CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

EXECUTIVE SUMMARY OF THE PROGRAM MANUAL

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Arlington, Virginia 22202

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF TABLES

PREFACE

Crime is one of the most significant social problems in the United States, requiring innovative and varied solutions for reduction and prevention. Although Federal, State, and local governments have committed enormous resources towards combatting crime, the fear of crime is a 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 flight, enmeshed school administrations with internal disorders which have disrupted educational activities, and has often hastened declines in public transportation ridership.

The National Institute of Law Enforcement and Criminal Justice (NILECJ), the research arm of the Law Enforcement Assistance Administration (LEAA), has recognized the need for research and the development of new approaches for crime prevention and the restoration of personal security. Because the environment in which we live is such a fundamental determinant of how we act and perceive our surroundings, it is both natural and imperative that we seek an understanding of its influence upon both crime and the fear of crime within our society.

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

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

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

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

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

- To disseminate and institutionalize Program results on a wide basis.

Westinghouse has developed several products that are based on the experience and knowledge gained from the CPTED demonstrations and conceptual refinement. These products were developed with the explicit purpose of articulating and formalizing the process involved in planning and implementing a CPTED project. Chief among these products is the three-volume CPTED Program Manual. It was produced to assist urban designers and criminal justice planners in determining the applicability and feasibility of the CPTED concept to the solution of crime or fear-of-crime problems in various urban environments. The Program Manual also provides detailed guidance for the planning and implementation of a CPTED project.

The volumes of the Program Manual, and their authors, are:

- Volume I: Planning and Implementation Manual --
  by W. Anthony Wiles, Robert J. Haskell, and
  Edward J. Pesce -- describes the planning frame-
  work and related project management activities.

- Volume II: CPTED Strategies and Directives
  Manual -- by Linda B. Moncure, Lynne Helfer
  Palkovitz, Howard M. Kaplan, Larry S. Bell, and
  Robert K. Cunningham -- presents a catalog of
  strategies, together with examples of specific
  design directives.

- Volume III: Analytic Methods Handbook -- by
  Imre R. Kohn, Richard M. Locasso, and Avishay
  Dubnikov -- provides a catalog of appropriate
  analytic techniques.

The creation of the Program Manual and the development of much of
its underpinnings was due to the leadership of the CPTED Project Team,
including, especially: Edward J. Pesce, Project Director; Imre R.
Kohn, Deputy Project Director for Research; Howard M. Kaplan, Deputy
Project Director for Demonstrations; Leonard B. Bickman, Deputy Project
Director for Evaluation; and Lewis F. Hanes, Deputy Project Director
for Dissemination (and formerly Deputy Project Director of the Research
and Demonstration Team).

The support of LEAA is greatly appreciated. Blair Ewing and Fred
Heinzelmann of NILECJ provided essential support for the CPTED Program.

EXECUTIVE SUMMARY OF THE CPTED PROGRAM MANUAL

1. THE CPTED CONCEPT

Crime Prevention Through Environmental Design (CPTED) is a concept whose goal is to reduce crime and fear by fostering a positive interaction between human behavior and the physical environment. However, the CPTED concept is not solely concerned with the physical aspects of the environment. While proper design of buildings and communities to reduce crime and fear is an important element of the CPTED concept, physical changes can be effective only with the conscious and active support of those persons, organizations, and businesses who use the environment. In addition to physical and social crime prevention strategies, the concept involves the integration of law enforcement strategies, such as deploying more police patrols to high-crime areas, and management strategies, which provide a policy and practice thrust, such as establishing minimum security standards.

This diversity of means indicates why, in CPTED theory, the term *environment* includes the physical, social, economic, and institutional elements of a given locale. The thrust of all CPTED strategies is directed toward solutions that reinforce desirable existing activities, eliminate undesirable activities, create positive new activities, or otherwise support desirable use patterns. Thus, a CPTED project can include a combination of actions that address aspects of the environment that provide opportunities for the commission of crimes.

1

1.1 Operating Hypotheses

There are four CPTED operating hypotheses: Access control, surveillance, activity support, and motivation reinforcement. Each operating hypothesis is a proposition concerning environment/behavior relationships, and each provides the underlying rationale for a set of specific strategies for affecting their relationships through the creation, modification, or elimination of environmental variables. Such strategies can focus on physical design features, human relational or social interaction patterns, the supportive role of police and private security forces, or on administrative policy and practice.

Access control strategies are primarily directed at keeping unauthorized persons out of a particular locale if they do not have legitimate reasons for being there. Access control can be achieved in individual dwelling units or commercial establishments by use of adequate locks, doors, and similar installations, by personnel deployment (such as doormen and security guards), or by the creation of psychological barriers that establish the integrity and uniqueness of an area.

The aim of *surveillance* is not keep intruders out but to keep them under observation. Surveillance increases 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 is made between organized surveillance and natural surveillance. Organized surveillance involves formal patrols by the police or citizen

groups, or the use of mechanical devices such as closed-circuit television (CCTV) or alarms. Natural surveillance can be achieved by channeling the flow of human activity to put more observers near a potential crime area or by creating a greater observation capacity by installing windows along the street side of a building.

Activity support involves methods of reinforcing existing activities or initiating new activities as a means of making effective use of the built environment. This perspective is based on the observation that, in a given community, there are often existing resources and activities capable of sustaining constructive crime prevention. Support of these activities can bring a vital improvement to a given community, together with 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 concept 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 and more personalized. These results can also occur from improving the quality of an environment.

Crime and fear of crime operate at different environmental scales from building interiors to entire communities, and CPTED strategies can be applied to these different scales. Table 1 illustrates specific strategies for different levels of scale in relation to the four operating hypotheses and the four basic strategic approaches (physical design, social, law enforcement, and management).

1.2 Diverse Benefits of CPTED

The Program Manual is designed to show users how CPTED projects can produce several benefits in addition to the reduction of crime and fear within an urban environment. Some of these benefits are:

- 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, or the process can be applied equally as well to a small geographic area or to one particular institution.

- Integration of Prevention Approaches -- CPTED principles are derived from an opportunity model of criminal behavior which assumes that the offender's behavior can be accounted for by understanding how, and under what circumstances,

4

TABLE 1

Illustrations of CPTED Strategies in Relation to Operating Hypotheses, Strategy Category, and Environmental Scale
(Page 1 of 2)

Operating Hypotheses[a]	Strategy[b] Category	Environmental Scale	Illustration of Strategy
Access Control	Physical Design[c]	Building Interior	Provide secure doors and locks for semi-public interior spaces (laundry rooms, mail rooms).
		Building Perimeter	Avoid construction materials that can provide toe-holds and hand-holds for scaling.
		Site	Fence off private and semi-private outdoor areas.
		Area (Block, Street, Cluster)	Erect barriers to impede undetected access to the site through adjoining vacant lots.
	Social[d]	Building Perimeter	Station doormen at building entries.
	Law Enforcement[e]	Building Perimeter	Conduct physical security surveys.
	Management[f]	Entire Community, Neighborhood	Develop building security codes.
Surveillance	Physical Design	Building Interior	Use transparent materials for entrances to stairwells, laundry rooms, mail rooms.
		Building Perimeter Site	Minimize the number of families sharing a building entry. Locate building entries so that they are clearly visible from active social areas.
		Entire Community, Neighborhood	Improve street lighting.
	Social	Building Perimeter Site Area (Block, Street, Cluster)	Install intercom systems. Arrange for adults to watch children playing outdoors. Arrange with neighbors to provide surveillance during vacations.
	Law Enforcement	Area (Block, Street, Cluster) Entire Community, Neighborhood	Provide trained security guards. Establish local police precincts in vacated stores.

5

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a. Operating hypotheses are propositions concerning environment/behavior relationships.
b. A strategy is a method for affecting environment/behavior relationships through the creation, modification, or elimination of environmental variables.
c. A physical design strategy focuses on physical features.
d. A social strategy focuses on social relational and interaction patterns.
e. A law enforcement strategy focuses on the supportive role of police and private security forces.
f. A management strategy focuses on administrative policy and practice.

TABLE 1

Illustrations of CPTED Strategies in Relation to Operating Hypotheses, Strategy Category, and Environmental Scale
(Page 2 of 2)

Activity Support	Physical Design	Building Interior	Design multi-purpose public spaces to be used continuously day and night.
		Site	Provide outdoor areas that are attractive and serve functional requirements (e.g., play areas).
		Entire Community, Neighborhood	Provide well-designed pedestrian scale and area lighting fixtures.
	Social	Building Interior	Instruct children how to recognize and report emergencies.
		Site	Create semi-public gardens to be maintained by resident volunteers.
		Area (Block, Street, Cluster)	Establish block clubs, resident patrols.
	Law Enforcement	Entire Community, Neighborhood	Improve police/community relations through citizen education programs and police involvement in community affairs.
	Management	Building Interior	Initiate property identification projects.
		Site	Hire residents to maintain grounds.
		Area (Block, Street, Cluster)	Sponsor escort programs for children and the elderly.
		Entire Community, Neighborhood	Establish zoning ordinances that prevent land uses that are incompatible with security objectives.
Motivation Reinforcement	Physical Design	Building Perimeter	Initiate paint-up/fix-up programs with resident volunteers.
		Site	Provide planters and other elements that define areas that belong to particular clusters of families.
		Entire Community, Neighborhood	Provide amenities that encourage and support resident use.
	Social	Site	Sponsor yard improvement contests where individual families receive prizes.
		Area (Block, Street, Cluster)	Sponsor special events for special age and interest groups to promote group identity.
	Law Enforcement	Entire Community, Neighborhood	Create paraprofessional security jobs for residents.
	Management	Entire Community, Neighborhood	Develop positive neighborhood image by having residents meet with developers and real estate agents to familiarize them with good environmental qualities.

variables in the environment interact to induce crime. Once an assessment of the opportunity structure is made, then appropriate strategies can be designed and integrated into a coordinated, consistent program.

- 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 team-
  ing assures effective cooperation among diverse
  city departments such as public works, social
  services, economic development, police, etc.
  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 de-
  veloping an anticrime program that is not solely
  dependent on enforcement agencies.

- Development of Security Guidelines and Standards --
  CPTED programming can lead to the creation of
  security criteria for newly constructed or modi-
  fied environments to avoid planning and design
  decisions that inadvertently provide opportunities
  for crime.

- Assistance in Urban Revitalization -- CPTED can
  be instrumental in revitalizing communities, in-
  cluding downtown areas, with its impact on physi-
  cal, social, and economic conditions. Once

business leaders, investors, and other citizens
perceive that a comprehensive effort is underway
to reduce crime and fear, there will likely be
an improvement in community identity and cohesive-
ness.

- Acquisition of Development Funds -- The incor-
poration of CPTED into existing programs can pro-
vide 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 organiza-
tions or municipal agencies.

Not all of these situations will apply to every local jurisdiction,
and there may be additional applications not covered by the above ex-
amples. It is important that local decisionmakers establish objectives
that they hope to achieve through a CPTED project. CPTED can be
initiated with narrow and single-purpose objectives, or it can be
expanded into a broad and comprehensive focus with multiple benefits.
Hence, a decision about the project and its objectives will be an
important determinant of the type of CPTED project to be initiated,
its management requirements, its resource commitments, and similar
policy decisions.

2. CONTENTS OF THE PROGRAM MANUAL

The CPTED Program Manual has been prepared to assist interested persons in determining the applicability of the CPTED concept to the solution of crime and fear-of-crime problems in various environments. It is addressed primarily to the planner at the municipal government level. By discipline or position, Manual users may be urban planners, criminal justice planners, architects, or designers in any organizational structure where they could be given responsibility to develop solutions to a crime problem.

Because of the diversity of the potential project target areas, the Manual does not attempt to provide guidelines on the cost of planning and implementing a CPTED project, nor does it define precise staffing levels and specific management directives. Rather than giving direction on *how* a project must be planned and implemented, the Program Manual focuses on *what* needs to be done in that process.

The Program Manual is divided into three volumes:

- Volume I -- Planning and Implementation Manual. This is a practical guide for the application of the CPTED concept to urban crime prevention projects.

- Volume II -- Strategies and Directives Manual. This is a catalog of strategies (or solutions to identified problems), together with examples of specific design directives that have been

developed for specific application in residential, commercial, and schools environments.

- Volume III -- Analytic Methods Handbook. This provides a framework for conducting crime/environment analysis to accomplish necessary information gathering steps for diagnosing crime and fear problems, and for evaluating strategies designed to deal with these problems.

2.1 Volume I -- Planning and Implementation Manual

Prior to initiating a local CPTED project, decisionmakers should be familiar with the planning and implementation process described in this volume. The process has been developed around the premise that it is essential for community organizations, public and private agencies, individual citizens, and specialists in other disciplines (in addition to law enforcement) to actually become involved in efforts to reduce crime and fear in local communities.

The planning and implementation process has proven to be an effective method for bring about citizen involvement and participation in the CPTED Demonstrations. The process, however, should be viewed as dynamic and flexible. During the planning process, the framework must be modified to suit local conditions and resources. Therefore, another function of the Program Manual is to document planning and implementation experiences so that the process can be modified and improved by local application and testing.

While not denying the likelihood that certain steps will have to be reconsidered as new information arises, the CPTED planning and implementation process highlights a sequential approach to problem-solving and is organized around four distinct phases of activity: Policy Determination, Project Initiation and Organization, Project Planning, and Project Implementation. Within each of these phases, a series of planning and implementation guidelines is presented (see Figure 1). Each phase of the process can be viewed as a major decision point:

- Policy Determination Phase -- Determines the applicability of CPTED principles for local issues and concerns. Provided that 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, and determine major organizational requirements (e.g., project management and available resources).

- Project Initiation and Organization Phase -- Defines analytic needs regarding key problems and issues, defines project objectives and requirements, organizes the project planning team and its operating procedures, identifies community interests, develops the overall work program and schedule.
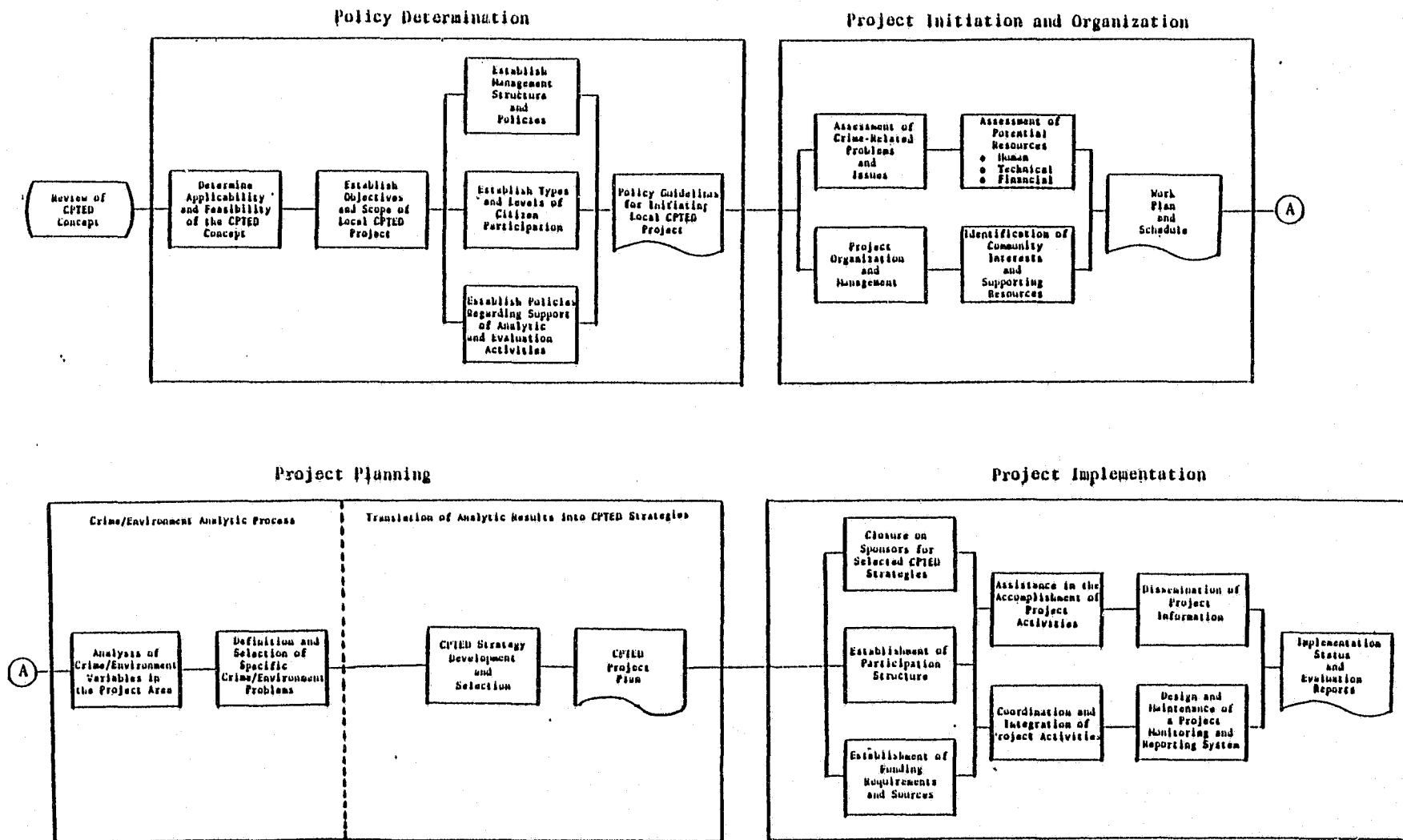
Figure 1. CPTED Planning and Implementation Process

● Project Planning Phase -- Includes a series
of analyses that narrow the crime and fear
problems to a point where they can be treated
by CPTED, and 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 (the means by which a given strate-
gy can be fulfilled), methods of implementa-
tion, and funding for the alleviation of
selected problems.

● Project Implementation Phase -- Comprises a
series of activities that produce the construc-
tion of the physical portion of CPTED strate-
gies and the carrying out of other programmatic
activities.

Within each phase there are distinct activities that provide the
information on which key decisions are made. These activities can be
expanded or reduced in scope, or otherwise modified, by local planners
to fit local conditions. Nevertheless, they are indicative of the
range of activities that will be necessary to reach valid conclusions
at the end of each phase. Evaluation activities are a major component
of each phase.

Experience has shown that an iterative planning process is most effective, with basic activities being carried from general to more specific development. For example, community participation is part of the Policy Determination phase but, in reality, is a continuous, constantly refined activity throughout all phases. Another example concerns funding activities, which are described in the implementation stage. Since funding is the ultimate key to implementation of the CPTED project, this activity should begin immediately and narrow gradually as funding commitments are obtained. The status of, or potential for, funding is an important criterion in selecting crime/ environment problems for inclusion in a CPTED project and designing CPTED strategies.

The experience gained through the research and demonstration activities of the CPTED Program provides object lessons that can serve as useful guideposts for similar projects. Chief among these are:

- 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 key decisionmakers in order to coordinate and organize a project.

- Site selection for a CPTED project is a key consideration since site characteristics will influence subsequent planning and implementation activities.

- 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.

- CPTED is most successful when it is focused on opportunity areas that have programs underway and can offer support for the project.

- The scope of a project is dependent upon local objectives (i.e., CPTED can be applied to a

single structure or an entire city, or it can

address one problem or the range of problems

in a particular environment).

- Management and participation requirements can

    change as a CPTED project makes the transition

    from the planning to the implementation phase.

2.2 Volume II -- Strategies and Directives Manual

Volume II provides a comprehensive overview of CPTED strategies

that can serve as useful examples for addressing crime problems and

opportunities that are common to residential neighborhoods, commercial

areas, and schools. The Appendix contains an annotated bibliography

of relevant source materials.

For some problems, the strategies presented may be directly ap-

plicable, however, they are by no means all-inclusive. It is expected

that these strategies will suggest additional solutions, or variations,

for the particular target area. While most of the strategies are based

on demonstration experience, they are applicable to other settings as

well.

Typical project objectives are presented for the three environ-

ments, each with a range of strategies one might employ to achieve that

objective. Illustrative of the contents of the Strategies and Direc-

tives Manual is the following summary description of these objectives

with examples of strategies.

- *Provide secure barriers to prevent unauthorized access* -- Barriers might include additional fences and locks or upgraded construction materials for windows and doors.

- *Improve opportunities for surveillance by physical mechanisms that serve to increase risk of detection for offenders, enable evasive actions by potential victims, and facilitate intervention by the police* -- Natural surveillance can be enhanced by limiting the number of entrances to a building, trimming or eliminating shrubbery and other visual barriers, and locating activity areas where they provide a view of vulnerable grounds areas.

- *Provide buildings with security devices to detect and signal illegal entry attempts* -- Devices may include intercoms, electronic detectors, closed-circuit television, and interior and exterior lighting.

- *Design buildings and residences to enhance security* -- One means is to create and enforce minimum security standards set by State or municipal codes.

- *Establish policies to prevent land and building uses that have negative impact* -- Zoning ordinances

18

should be established to prevent such inappro-
priate mixes of land use as locating X-rated
establishments near schools.

- *Reduce causes of congestion that contribute to physical confrontations* -- For example, con-
trolling bus-loading areas and increasing the
size of stairs in schools help provide freer
circulation patterns.

- *Encourage residents and merchants to add safe-guards to their homes and businesses* -- This
set of strategies includes not only the obvious
addition of locks, but also calls attention to
such unsafe security practices as leaving
house keys hidden on door sills and garage
doors open.

- *Encourage social interaction to foster cohe-sion and control* -- Providing informal meeting
places and special events encourages interaction
in an area and allows users to get to know each
other so that they more readily recognize
strangers.

- *Determine appropriate security services* --
Security services might be provided by a pro-
fessional staff, off-duty policemen, or citizen

or student patrols in vulnerable areas.

- *Implement safeguards to make customers less vulnerable to crime* -- Customers can be encouraged not to carry cash through cooperative efforts of local businesses and the media.

- *Improve police services to respond effectively and to enhance citizen cooperation* -- Police can be encouraged to increase activities in crime-prone areas while citizens can be encouraged to undertake crime reporting activities.

- *Improve police/community relations to involve citizens in cooperative efforts* -- Such means as neighborhood foot patrols and police speaking to community groups can encourage mutual trust and cooperation.

- *Provide psychological deterrents to thefts and vandalism* -- Encouraging people to mark their personal property and providing conspicuous trespass detectors can serve as deterrents to would-be offenders.

- *Create neighborhood/community crime prevention awareness* -- Residents, business people, and students should be encouraged to be alert to and report any suspicious activities.

- *Establish procedures to handle emergency situations --*
  Teachers in vulnerable locations in and around
  schools may be provided with silent alarm buttons
  to summon assistance or with two-way radios.

- *Differentiate private areas from public spaces
  and highlight functional areas to discourage tres-
  passing and increase territorial identity --* Pro-
  vide landscaping, public notices, graphics, and
  other means to identify areas as private property.

- *Promote public awareness and involvement with the
  community and the institutions within it --*
  Active public information channels can highlight
  the constructive elements of neighborhood schools,
  thus increasing community interest in student and
  faculty activities and achievements.

- *Develop a positive image of the area or institu-
  tion to encourage the resident or user and increase
  investor confidence and economic vitality --* Pub-
  licity of good news events in the area via public
  media can help offset the bad press of crime and
  help encourage approval of loans for new homes and
  businesses.

Four CPTED products represent technical extensions of sections in
Volume II. Technical Guideline No. 6: Decision Aids and CPTED Evaluation

Criteria describes in detail procedures for conducting cost/effective-
ness analyses; Technical Guideline No. 7: Planning Public Outdoor
Areas focuses on the implementation requirements of outdoor lighting
and landscaping; Technical Guideline No. 8: Citizen Involvement in
CPTED Projects presents participation methods in detail; and Technical
Guideline No. 9: Security Engineering Design in Commercial and Insti-
tutional Facilities covers commercial security practices and design
considerations for site, perimeter, and building security.

2.3 Volume III -- Analytic Methods Handbook

Volume III describes analytical methods that can be used to
diagnose problems and evaluate solutions. It consists of three intro-
ductory chapters and four appendices. The chapters give an overview
of the crime/environment analysis process, a theoretical perspective,
and the basics of data collection methods with guidelines covering
the coordination of analytic objectives and resources. The appendices
treat an aspect of crime/environment analysis in depth by expanding
on the theoretical discussion, the use of police crime data, and CPTED
evaluation designs and procedures.

Coordinated with Volume III, but presented in a separate volume,
are five CPTED Technical Guidelines that contain material with more of
a how-to-do-it flavor concerning environmental assessment methods
(Guideline 1), behavioral observation methods (Guideline 2), fear-of-
crime surveys (Guideline 3), victimization surveys (Guideline 4), and
quantitative analytic techniques (Guideline 5).

Crime problems are viewed as crime/environment problems because the focus is on solutions that treat the environment in such a way as to lessen the vulnerability of potential victims, increase the level of effort involved in committing a crime, reduce the potential payoff to the offender, and improve the chances of apprehension.

One perspective that can be helpful in the identification of key crime/environment variables is the proposition that criminal opportunities are a function of four factors: Target, risk, effort, and payoff. The focus is on crime/environment variables that relate to the decisionmaking process of a criminal. The assumption is that criminals avoid low-opportunity environments (e.g., those that require much effort to commit a crime, where the risk of apprehension or punishment is high, where few targets exist, and where only small payoff can be obtained). Similarly, it is assumed that criminals prefer an environment where opportunity is high because targets are available that allow crimes to be committed easily and quickly for large rewards, with little or no risk of apprehension. Based on this perspective, the important analytic questions to address are:

- What aspects of the environment are the most important to a potential criminal?

- How does the potential offender evaluate the available environments?

- What set of environmentally based dimensions is used in a criminal's decisionmaking process that distinguishes one environment from another?

If an empirically derived basis for selecting CPTED anticrime strategies is to be developed, the crime/environment analysis must shed light on nine categories of data variables:

- Type of Crime -- The primary crime categories addressed by CPTED are criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny, auto theft, simple assault, arson, and vandalism.

- Severity of the Crime Problem -- Basic to any prevention effort in a given community is the ability to assess the severity of a particular crime problem, as well as to ascertain what crimes are most prevalent.

- Offender Behavior -- These variables include modus operandi (e.g., use of force, concealment, entry tactics, and extent of planning) and offender demographics (e.g., age, sex, and race).

- Patterns of Crime -- The term *patterns* refers to geographic and temporal phenomena. With respect to geographic variables, crime occurs more frequently in some areas of cities than in others. Geographic frequencies, the offender's sphere of activity, and the potential for displacement of crime vary by type of crime as well. Types of
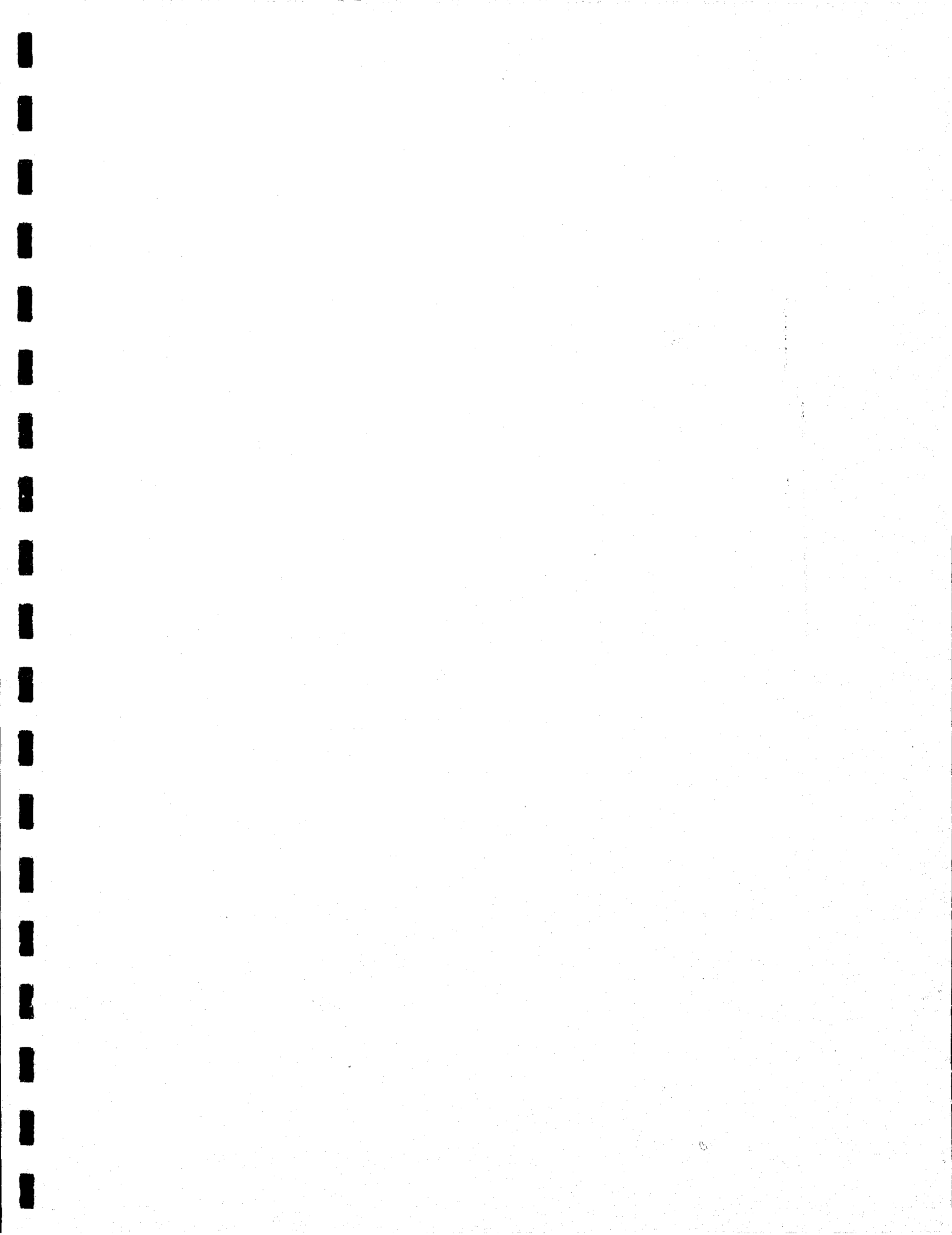
crime also tend to cluster around particular times
of the day, days of the week, and months of the
year. Moreover, some crimes are more affected by
season than others.

- Environmental Design Variables -- Building density,
  relationships among buildings, characteristics of
  open areas, the quality of physical environment,
  environmental use patterns, and other design
  variables must be considered in relation to offender
  accessibility to potential victims and the user's
  ability to control the level of security in his
  environment.

- Citizen Behavior -- Socioeconomic profiles of com-
  munities are important because some types of users
  are more vulnerable to victimization than others.
  In addition, it is important to assess the social
  cohesiveness of the environment.

- Law Enforcement Behavior -- Law enforcement ac-
  tivities are studied in crime/environment analyses
  with respect to the influence of police behavior
  on environmental use patterns and the ways in
  which citizen anticrime activities can be supported.

- Crime Displacement -- Displacement is the phenomenon
  that occurs when foreclosure of one type of criminal

opportunity by anticrime measures causes offenders
to shift to: (a) A different time of day (tem-
poral); (b) the use of different methods (tactical);
(c) an alternate type of target (target); (d) a new
area (territorial); or (e) a different type of crime
(functional).

- Fear of Crime -- The relationship of fear to charac-
teristics of crime and the environment is complex.
CPTED planners must be concerned about certain as-
pects of the problem including reasons for dis-
crepancies between citizens' perceived and probable
chances of being victimized, misperceptions about
the nature of crime and the behavior of criminals,
and the social and physical correlates of fear.

Figure 2 displays the series of steps involved in the process of
collecting, interpreting, and using crime-related and environment-
related information. Essentially, the process begins when a decision is
made to initiate a CPTED project. The early activities involve identi-
fying and studying crime-related problems and issues; then, a careful
and comprehensive analysis is made of the identified problems. The
later analytic activities involve interpreting collected data and trans-
lating the findings into program directives. The nature and direction
of activities during any phase of this process can be modified by in-
puts provided by citizen groups.

26

CITIZEN PARTICIPATION

| Initiation of Crime/Environment Analyses and Project Evaluation | Delineation of Issues and Perceived Problems | Identification of Crime/Environment Targets | Detailed Analyses of Identified Targets | Definition of Specific Crime/Environment Problems | Translation of Findings into CPTED Strategies and Directives | CPTED Project Plan | Project Implementation |

| Establishment of Evaluation Activities | Development of Evaluation Framework | Collection of Baseline Data | Translation of Directives into Measurement Points | Program Monitoring |

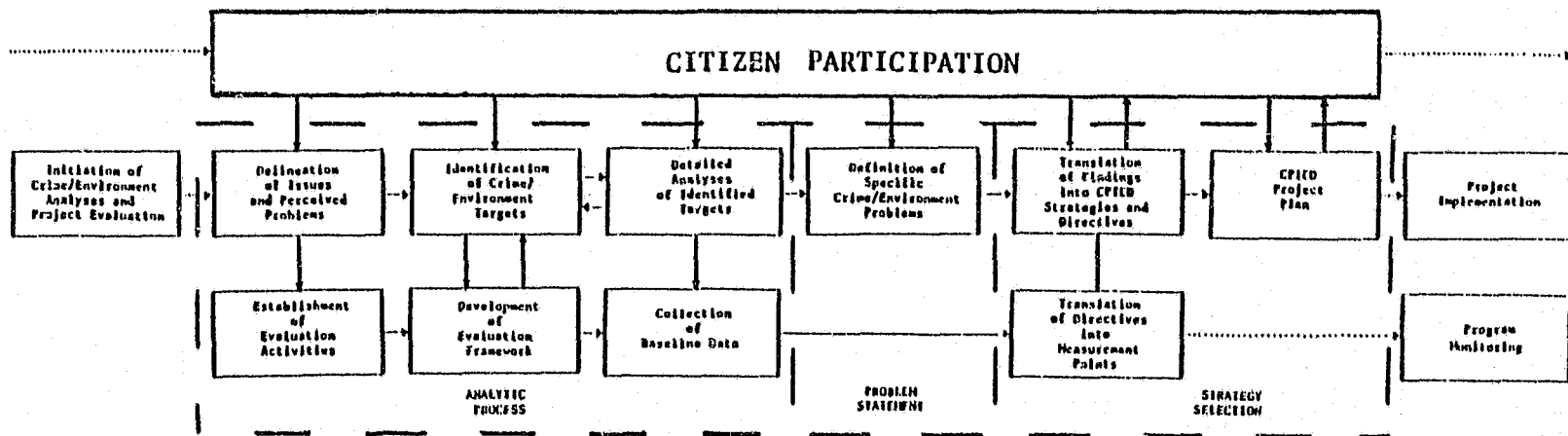ANALYTIC PROCESS   PROBLEM STATEMENT   STRATEGY SELECTION

Figure 2.   Diagram of Steps Involved in Crime/Environment Analysis

The following describe specific tasks that can be undertaken during each phase of the process.
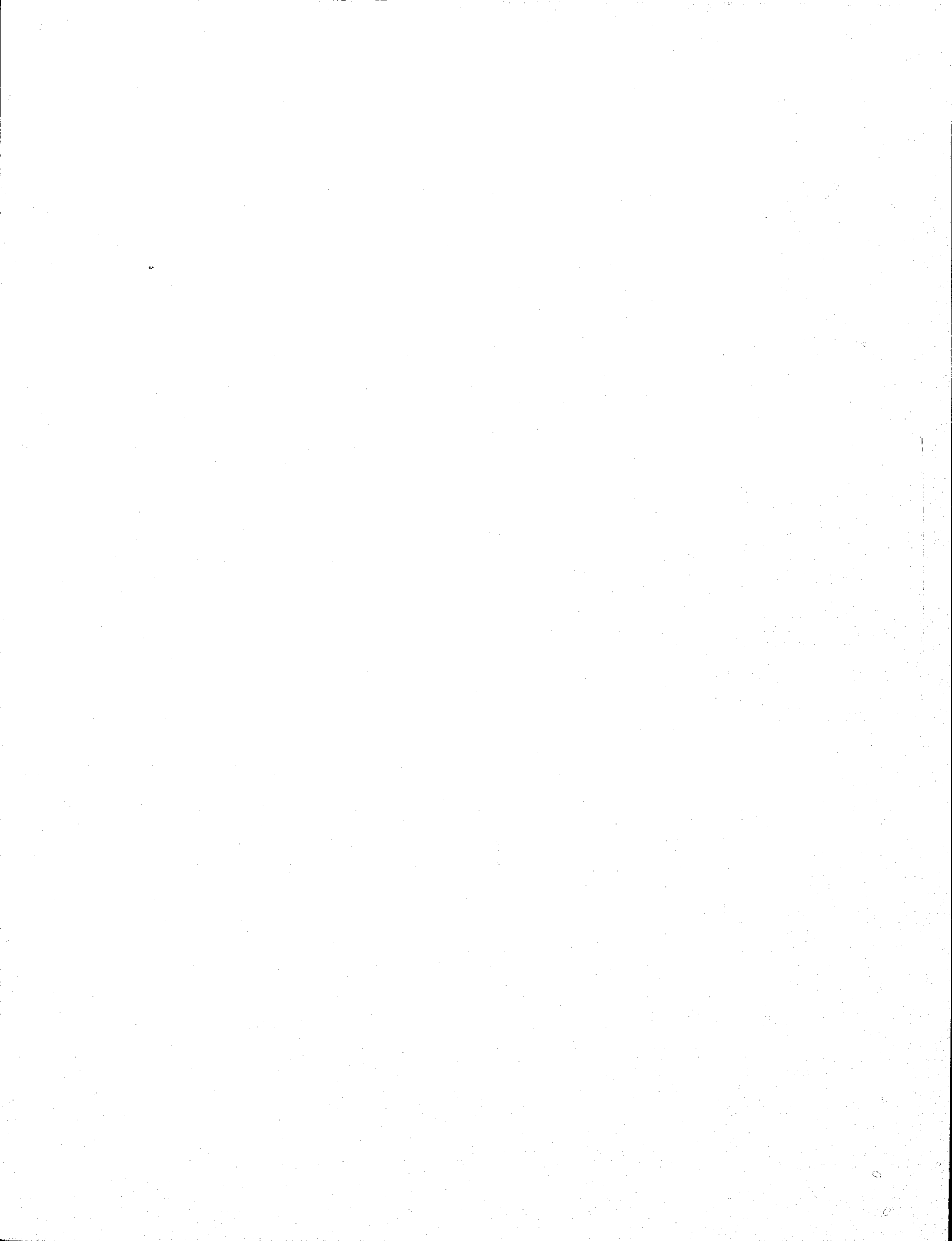
- Delineation of Issues and Problems -- This allows the project team to establish project objectives with respect to existing problems within the study area. Through systematic and comparative analysis of existing police and census records, a foundation is prepared for focusing on well-documented problems. Specifically, this phase entails conducting field trips to assess the nature of the project environment and the user population; looking at summary data reports on crime, housing, and population characteristics; and meeting informally with individuals or groups.

- Identification of Crime/Environment Targets -- A crime/environment target is a specific type of crime studied within the context of a specific environmental setting (e.g., residential burglaries in relation to single-family detached houses, or personal robberies within the context of outdoor parking lots). Identifying crime/ environment targets for detailed examination involves conducting structured, in-depth interviews with knowledgeable individuals (police,

community leaders, persons holding political offices); examining individual police Offense Reports for an assessment of types and frequencies of crimes, offender methods, temporal and locational data; studying the nature of fear by surveying the population; and possibly conducting a victimization survey, if the Offense Reports are inadequate for establishing accurate crime rates.

- <u>Project Evaluation</u> -- If evaluation is to be included in the planning agenda, data base requirements must be specified because knowledge about the physical and social environment is important for maintaining the achievement of project goals as well as the linkages between project activities and goals. Monitoring is also important for establishing data gathering priorities. For example, burglary in single-family homes may be the priority crime target at the outset of a project. By designing a system for recording land use characteristics associated with burglaries, the analysts are able to detect a shift in patterns more quickly (e.g., the trend may shift to robbery in food stores).

- Detailed Analysis of Identified Targets -- Whether

  or not evaluation is part of the project agenda, it

  is necessary to conduct detailed examinations of

  specific crime/environment targets. The methods in-

  clude conducting structured observations of environ-

  mental design features and of how such features are

  used and interviewing specific users of targeted

  areas for their perceptions of relevant crime/en-

  vironment variables. These methods are designed

  to provide precise information about the nature and

  use of specific settings.

- Translation of Findings into Project Directives --

  The final phase of the analytic process involves

  defining crime/environment problems and culling

  a subset of those most amenable to CPTED solutions,

  whether achieved through physical design programs,

  social programs, management programs, or law en-

  forcement programs, or some combination thereof.

The more comprehensive the crime/environment analysis, the more

likely an effective CPTED project will be designed.

END