base slowly reduces the quality of municipal services in the area. All of these ills are increased by urban crime and fear. Over a period of years, these problems can grow in magnitude, complexity, and their resistance to corrective action.

Since many urban problems are inflamed by crime and fear, they should be ameliorated by a comprehensive and long-term program of environmental management for crime prevention. Major environmental improvements that could be expected to result from urban CPTED programming include:

- Reduced urban crime rates and levels of fear of crime.
- Restoration of citizen confidence in the urban environment as viable living space for the future.

- Increased investor confidence and new building starts.
- Attraction of new businesses offering a mix of goods and services.
- Expansion of the urban tax base to provide monies for improved municipal services and maintenance.
- Development of shopping and recreational opportunities.
- Development of compatible commercial, residential, and industrial land uses.
- Attraction of middle- and upperclass families into urban residential areas.
- Development of a reliable urban community organizational body with representatives from businesses, residential, law enforcement, and governmental communities.
- Improved urban image and increased use of cities.

4.2 Additional Benefits from Urban CPTED Programming

CPTED programming functions to reduce crime and fear in the environment through the application of strategies that were developed in the crime/environment analysis process. The ensuing reductions in crime and fear which occur as a result of the major program thrust will impact a wide variety of urban ills, as discussed above. While crime problems can be reduced as a *direct* result of CPTED strategies, there also exist a number of benefits and capabilities associated with the CPTED approach that function to improve the effectiveness of urban anticrime planning and to reduce crime in an *indirect* manner. These areas are briefly discussed in the following paragraphs.

4.2.1 Development of Security Guidelines for New Urban Construction

To date, very few communities evaluate the potential impact of proposed urban developments on crime and fear-of-crime problems. Unless planners, designers, and government officials are sensitive to crime/environment relationships, they may be inadvertently creating crime problems in the future. Many large-scale developments, redevelopments, new towns, and subdivisions are models of exemplary planning and design, with carefully selected landscaping, wooded areas, pedestrian ways, and housing types. However, consideration often is not given to the role of

design in discouraging crimes of opportunity. Thus, another possible benefit from a CPTED project is the development of security guidelines and standards by which urban development proposals can be evaluated and modified before construction.

4.2.2 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, and many cities have initiated ambitious programs of revitalization, preservation, and development. The effectiveness of some of these programs is reduced because urban crime and fear problems remain unaddressed. This is especially true when, in certain cities, the level of fear and concern about crime may be far greater than that justified by actual crime rates.

Experience also indicates that CPTED can be instrumental in fostering positive community organization and identity. Typically, an urban neighborhood will band together around a community project of mutual interest or concern. Since crime is such an overriding concern in most communities and since the CPTED concept emphasizes the participation and involvement of diverse community groups, the possibility for improved community organization and identity is enhanced. If neighborhood residents, business leaders, and investors perceive that a comprehensive effort to reduce crime and fear is under way, it is probable that their confidence in the future stability of the area will be improved.

4.2.3 Development of Management Capability

CPTED projects can be used to develop the management capability and expertise to maintain an ongoing crime prevention effort. Most local communities lack these skills or, at best, they rely upon the local police department to serve this function. CPTED projects can be initiated to develop 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 it can serve as the basis of a new organizational entity.

4.2.4 Acquisition of Urban Development Funds

The incorporation of the CPTED concept into existing programs can provide additional justification for obtaining grants, loans, and community development funds. The possibility of reducing crime and fear levels -- in addition to achieving the primary objectives of a program or project -- can increase the chances of obtaining needed funds and using them effectively. 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 concept of "packaging" different funding programs. This type of project should be more effective than one that accomplishes rehabilitation objectives alone.

4.2.5 Establishment of an Interdisciplinary Approach to Urban Problems

The initiation of a CPTED project brings together a wide array of urban specialists. Although a community may have many specialists, urban problems often will not be addressed in a coordinated manner. Crime has traditionally been part of the domain of law enforcement agencies, with other agencies only peripherally involved. CPTED planning and implementation requires guidance from business people, residents, elected officials, different agencies, and others for effective and comprehensive programming.

4.2.6 Encouragement of Better Police/Community Relations

An important strategy of the CPTED approach is the coordination of law enforcement activities with citizen anticrime efforts. This results in improved police/community relations which, in turn, has positive effects on other anticrime factors. For example, research has shown that an important predictor of the success of organized community anticrime projects is the level of cooperation and good relations between neighborhood residents and the police.

4.2.7 Institutionalization of Crime Prevention Principles

Another benefit from a CPTED project is to institutionalize crime prevention in existing or proposed programs. For example, if CPTED principles and processes are initiated within the local redevelopment and housing agency, it is probable that crime and fear problems of existing projects will be routinely addressed by that agency as part of the normal activities, and future projects will be more likely to include a crime prevention evaluation.

5. AN ACTION AND RESEARCH AGENDA

Sections 1 through 3 provided an orientation to the origin and development of the Crime Prevention Through Environmental Design concept and key projects, undertaken to test that concept. The sections focused particularly on the ongoing four-year NILECJ/Westinghouse research and demonstration program. Section 3 included a description of a large number of diverse products that form a rich resource base to attack the urban problems described in Section 4. These problems of urban crime and fear and decay cry out for greater Federal leadership. The complexity of urban problems and of solution options is confounding to many community managers charged with the responsibility to secure our urban neighborhoods.

This fact and these circumstances establish a foundation for a number of initiatives suitable for a national, Federally supported, neighborhood revitalization thrust. The action agenda offered here is built around a most compelling national need -- Securing Urban Neighborhoods. The core concept of securing urban neighborhoods, together with concrete applications of existing knowledge and technology, is described in Section 5.1. The proposed Federal role is the provision of two basic kinds of services to communities -- technology transfer and research.

The Federal government is uniquely able to assemble the resources for offering technology transfer services on a national basis, including: Technical assistance, information dissemination, and training and education. Resources now exist that can be coalesced into an immediate response capability to handle the broad array of needs identified below with the concept of Securing Urban Neighborhoods. Specifically, Westinghouse can assemble the management and technical specialists, the organizational structure and mechanisms, and the knowledge, skills, and products to initiate a nationwide technical assistance, information dissemination, and training and education program. The purpose of such a program is to transfer the resident technology of a select group of professionals to local governments, agencies, community organizations, private groups, and citizens to help them create secure urban neighborhoods.

However, the past four years of research and demonstration have shown Westinghouse that much investigation and evaluation remains to be done, if mistakes of past years are not to be revisited on these cities. Progress made to date on understanding man/environment relationships in the area of crime and fear will dissipate quickly if research opportunities are neglected. It is imperative that current state-of-the-art products and knowledge be smelted in the crucible of rigorous research and evaluation. This is the only way to ensure that a responsive and responsible Federal policy is forged. Section 5.2, below, sketches a research agenda with some illustrative areas of high payoff potential.

5.1 Securing Urban Neighborhoods

An immediate initiative proposed for Federal leadership is Securing Urban Neighborhoods. This concept embraces security in its broad sense of confidence and safety, including economic and personal security. These objectives are intended to overcome the kinds of problems described in Section 4:

- Confidence -- Restoration of the confidence of residents, investors, and users of a neighborhood in the economic vitality of the area, (i.e., positive attitudes reflected in behavior).
- Safety -- Reduction of crime and fear of crime among residents, investors, and users of a neighborhood.

There are several subobjectives that can be selected in support of these major complementary objectives and tied to a given geographic project area:

- Confidence:
 - Construct or rehabilitate housing.
 - Increase occupancy rates for rental properties.
 - Create positive uses for vacant, poorly utilized or blighted land (e.g., for buffers, recreation, new construction).
 - Stabilize or increase the number of businesses.
 - Stabilize or increase business income (adjusted for inflation).
 - Create job opportunities for unemployed heads of households.
 - Create job opportunities for delinquent-and-crime prone youth.
 - Increase the perception of economic vitality.
- Safety:
 - Reduce the number and rate of property crimes.
 - Reduce the number and rate of violent crimes.
 - Reduce the dollar losses due to crime.
 - Reduce the number of youthful offenders.
 - Increase the perception of safety.

These subobjectives are mutually supportive and interactive. They will be achieved by transferring to cities techniques of environmental management (developed in the CPTED Program) that focus on economic, crime, and fear factors in the neighborhood. The means of this transfer will be

technical assistance, information dissemination, and related training and educational services aimed at the following type of project activities:

- Community Involvement and Development Activities.
- Physical Development.
- Model Products Development and Applications.

5.1.1 Community Involvement and Development Activities

Technical assistance, information dissemination, and training and education services should be provided to communities to generate and support community activities (nonphysical) leading to urban neighborhood security. Existing resources (such as the CPTED Program Manual and Citizen Participation Guidelines) would be applied to aid cities in such activities as:

- Establishing neighborhood action groups like neighborhood associations, block clubs (e.g., for blockwatching and housesitting), safety councils, and religious and volunteer groups, and then developing a plan of action and supporting materials (such as handbooks, media packages, security marking instructions, and reporting techniques).
- Setting governmental policies that create incentives for self-help and self-improvement community actions such as clean-up campaigns, security campaigns, and private investments in home and business improvements. For example, the private and public sector would be brought together to set policy and action objectives and to identify the incentives, including amenities such as recreational services and equipment, tot-lots, street furniture improvements, and lighting.
- Providing local technical services to community members, such as a security advisor services office of the local police department for residential and business security surveys and advice, for dissemination of information and for liaison between the police and neighborhood.

- Preparing an inventory of programs and resources available to a community (from private, Federal, State, and local government sources), and an action plan for using the resources to support the confidence and safety objectives of the community including, for example, job inventory and placement for crime-prone youth, business investors' guide, juvenile referral services.
- Increasing the use of underutilized or poorly utilized neighborhood facilities and areas such as schools (by providing training and curriculum material for job-training programs at night) and park and recreational areas (by developing community-based programs of sports, entertainment, or arts and crafts shows).
- Establishing new ventures and minority enterprises in communities through market analysis, product and service definition, investment incentives, training, and legal support services.
- Incorporating security principles, design, and management in housing management systems for local housing authorities.

5.1.2 Physical Development

Technical assistance, information dissemination, education and training services should be provided to communities for physical development to support the restoration of confidence and safety. Existing demonstration products and techniques (developed under CPTED projects and related efforts) would be applied for such needs as:

- Redesigning, redeveloping, and renovating open, public spaces (which affect the confidence and attitude of residents, businessmen, and transient users of residential and commercial neighborhood areas) through outdoor lighting, landscaping, and built elements of the environment (refer to Guideline For Planning Public Outdoor Areas, developed by Westinghouse National Issues Center in the CPTED project).
- Designing of residential, commercial, and public buildings using CPTED and related security engineering techniques as part of CPTED applications (refer to Guideline for the Application of Security Engineering Principles to the Planning and Design of Facilities, developed by Westinghouse National Issues Center in the CPTED project and in a companion project for the Department of the Navy's shore facilities).

- Developing model demonstrations, applying CPTED design principles, to priority environmental areas in various city neighborhoods:
 - Create a CPTED model multifamily housing project.
 - Revitalize selected neighborhood blocks characterized by dilapidated housing to be rehabilitated or razed (in the latter case, with CPTED principles applied to the selected alternative land use).
 - Conversion of existing vacant lots into secure productive uses, such as parks, tot lots, or playgrounds.
 - Convert commercial nodes and key residential streets into secure, safe-image areas by employing CPTED principles of neighborhood symbols, gateways, and traffic circulation patterns (indicating community cohesion, privacy and control over the affected area).

5.1.3 Model Products Development and Applications

Technical assistance, information dissemination, and training and education should be provided to Federal offices, State and local government offices, and private and community organizations regarding the application of CPTED principles for urban neighborhood security. This will involve, in some cases, the development of model products and, in other cases, the revision/refinement of existing products, followed by their application to existing programs.

Products recommended for development and application include:

- Security Standards that applicants for housing loans would be required to adopt.
- Security Guidelines for assisted-housing programs (rental assistance and LHA housing programs), including training for managers, architects, and administrators.
- Model Safety Code incorporating CPTED principles with fire, health, and accident safety requirement (prepared for national dissemination and with technical assistance for State legislatures considering enactment).

- CPTED Manual and Curriculum for Architects, incorporating both CPTED principles from the CPTED Program Manual and Technical Guidelines, as well as provisions of the proposed Model Safety Code.
- Techniques for Securing Commercial Establishments, written to be incorporated in Investors' Handbooks, the latter to be developed by local business associations or public agencies in cities across the country.
- Citizen Participation Manual for citizen groups and neighborhood organizers, outlining the citizen's role in security.
- Training Films and Audio-Visual Packages for local housing authority managers, developers, architects, and public administrators covering security issues and solutions (including the model products described above).

5.2 Possible Research Projects and Designs

CPTED programming will be only as effective as the quality of relevant knowledge and theory permits. A number of major research areas exist that, if addressed, could advance the current state-of-the-art. Some of these areas are outlined briefly below.

- Criminal Decisionmaking Processes -- Identify the manner in which potential offenders respond to environmental cues and arrive at a decision to commit -- or not to commit -- a crime, with emphasis on the issues of prevention and deterrence, control and motivation theory, patterns of crime and displacement, and fear of crime.
- Physical Design Issues -- Identify the variables that distinguish high-and low-crime-rate areas in terms of physical design elements, focusing on spatial determinism and crime-environment relationships.
- CPTED and Social Control -- Define the relationship between CPTED and social control principles, focusing on community-based crime prevention, sense of community and participation, and victimization and community participation relationships.

- CPTED Utility and Effectiveness -- Examine the CPTED planning framework for its value to planners, considering cost-benefit, cost-effectiveness, and cost-utility.

Many research projects can be designed to address aspects of CPTED. These investigations could be conducted in the context of residential and commercial demonstration projects. To suggest the flavor of such investigations, six research projects are presented below. As with most CPTED-relevant issues, these projects represent areas in which Westinghouse has already completed a good deal of work. For example, Westinghouse has developed and completed preliminary field tests on approaches for the assessment of the amount of fear of crime in an environment and the environmental correlates of fear.

- Establishing Proprietary Attitudes in Urban Settings -- Continue to review and integrate the emerging literature on defensible space research in residential and nonresidential areas. Develop new approaches to establishing proprietary attitudes among users of high-density residential and commercial environments, such as designing community outdoor play areas, murals, spaces that serve diverse but compatible functions; establishing residences in public buildings; etc. Develop and implement a demonstration and evaluation program to test concepts in different types of mixed public and residential environments.
- Developing Environmental Correlates of Effective Citizen Anticrime Behavior -- Develop valid measures of specific behaviors involved in citizen anticrime activity (e.g., different surveillance behaviors, 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 factors or conditions that encourage specific anticrime behaviors. Test findings by manipulating these factors and examining the influence on behavior and crime rates in a demonstration and evaluation project.

- Determining 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 or concern about crime. Isolate communities with average crime rates but high fear levels and identify the environmental factors that account for the discrepancy between level of fear and actual crime rates. Apply findings to large-scale urban rehabilitation or Federally assisted developments to demonstrate and evaluate the impact of environmental planning on the fear of crime.

- Assessing and Programming Social Cohesion Variables to Reduce Crime and Fear -- Examine the relationship between social cohesion, neighborhood identity, crime, and citizen attitudes toward crime. Develop and validate an index of citizen cohesiveness and territorial attachment for different residential settings by collecting data from a large number of these settings to define the relationship between cohesion and crime, and to focus on the urban design factors (such as street layout, positioning of buildings, community facilities and services, and physical quality) that develop intervention strategies to control and manipulate social cohesion, and test and evaluate these strategies in demonstration projects.

- Improving Citizen Participation in Anticrime Projects -- 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 a model to interrelate these factors. Test this model by application to an existing community organization or program, or by using the model to initiate and design a community anticrime project. Evaluate its impact on resident participation behavior, crime, attitudes, and community spirit.

- Increasing the Use of Neighborhood Public Outdoor Areas -- Most outdoor areas in typical urban neighborhoods such as parks, are underused not because they are not needed but because residents see them as poorly maintained and dangerous. Research is needed to determine the specific nature of resident preference, sources of dissatisfaction, and anxieties in using outdoor areas and to apply this knowledge to the design of neighborhoods.

END