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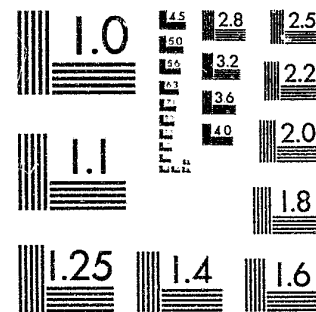
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THE ENVIRONMENTAL DESIGN &
MANAGEMENT (EDM) APPROACH TO
CRIME PREVENTION IN RESIDENTIAL
ENVIRONMENTS

NO. 1984-84

ABSTRACT

This study examined the nature and applicability of an approach to preventing crime through modifications to the environments in which it occurs -- the Environmental Design and Management (EDM) approach. While drawing upon various antecedents, such as "defensible space" and "Crime Prevention Through Environmental Design (CPTED)", the EDM approach reflects the most current views on how crime in residential environments can be most effectively prevented, that is, through a balanced combination of strategies aimed at modifying both the design and management of the residential environment. It is primarily because of this equal weighting of design and management components that the EDM approach differs from its antecedents, which placed the greater emphasis on design elements.

The five basic categories of design strategies in the EDM approach are: target-hardening, detection hardware, improving surveillance potential, controlling access and escape, and fostering territoriality and social cohesion. The four groups of management strategies are organized according to the key groups that would be responsible for their implementation: residents, landlords, police, and the community at large. The full report provides a detailed description of the strategies included in each category, and evaluates their likely impact. It also assesses the feasibility of implementing the EDM approach in the recommended manner, which, for each environment in which it is to be implemented, requires first, a careful analysis of the crime problem and contributing environmental factors, and an assessment of the relevant resources available; then selection of the appropriate EDM strategies; and, finally, a substantial degree of involvement of a range of parties concerned with the occurrence of crime in the residential environment involved.

Overall, the report concludes that the EDM approach makes sense, primarily for its emphasis on preventing crime before it occurs; for addressing a variety of factors which influence the occurrence of crime; for treating each environment as a unique situation; and, for involving a range of individuals and groups in crime prevention.

To determine the need and potential for implementing the EDM approach in Canadian residential environments, the study conducted a survey of law enforcement and housing planning and management organizations in 25 major cities. The results of the survey and other related research indicated that rates of the EDM target crimes are increasing in Canada, and that in each of the sample cities there are residential areas and buildings that are clearly perceived as having higher rates of the target crimes than the city norm. The social and physical characteristics identified as being associated with high crime rates varied widely, even within individual cities. The basic conclusions to come out of these findings are first, that there is a need for the EDM approach in selected residential environments in Canada; and second, that the EDM approach is a particularly appropriate response to residential crime in Canada because it acknowledges the differing problems and needs of different environments.

Most of the organizations contacted in the research indicated already having implemented some of the EDM strategies, although not always for direct crime prevention objectives, but there were no cases found where a comprehensive program of EDM strategies had been tailored to the particular needs of individual environments. The study's recommendations are therefore focused on the need for the Federal Government to take an initiating and coordinating role in disseminating information on the EDM approach and in promoting its use among the various groups who should be involved in its implementation -- the general public, planners, architects, developers, and the police. The recommendations stress the importance of addressing the needs of existing housing environments, where there is an existing and known crime problem, but also note that many of the design strategies of the approach can be most effectively, and least expensively, applied in new housing.

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Executive Summary

INTRODUCTION

The past two decades have seen considerable attention given to the prevention of crime through modifications to the built environment. The terms most frequently used to describe this approach are "Defensible Space" and "Crime Prevention Through Environmental Design (CPTED)". In this study we have introduced a third term -- the "Environmental Design and Management (EDM) Approach" -- a term which more clearly emphasizes the need to incorporate Management as well as Design strategies in effective crime prevention efforts.

In commissioning this study, the Ministry of the Solicitor General of Canada and the Canada Mortgage and Housing Corporation were interested in investigating: first, how various environmental design and management strategies to prevent residential crime had been applied in other jurisdictions, particularly in the United States and in Britain, and what lessons had been learned from such applications; and second, what was known about residential crime in Canada, with particular reference to the need and potential for implementing environmental design and management strategies.

To answer these broad questions, the study's investigations included three major types of activity: a literature review; a survey of the relevant concerns and experiences of various organizations in major Canadian cities; and, a series of field visits, including interviews with representatives of key organizations, in cities in both the United States and Canada. These investigations addressed the following areas of inquiry:

(1) What is the general state of knowledge about residential crime and the types of settings in which it occurs and, in a broad sense, why and how should consideration be given to the concept of preventing residential crime;

(2) How has the EDM approach evolved in terms of both theory and practice;

(3) What specific strategies are used to prevent residential crime and what is known about their impact;

(4) How can EDM strategies be most effectively implemented, and how can the potential of the EDM approach as a whole be assessed;

(5) What is the residential crime situation in Canada and is there a need for the EDM prevention approach;

(6) What experience have individuals and organizations concerned with the occurrence of residential crime in Canada had with the EDM prevention approach, and what is their attitude regarding its potential; and

(7) What, if anything, should be done about encouraging the use of the EDM approach in Canadian residential settings.

This summary of the study's findings, conclusions, and recommendations will follow the same sequential order.

1. RESIDENTIAL CRIME AND ITS PREVENTION

Crime is a complex phenomenon related to a variety of physical and social factors in the environments in which it occurs. The occurrence of any crime depends on the following conditions being met at one point in time:

. the physical presence of the offender, and the appropriate psychological, social, economic, and physical motivations and abilities of the offender;

. the physical presence of a target (person or object) of crime, and some degree of psychological, social, economic, or physical vulnerability of that person or object;

. a specific physical location for both offender and target to come together, and a lack of physical controls inherent in that location; and,

. the socio-economic environment within which the offender, target, and physical location exist, and a lack of social controls within that environment.

Research into the nature of residential crime[1] is not yet able to identify the role that each of the above conditions plays in the occurrence of crime, let alone how these conditions interact to make a crime more or less probable. The information that has been gathered in this regard has primarily focused on the crime problems and related environmental features of public housing projects in the United States. While these can not be considered typical of all residential environments in North America, the environmental correlates associated with their crime problems must be reviewed since the related research findings have structured the development of EDM prevention strategies.

The social characteristics of residential environments are the major predictors of high or low crime rates. The populations most commonly associated with crime rates (as both victims and offenders) are comprised of low-income, often single-parent, families, with large proportions of juveniles and, occasionally, of elderly residents. These characteristics affect the crime rate by making the resident population both more vulnerable to criminal victimization and more motivated to commit crime.

There are also some key physical characteristics of high-crime residential areas which are considered to facilitate the occurrence of crime by increasing the vulnerability of residents. The physical characteristic most commonly associated with high crime rates in residential environments is the presence of substantial proportions of high density, multiple-family, highrise housing; such housing is considered to make poor distinctions between public and private space, to provide limited security

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[1] For the purpose of this study, residential crime includes any of the following crimes when they occur in predominantly residential environments: break and entry (burglary), robbery, theft, motor vehicle theft, vandalism, arson, trespass, indecent assault, rape, and homicide and attempted murder.

features in terms of access restriction and surveillance opportunities, and to exhibit an unattractive and often poorly-maintained appearance. These physical characteristics are considered to reinforce the problems associated with the above social characteristics, thereby increasing the likelihood that residents are perceived as vulnerable by potential offenders.

Crime prevention is considered to be the most practical response to the problems of high-crime environments, mainly because other forms of crime control -- the police, courts, and corrections -- are largely reactive and can therefore only affect a small proportion of the offenders and victims involved in residential crime. Crime prevention is a proactive approach which attempts to make the commission of a crime less likely by changing the motivation of potential offenders, or by requiring more sophisticated skills and tools for the commission of crime, or by removing opportunities for crime. Traditional crime control measures have focused on changing the motivation of the offender and have had limited success in preventing crime. Requiring more sophisticated skills and tools to commit crime is also considered to be of limited value since this can result in engaging society and the offender in a continuing spiral of attack and defense, or in deflecting the potential offender to another target. Opportunity-reduction, however, is a particularly promising approach to crime prevention because it relates to a broad range of crimes and can affect the largest number of potential victims and offenders.

Crime prevention is as equally complex a phenomenon as crime, and instituting a crime prevention program is far from a simple matter. Such a program must consider the possibility that crime may simply be displaced (temporally, tactically, spatially, functionally, and in terms of the target involved). It must also consider the fact that a crime problem is not simply defined by crime rates but is also a function of fear of crime. Although a crime prevention program may decrease crime rates, it may concomitantly increase fear of crime by raising residents' awareness of the crime situation. Finally, crime prevention often must involve many segments of society to be truly effective, since there are limits to where the police can go and how much they can observe, just as there are limits to how much formal policing society can afford. However, it is one thing to allocate responsibility for crime prevention to various groups and another for those groups to accept and fulfill those responsibilities.

All of these issues must be considered in the development of an effective crime prevention program. It is in response to these and related concerns that the Environmental Design and Management approach to crime prevention has evolved.

2. EVOLUTION OF THE ENVIRONMENTAL DESIGN AND MANAGEMENT APPROACH TO CRIME PREVENTION

There has been a distinct difference in how design and management concepts for preventing crime have evolved in the United States and Britain. The United States has emphasized a design approach while Britain has emphasized a management approach. The British emphasis on managing residential environments to prevent crime reflects a longer history with crime prevention in general, and a concern with a particular crime -- vandalism -- which clearly can not be completely 'designed out' of an environment (for example, no amount of improved design can prevent spray-painted graffitti). While British architects and housing authorities have acknowledged the importance of design elements in the crime-environment relationship, they have tended to view the physical design of a residential environment not as a direct determinant of crime, but as a determinant of how well that environment can be managed; it is then the quality of the management (by the landlord, residents, police, and other parties) that determines the vulnerability to crime of a residential environment.

The emphasis on design elements in the United States, particularly in the "defensible space" work of Oscar Newman, came out of a concern with the crime problems of multiple-family, highrise public housing projects. While Newman's early work identified the social characteristics of a residential environment as the prime determinants of high or low crime rates, he is best known for his proposed modifications to the physical environment. Newman was not, however, the first proponent of the concept of designing residential environments to prevent crime. Jane Jacobs' "eyes on the street" concept and Elizabeth Wood's emphasis on design which encouraged social cohesion were two important antecedents of Newman's work. Nevertheless, it was Newman's "defensible space" proposals that stimulated U.S. federal government involvement in this approach to crime prevention. Over the last decade, substantial government funding has been committed to related research and demonstration projects undertaken by Newman, William Brill, Richard Gardiner, and the Westinghouse National Issues Center. Initially, these investigations were expected to provide definitive findings on the effectiveness of various design strategies intended to prevent crime (relating, for example, to restricting access, improving definition of zones of influence, and improving steet lighting). These tests sometimes included attempts to improve the management of the environments being studied (for example, getting residents involved in crime prevention programs, and changing police patrolling practices), but the main emphasis was clearly on the design component.

While these demonstration projects did have an impact on reducing crime, it eventually became clear that they could not provide any clear-cut answers regarding the specific impact of individual design strategies, both because the strategies' individual effects were inextricably mingled and because their effects could not be considered independently of the specific environment in which they occurred. As a result, attention shifted to developing better data bases, for example, through Brill's "vulnerability analysis", which provides guidelines for assessing the social and physical factors that affect a residential environment's vulnerability to crime.

More recently, research in the United States has concentrated on developing a better understanding of the broad environmental factors, such as neighbourhood stability and cohesion, that may be related to crime.

A good example of a program taking into account factors related to the broader social, cultural, and economic environment as well as the physical environment was the Anti-Crime Program implemented by the U.S. Federal Department of Housing and Urban Development in 1978. This program was aimed at reducing crime in public housing environments through a balanced mixture of design and management strategies, all of which were to be developed by the responsible housing authority in consultation with the residents, the police, and other interested parties. Although this program was the victim of budget cuts before its full potential could be demonstrated, it is the closest parallel to what we have in mind with our conception of an EDM approach to crime prevention.

3. STRATEGIES OF THE ENVIRONMENTAL DESIGN AND MANAGEMENT APPROACH

The EDM approach to crime prevention puts equal emphasis on strategies aimed at designing and managing environments to meet a crime prevention objective. In essence, the EDM approach acknowledges that without management strategies which encourage all concerned parties to work together to prevent crime, design strategies can have only limited impact. For example, it does not matter how many surveillance opportunities are designed into an environment if the users of that environment are not motivated to report or otherwise respond to suspicious behaviour.

The design strategies included in the EDM approach are intended to meet various crime prevention objectives. Within each strategy, there may be a range of different design solutions or techniques. Although the full report identifies many of these techniques, it does not discuss them in detail for two reasons: first, these techniques are already well sub-stantiated in the EDM-related literature; and, second, any emphasis on specific techniques would provide an overly detailed view of what is intended to be comprehensive and situation-specific approach to crime prevention.

The design strategies of the EDM approach fall into five (somewhat over-lapping) categories:

. Target-Hardening

. Detection Hardware

. Improving Surveillance Potential

. Controlling Access and Escape, and

. Fostering Territoriality and Social Cohesion.

The following is a brief description of the strategies included in each of these categories.

3.1 DESIGN STRATEGIES

3.1.1 Target-Hardening
i. Increasing the difficulty of illegal access to residential buildings or units through mechanical means such as improved locks.
ii. Using vandal-resistant materials to decrease the likelihood and seriousness of vandalism.

3.1.2 Detection Hardware
i. Using alarms to increase the difficulty of undetected illegal access.
ii. Using cameras to increase surveillance potential.

3.1.3 Improving Surveillance Potential
i. Reducing concealment opportunities, for example, by avoiding the use of blind corridors, and of alcoves in corridors, lobbies and parking garages.

ii.   Improving lighting in both the exterior areas around a residential building and in such shared interior spaces as parking garages.

iii. Improving placement of windows to provide surveillance opportunities from major activity areas such as the kitchen and family room of a single-family dwelling or the laundry rooms and stairwells of multiple-family structures.

iv.   Improving visibility of locations for indoor and outdoor resident services and facilities, for example, by locating facilities such as laundry rooms, mail rooms and parking areas of multiple-family buildings where there is good potential for formal and informal surveillance both into and from these spaces.

v.   Increasing pedestrian and street traffic to increase the "eyes on the street" or the informal surveillance capability of the environment.

3.1.4 Controlling Access and Escape

i.   Controlling access to and escape from the general area to decrease the likelihood that potential criminals will be able either to familiarize themselves with an area or to enter or leave that area undetected (for example, by using restricted street layouts such as cul-de-sacs).

ii.   Using real or symbolic barriers to control circulation within an area through the use of landscaping, fencing and other elements which define where public space ends and residents' semi-private or private space begins.

iii. Improving ease and speed of response to crime, for example, through improvements in the identification of dwelling units and in lighting.

3.1.5 Fostering Territoriality and Social Cohesion

i.   Clustering dwelling units to reduce the anonymity associated with large multiple-family buildings by decreasing the number of families using one single entry, lobby, and set of elevators.

ii.   Distinguishing between resident and non-resident space and reducing conflicting uses both to make residents more known to each other and therefore more alert to the presence of strangers, and to reduce the likelihood of conflicts between residents.

iii. Reducing differentiation between residential developments and the surrounding community to ensure that specific developments are not perceived as distinct and separate targets for crime and to develop a broader sense of neighbourhood community among individual residential developments.

The objectives and proposed effects of these design strategies of the EDM approach blend inextricably with those of the management strategies. Without management strategies directed to drawing the goal of crime prevention to the attention of residents, landlords, police, and the community at large, design strategies can have only very limited effects.

3.2   MANAGEMENT STRATEGIES

3.2.1 Resident

i.   Education programs through which residents can obtain advice on crime prevention measures which they can undertake.

ii.   Resident and community surveillance programs through which residents keep an eye on their neighbourhood in an organized manner (for example, through community patrols).

iii. Self-help programs including both organized services (escort services, hot-line security services, and apartment-watch), and behavioural restrictions which individual residents undertake to make themselves less vulnerable to crime.

iv.   Resident/tenant associations which develop organized resident groups that may be a prerequisite for the successful undertaking of other resident strategies.

3.2.2 Landlord

i.   Private security personnel to increase formal security surveillance in semi-private areas where police tend to go only when there is an immediate need.

ii.   Improved building image and maintenance to improve a residential environment's appearance because vandalised property tends to invite further vandalism and because shoddy and unattractive environments do not encourage residents to feel concern about what goes on there.

iii. Improved rental and eviction policies to weed out potential trouble-makers or criminals and develop social cohesion among residents by avoiding mixes of potentially incompatible residents (for example, elderly and teenagers).

3.2.3 Police

i.   Consultation and liaison with planning/housing authorities to ensure that police expertise with regard to the design elements that facilitate crime is available and applied at the early stages of planning for new residential developments.

ii.   Public relations programs to encourage residents to report crimes, and to ensure that the strengths and limitations of the police in a crime prevention program are clearly understood by all concerned.

iii. Team or neighbourhood policing to create a greater knowledge of a patrol area among the officers responsible for that area, to encourage interaction between the police and the residents of an area, and to make police input to other crime prevention strategies more sensitive to the needs of a particular environment.

iv.   Security surveys and inspection programs to help residents identify and safeguard the vulnerable areas of individual dwellings or dwelling units.

v.   Operation Identification.

3.2.4 Community

i.   Improved recreational facilities and programs to decrease anonymity and to reduce juvenile involvement in crime by directing their energies to pro-social activities.

ii.   Improved social services and crisis intervention services to help ease some of the economic, emotional, or other pressures that are possible contributing factors in motivating residents to commit crime or making them more vulnerable to victimization.

Unfortunately, the likely impact of the above strategies is largely a matter of conjecture; there is little empirical verification of their specific effects on crime. Those strategies which are supported by the findings of related research are those which are the least complex in theoretical terms -- for example, target-hardening and improving lighting. One of the major problems in evaluating the impact of individual strategies derives from the fact that they are rarely implemented on their own, and it is therefore difficult to separate their specific effects. Further, their impact can vary depending on the nature of the specific environment where they are implemented. These points are very important considerations in the implementation of EDM strategies.

4. IMPLEMENTATION AND ASSESSMENT OF THE EDM APPROACH

Beyond the need to use both design and management strategies to prevent crime effectively, the second most important point about the EDM approach is that it probably should be applied differently in different environments. Each application should be custom tailored to the particular crime problems in specific environments. A basic implication of this point is that no one set of rules for implementing the EDM approach can be developed for all environments. The EDM approach is instead a philosophy of crime prevention providing general guidelines with regard to the types of actions that can be taken to address particular crime problems.

The first step in implementing the EDM approach in a given residential environment is to analyse the crime problem and to identify the environmental factors that are considered to be related to that problem. It is only then that the need for specific strategies can be identified. The final selection of the strategies to be implemented and the precise design techniques to be used depends on the financial, human, and other resources available and on a range of other objectives (for example, aesthetic and privacy objectives). A major reason that the EDM approach purposely avoids providing a set of rules for implementing strategies is related to the fact that many strategies can conflict with each other or with other objectives. For example, strategies directed to controlling access and escape can conflict with those intending to improve the surveillance potential of an environment, and target-hardening strategies may conflict with fire safety design objectives. In such cases, trade-offs will need to be made, depending on which objectives are most important.

The implementation of an EDM crime prevention program will also vary depending on whether the environment involved is a new or existing residential development -- each provides different opportunities and constraints. While many of the design strategies can be costly to implement in existing residential environments, they can involve little or no extra cost if they are considered early in the planning of new housing. On the other hand, implementation of the management strategies is almost entirely focused on existing environments where there is a resident population and a police force that can be involved in developing and applying the appropriate management strategies.

These are the key points relating to the optimum implementation of the EDM approach. However, in order for the relevant organizations to commit themselves to the detailed planning and implementation process required of the approach, it is likely they will want some evidence that their efforts will be rewarded by a reduction in crime. Assessing the potential impact of an EDM crime prevention program is, however, virtually impossible given the current limited knowledge about crime and its environmental correlates. All that can be said is that the EDM approach makes sense -- with regards to its focus on preventing crime before it occurs; reducing the opportunities for crime presented by various social and physical features of residential environments; involving a range of groups in its planning and application; and, in many cases, potentially improving the general quality of life in residential environments as part of its crime prevention objective.

Given this conclusion, the question is whether there is a need for this approach to crime prevention in Canadian residential environments.

5. RESIDENTIAL CRIME IN CANADA

While crime-recording practices make it difficult to separate data on crimes occurring in residential environments from those on all crime occurrences, it appears that Canadian rates of residential crime, particularly break and entry, are increasing more quickly than the rates of almost any other crime category. While the currently available data are not definitive on this matter, they suggest that residential crime is a particular concern in metropolitan areas in the western region of Canada, areas which are undergoing rapid growth and social change.

This is not to say that residential crime is not evident in other metropolitan centres in Canada. All the cities included in our study had residential areas that could be identified as having higher crime rates than the norm, at least according to the perceptions of the relevant police forces. Many public and private sector landlords could also identify specific residential properties which were perceived to have high crime rates. Given the lack of reliable data on the characteristics of these high-crime areas and buildings, our findings are primarily based on the perceptions of representatives of law enforcement and housing organizations. On an aggregate level, these perceptions indicate that there are some physical and social features common to many high-crime residential environments in Canada. The physical features most commonly identified were multiple-family housing, non-residential land uses (such as major traffic arteries) either nearby or within the residential area, and poor surveillance opportunities. In terms of the social environment, high-crime areas and buildings were most frequently perceived as having low-income populations with substantial proportions of juveniles.

These characteristics can not, however, be taken as accurate predictors of all high-crime residential environments in Canada, since there were a number of cases in which every other possible permutation of physical and social characteristics was identified as being associated with high crime rates, including single-family housing and high-income populations. We have therefore concluded that high-crime residential environments in Canada can not be as neatly categorized as in the United States. We have also concluded that given the variety of characteristics exhibited by high-crime residential environments in this country, the situation-specific EDM approach would be the most appropriate response to these environments' crime problems.

However, it is not enough to identify the EDM approach as appropriate; there must also be a clear need for it. The comments and responses of the representatives of the organizations included in our investigations indicated that they perceived a crime problem, and supposedly a need for crime prevention, in some areas in their jurisdictions. They could not identify whether the residents of these areas, whose involvement is critical to the EDM approach, had similar perceptions. In a few jurisdictions, we found examples of residents organizing themselves because of crime-related concerns. In addition, several national surveys have indicated that crime is considered to be a major public issue affecting a substantial proportion of the Canadian population. Nevertheless, individual citizens or resident groups have not initiated much action because of their concern with crime and it is difficult to say the general populace perceives a need for crime prevention in general, let alone the comprehensive EDM approach to crime prevention.

6. CANADIAN EXPERIENCES AND ATTITUDES REGARDING THE EDM APPROACH

Many of the representatives of the law enforcement, housing, and planning organizations we contacted in our research appear to have had substantial experience with some of the EDM strategies, particularly those relating to target-hardening, improving surveillance potential, and police strategies such as security surveys and Operation Identification. In many cases in the planning and housing fields, this experience was not the result of crime prevention objectives but part of an effort to improve the overall quality of residential environments. Not surprisingly, those EDM strategies most familiar to the law enforcement organizations were the least familiar to planning and housing organizations, and vice-versa.

The fact that the various organizations had not had experience with implementing some of the EDM strategies did not, however, appear to condition their judgments of the potential effectiveness of these strategies; in many cases, the organizations involved gave high effectiveness ratings to strategies with which they were completely inexperienced. Overall, the EDM strategies considered to have the highest potential effectiveness for preventing a range of crimes were those related to target-hardening, improving surveillance potential, resident education and involvement, and police programs. These strategies are the least complex (in theoretical and practical terms) of all the EDM strategies, and can be the least expensive to implement.

We can only postulate how the EDM approach as a whole is likely to be viewed by the organizations and individuals who would need to be involved in its implementation, since none of these have had experience with the approach as a whole. While responses regarding the EDM approach ranged from uninterested to extremely enthusiastic, a common thread consistently appeared. The EDM approach, and crime prevention in general, must take its place in line with a range of priorities relating to the design and management of residential environments. In essence, many organizations appeared to be saying 'show us it is worth our while to follow this through'.

Experience in other jurisdictions suggests that the best way to do so is to emphasize the costs incurred by crime -- to landlords, residents, and entire municipalities. The fact that in 1981 crime in Canada cost $1.3 billion in insurance payments could be a starting point for illustrating the potential costs involved in not undertaking crime prevention measures.

7. RECOMMENDATIONS REGARDING THE IMPLEMENTATION OF THE EDM APPROACH IN CANADIAN RESIDENTIAL ENVIRONMENTS

The major thrust of our recommendations on implementing the EDM approach in Canadian residential environments assumes: first, that there is a need for information on the potential of this approach to crime prevention; and second, that the Federal Government is the most appropriate agency to fulfill this need. We therefore recommend that the Federal Government take a lead role in disseminating information on the EDM approach to the various groups that would be involved in its implementation: the general public, police forces, private security agencies, architects and planners (including municipal planning officials), developers (private, public and non-profit), and housing managers. This information dissemination can be undertaken through various media including brochures and workshop sessions.

Further, we recommend that the Federal Government consider instituting a program which provides guidance and financial assistance for the implementation of the EDM approach in residential environments where there is a demonstrated need, willingness, and ability to develop and implement an EDM program for the purpose of reducing the target crimes. We would recommend that this program be responsive and not directive, because we do not believe there is any practical way for government to determine or measure relative need on a national basis.

We also recommend, as part of this implementation program, that the participants be encouraged to undertake research relating to such issues as: spatial, temporal or technological displacement; the extent to which particular crimes can be defined as 'crimes of opportunity'; the environmental stimuli that affect a potential offender's perception of whether or not a particular environment is vulnerable; and the most effective means of maintaining the interest and involvement of the residents and management of a residential environment in working to prevent crime in their communities.

In addition, we recommend that the Federal Government provide guidance and increased resources to police forces which indicate an interest in implementing the EDM approach and in collecting the types of information on crime occurrences which are relevant to that approach, particularly on specific locational characteristics of criminal acts in residential environments.

Finally, we recommend that the Federal Government give serious consideration to incorporating a target-hardening section for crime prevention purposes in the National Building Code and to encouraging the National Research Council to develop appropriate performance standards for secure locks, doors and windows in residential structures.

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PART 1

Background

Chapter 1

Introduction

1.1 STUDY PURPOSE

The concept of preventing crime by improving the design and management of the built environment has received considerable attention over the past decade, particularly in the United States. Although there has been relatively little formal investigation of the potential for applying the concept in Canada, various organizations across the country, including police departments, public housing authorities and citizen groups, have expressed an interest in undertaking related programs. In response to this interest, this study was jointly commissioned by the Ministry of the Solicitor General of Canada and the Canada Mortgage and Housing Corporation.

The overall purpose of this study was to determine whether there was a need and potential for implementing a crime prevention approach in Canada which focused on improving the design and management of residential environments. In order to fulfill that purpose, the study first examined the current understanding, in both theoretical and practical terms, of what is meant by the 'design and management approach to residential crime prevention' and what is known about its effectiveness. Second, it investigated the perceived need for implementing this approach to residential crime prevention in Canada, and the related experiences and attitudes of agencies and individuals who would potentially be involved in its implementation.

The above definition of the study's purpose and research focus has several important implications which will be emphasized throughout the report. First, the study was concerned with an approach to crime <u>prevention</u>. Consequently, the resulting findings and recommendations should not be interpreted as documentation of a total <u>solution</u> to crime (a common misinterpretation of the design and management approach to crime prevention). Second, the study's primary focus is the urban <u>residential</u> environment as the setting in which this approach to crime prevention is considered to be particularly applicable;[1] other components of the urban context (such as schools and commercial facilities) are therefore

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[1] As is discussed later, the crimes which commonly occur in residential environments are often those which are considered to entail a strong element of opportunity (i.e. the criminal takes advantage of the opportunity presented by an area of vulnerability), and the design and management approach to crime prevention is particularly directed to decreasing such opportunities.

mentioned only in terms of their impact on the incidence of crime in adjacent residential settings.[1] Finally, it should be noted that the purpose of this study was to investigate and recommend an overall approach to implementing the design and management method of crime prevention. It was not intended to provide a definitive formula or set of rules for the universal application of specific design and management strategies.

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[1] This is not to say that the design and management approach to crime prevention could not also be implemented in commercial environments; rather the need and potential for such implementation should be the subject of further research directed at the specific situations of commercial settings, which are noted in the relevant literature as varying considerably from those of residential environments.

1.2   STUDY PROCESS AND RESEARCH

The investigations undertaken in the study and described in this chapter included three components: a review of the available literature, discussions with selected individuals and organizations in the United States, and research on the nature of residential crime and related prevention strategies in Canada. While each component involved a basically discrete set of activities, they were not undertaken in a strict sequence but were, to some degree, simultaneous. The literature review, in particular, continued throughout the work of the study in order to incorporate new material identified in the other research areas.

1.2.1   Literature Review

The literature review included both published and unpublished documents (listed in the selected bibliography in the Appendix) relating to the theory and practice of the design and management approach to crime prevention. With regard to the theoretical writings related to this approach to crime prevention, the literature search and review concentrated on documents which discussed the rationale for the approach; the types of crimes, offenders and victims which it was expected to affect; the nature of the physical and social environments considered as being in need of this approach and suitable for its application; and, the consequences of implementing the approach.

Whereas the review of literature on the theory of the design and management approach included British, Canadian and American sources, the review of material on its actual practice necessarily concentrated on experiences in the United States. This American focus reflected the fact that Canadian material was very limited and the fact that most of the organized attempts to implement components of the approach have been undertaken in the United States. In reviewing the documentation of such implementation and evaluation projects, the primary concern was to identify those strategies which had been clearly proven to be successful in preventing crime in residential environments; the characteristics of the physical and social environments which were significant to the success of the approach; and, the lessons learned about the total implementation process, with particular reference to the roles of the individuals and agencies involved and their inter-relationships. This aspect of the literature review was aided considerably by the completion, halfway through our study, of a report commissioned by the United States National Institute of Justice which assessed the crime prevention effectiveness of many of the physical design (but not the management) elements of this approach (see American Institutes for Research 1980).

As a result of the other investigations of the study -- the field visits in the United States and the research on residential crime and its prevention in Canada -- additional documents were identified and reviewed. The material provided by the U.S. sources generally related to current implementation projects and ongoing research studies in the United States, and the Canadian literature primarily addressed crime and crime prevention issues in specific cities or provinces.

1.2.2 U.S. Investigations

Since the available literature could not, by its very nature, address ongoing developments in the field, discussions with key individuals and agencies and visits to significant projects in the United States were undertaken to obtain the most current views possible on the theory and application of the design and management approach to crime prevention. Very early in the work of this study, a meeting was arranged with Dr. Richard Titus of the U.S. National Institute of Law Enforcement and Criminal Justice because of that agency's extensive involvement in commissioning research studies relating to the urban design approach to crime prevention. That discussion provided valuable insights not available in the literature, related to how the approach was evolving in the United States and its likely future, the specific individuals and agencies who were still or newly active in the field, and current studies and projects which could be valuable to our research.

Of particular importance, the discussion indicated that an intensive new federal program incorporating the design and management approach to crime prevention was just getting underway in public housing projects in several American cities under the aegis of the Department of Housing and Urban Development (HUD). Interviews were therefore held with HUD officials in Washington, D.C. to document HUD's general involvement in the crime prevention field, the objectives of the new Anti-Crime Urban Initiatives Program, and its funding and administrative process. These interviews were supplemented by discussion with crime prevention officers in the Arlington, Virginia police force, which had previously been identified as one of the few police departments in the country to be formally involved in reviewing building plans.

Subsequent to these discussions with the initiators and administrators of the HUD Anti-Crime Program, two field visits were undertaken to examine the actual operation of the program. The selection of Toledo, Ohio and Chicago, Illinois for these field visits was primarily based on the fact that they represented two ends of the scale in terms of the size and complexity of the cities and public housing authorities and projects involved. The field visits included discussions with officials of the public housing authorities and with administrators of the Anti-Crime Program, tours of the projects involved and, in the case of Chicago, interviews at the municipal planning department, which has been involved for some time in the field of crime prevention through environmental design. As part of the Chicago visit, discussions were held with researchers at Northwestern University who are currently involved in a study on how the characteristics of neighbourhoods are related to crime and fear of crime levels.

Further insights into the U.S. experience with the urban design approach to crime prevention were provided by a discussion with Douglas Frisbie, then of the Minnesota Community Crime Prevention Center, during one of his lectures at the Canadian Police College. This opportunity to monitor his lectures was also valuable in indicating what type of formal exposure to the approach is currently provided to members of police forces in Canada.

It was as a result of these first two stages of the study's investigations -- i.e. the literature review and the examination of the most recent developments in the field in the United States -- that the term 'Environmental Design and Management (EDM)' was coined to describe the approach to crime prevention being investigated in this study. The specific reasons for creating this term instead of continuing with the "Crime Prevention Through Environmental Design (CPTED)" or "defensible space" terms, best known through the U.S. experience, are discussed in detail in Chapter 4. Basically the intent was to incorporate a reference to 'managing' the environment in order to illustrate and emphasize the increasing significance being given to the need to use both design and management strategies as part of a comprehensive approach to preventing crime in residential environments.

1.2.3 Canadian Investigations

From the commencement of this study, it was acknowledged that the residential crime situation in Canada could not be assumed to be identical to that found in other jurisdictions. Therefore, in order to determine the need and potential for implementing the Environmental Design and Management approach to preventing crime in Canadian residential environments, a basic requirement of the study was to gather as much information as possible on the nature of residential crime in Canada. Given the lack of useful nation-wide statistics on crime in residential settings, it was decided that gathering information on the situation in each of the 23 Census Metropolitan Areas (CMA's as identified by Statistics Canada)[1] was the most effective means of developing a comprehensive understanding of the nature of residential crime and crime prevention methods across Canada. To that end a set of questionnaires was developed to solicit data and perceptions directly from those agencies concerned with crime occurrences in residential environments and/or with its prevention through design and management methods.

The six types of agencies to whom questionnaires were directed in each CMA were the municipal police, the major private security agencies servicing residential properties, the public housing authorities, the principal

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[1] Victoria, Vancouver, Edmonton, Calgary, Regina, Saskatoon, Winnipeg, Thunder Bay, Sudbury, Windsor, St. Catharines-Niagara, London, Kitchener-Waterloo, Hamilton, Metropolitan Toronto, Oshawa-Whitby, Ottawa-Hull, Montréal Urban Community, Chicoutimi-Jonquière, Québec, Saint John, Halifax, St. John's. In those CMA's containing more than one city, except for Ottawa-Hull, the study solicited data only for the largest city in that CMA. The study also solicited information from selected agencies in Fort McMurray and Charlottetown; the former city was chosen because of its rapid growth characteristics and the latter in order to ensure that Prince Edward Island, although not containing a CMA, was included in the research.

developers or managers of private sector rental housing, the CMHC branch office and the municipal planning department. In addition, general letters of inquiry on the subject were directed to each provincial police commission and to the office of the provincial Attorney General and/or Solicitor General. In a broad sense, each type of questionnaire requested information on that agency's knowledge and/or perception of residential crime in that city and on that agency's involvement in and judgments regarding the Environmental Design and Management approach to preventing crime. Obviously, the level of detail and knowledge expected from each type of agency varied, with the most intensive information requests being directed to the police and most general to the municipal planning departments (a detailed description of the nature of the questionnaires and of the survey method is provided in the Appendix).

In 20 of the CMA's, the relevant questionnaires were distributed by mail, accompanied by an introductory document describing the nature of the study and of the Environmental Design and Management approach to crime prevention (as is discussed later in this section, in the other 3 CMA's the questionnaires were administered in personal interviews). In most cases, the appropriate agencies and contacts were first identified by telephone discussions which also determined that the agency was willing to participate in the survey. A total of 237 questionnaires and letters of inquiry were sent by mail. After the requested return date, the agencies which had not yet responded were contacted by telephone, which resulted in a small proportion of additional responses. The return rate was generally higher for the public sector agencies (police departments, public housing authorities, CMHC branch offices and municipal planning departments) than for the private landlords and private security agencies. In the case of the latter two agencies, the smaller companies to which questionnaires were sent frequently indicated that they either could not spare the time to complete the questionnaire or did not have useful information to contribute. This was particularly the case with agencies in Québec, which as a province had a low response rate in general.

As a follow-up to the questionnaires, more intensive investigations were undertaken in several CMA's which appeared to have particularly useful data and experience related to residential crime and the Environmental Design and Management approach to its prevention. In field visits to Halifax, Toronto, and Vancouver, interviews were conducted with representatives of agencies which had responded to the questionnaire, and other information sources such as residents' associations were also contacted regarding their concerns relating to crime and its prevention. A further objective of these field visits was to obtain photographic documentation of the characteristics of specific residential areas of the CMA and of specific residential buildings or projects which had been identified as having substantially higher or lower crime rates than the city norm.

To complement the necessarily general investigations undertaken in the majority of the CMA's, more detailed examination of the residential crime and crime prevention situation was undertaken in the remaining three CMA's -- Calgary, Hamilton and Montreal -- and in the city of Burnaby. These cities were chosen as case studies, both because the key agencies relevant to the study's concerns had indicated an interest in implementing the EDM

crime prevention approach and because they represented a range of physical, social and organizational characteristics. These case studies were undertaken under separate contracts with the Ministry of the Solicitor General but were directed and monitored by the Consortium. As part of the case studies, researchers familiar with the cities personally interviewed individuals of the same agencies which had received the mailed questionnaires in the other 20 CMA's, and additional organizations such as the municipal councils, service agencies, residents' associations, and in some cases, ex-offenders. The intent of this intensive field work was to clarify and enlarge upon the results of the cross-Canada research by developing the most comprehensive picture possible of the nature of residential crime in those cities and of the related concerns and activities of both the public and private sector agencies involved, and to identify precisely the quality of data on residential crime that is currently available.

Further to these investigations, inquiries were directed to various organizations regarding interests and concerns that could more generally affect or be affected by any implementation of the Environmental Design and Management approach to residential crime prevention. At the national levels these included the Urban Design Institute, the Housing and Urban Development Association of Canada, the Canadian Housing Design Council, and the Insurance Bureau of Canada. At the provincial level, members of the consulting team discussed the study at a meeting of the Ontario Police Force Planning Association to obtain its members' views on the potential for applying the Environmental Design and Management Approach to crime prevention.

1.3 REPORT ORGANIZATION

The following reporting of the study's investigations is organized according to a logical progression intended to satisfy different readers' needs for background information. The report is basically divided into four parts. The first part, comprising this and two other chapters, is intended to provide the background for understanding the nature of the Environmental Design and Management Approach to crime prevention. The two further chapters included in this part therefore provide a general discussion of the current understanding of residential crime and its correlates and the rationale for crime prevention, and a description of the evolution of the EDM approach to crime prevention. For the reasons noted previously, these chapters and the subsequent five chapters comprising Part 2 of the report concentrate on the U.S. experience.

Part 2 represents the core of the report in that its five chapters delineate the overall nature of the Environmental Design and Management approach to crime prevention, its component strategies, and the significant issues and criticisms relating to the theory and practice of this approach to crime prevention.

The focus of Part 3 is on the Canadian situation. The two chapters comprising this part of the report discuss the nature of residential crime in Canada, and the experiences and attitudes of the relevant agencies regarding the application of the Environmental Design and Management approach in Canada.

The last part of the report includes only one chapter, which summarizes the findings and conclusions of the previous chapters and presents recommendations on the implementation of the Environmental Design and Management approach to preventing residential crime in Canada.

Chapter 2

Residential Crime and Crime Prevention: Issues and Orientations

2.1 INTRODUCTION

This report is concerned with investigating an approach to preventing
crime through the design and management of residential environments.
This Environmental Design and Management (EDM) approach is founded on
several assumptions: that there are relationships between the occurrence
of crime in residential environments and the design and management of
those environments; that these relationships can be manipulated to
prevent crime; and that crime prevention is a worthwhile objective to
consider in the design and management of residential environments.

This chapter provides an overview of what is known about the relation-
ships between residential crime and the environment in which it occurs,
focusing on those characteristics and issues which are considered to be
relevant to the EDM approach as it is discussed in subsequent chapters.
It also reviews the general character and orientation of crime prevention
and how these fit into the concept of EDM. Since the purpose of this
chapter is to provide a general background and framework for the chapters
that follow, it is important to note that many of the topics introduced
here are treated in more detail in later chapters.

In both this and subsequent chapters, the discussion focuses on crimes
which occur in residential environments (which precludes such crimes as
shoplifting, fraud, and others), and within that focus, on crimes
considered to be particularly amenable to prevention through the EDM
approach. For these and other reasons which will be discussed in more
detail later, the 'EDM target crimes' are defined as:

. Burglary (Break and Entry)
. Robbery (primarily street robbery)
. Theft
. Motor Vehicle Theft
. Vandalism
. Arson
. Trespass
. Indecent Assault
. Other Assaults (wounding, bodily harm, police, etc.)
. Rape
. Homicide and Attempted Murder

Although this list[1] excludes certain crimes which occur in residential environments, it includes those residential crimes considered to be most important from the combined viewpoints of seriousness, frequency, fear of crime, and costs incurred by victims and the criminal justice system.

In summarizing the state of knowledge about these residential target crimes and the environments in which they occur, this chapter concentrates on the contributions made by authors associated with various components of the EDM approach to crime prevention. This focus allowed us to examine the large body of material on crime and crime prevention in a structured manner and has the added advantage of providing the reader with an understanding of how those authors view crime and crime prevention -- an understanding that is important for appreciating why the EDM approach has evolved into its present form. The reader should, however, remember that the findings presented here and in subsequent chapters are derived mainly from studies conducted in jurisdictions outside Canada, most notably in the United States. Part 3 of this report attempts to balance such findings with data specifically related to the Canadian situation. However, there are some significant differences between the residential crime situation in Canada and other jurisdictions, and the reader is cautioned that the findings presented here may not always apply directly to the Canadian situation. An obvious and important implication of this is that far more Canadian research is required to support the formulation of crime prevention policy which is relevant to Canadian environments.

Finally, the reader should also keep in mind the fact that any discussion of the nature of crime and the potential for crime prevention can not adequately address the complexity of the inter-relationships linking crime prevention with the many socio-economic, demographic, psychological, political, and legislative factors which may exist in an environment. Not only is it argued that the complexity of these inter-relationships far exceeds the measurement capabilities of existing research techniques, there is a general consensus in the field that the data currently available on the factors underlying crime, on crime occurrences, and on crime prevention techniques are woefully inadequate. It is therefore not surprising that the remainder of this chapter (and later chapters) is able only to cite evidence allowing for informed guess, as opposed to unequivocal conclusions such as 'factor x or prevention strategy y has this particular effect on crime z'. Considerable sums of money have, however, been mis-spent on various crime prevention measures in other jurisdictions, partly because the expectations of the agencies and individuals involved in implementing

these measures were untempered by knowledge of the uncertain and conflicting evidence that is currently available. Perhaps by simply stating what is and is not presently known, this chapter can ensure that similar mistakes are not made in Canada.

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[1] Primarily those 'residential' crimes which involve domestic violence and drug or alcohol abuse, which are considered to be only indirectly and minimally susceptible to environmental prevention stragegies.

2.2 NATURE OF RESIDENTIAL TARGET CRIMES

2.2.1 Introduction

The relationships between crime and the many physical and social factors present in an environment have for many years been the subject of research by behavioural and social scientists; however, it is only during the last two decades that such research has been widespread.

Before discussing particular research results, it is important to state one obvious general conclusion of our investigations which is simply that, relative to the experience in the United States, there has been little systematic research on the distribution and frequencies of crime and the circumstances surrounding its occurrence in Canada. It is only recently and in scattered locations that Canadian police forces and criminologists have begun to record and investigate detailed crime data with a view to understanding the patterns and correlates of crime. Our investigations also indicated that it will require some time to get detailed crime analysis underway in Canada, due to the lack of technological hardware and sufficiently complete data bases (see Engstad and Evans (1979:1-3).

Further, other agencies and individuals who are concerned with and affected by residential crime in Canada (e.g. public housing authorities, managers of private sector housing developments, social service agencies, private citizens) know very little about the incidence and nature of crime and methods they might use to reduce its occurrence -- despite the fact that loss and damages incurred as a result of criminal actions may cost them hundreds of thousands of dollars each year. Thus, our knowledge in this area is generally incomplete, and is based in large part on studies undertaken in non-Canadian settings.

Opinion varies as to whether changes in certain factors 'cause' changes in certain residential target crimes, or whether the changes in those same factors and crimes are simply correlated. For example, the latter might be the case if both factors and crimes were each separately related causally to changes in other factors not considered in the analysis. In the field of social science, it is relatively easy to hypothesize causal relationships but difficult to prove them. It does seem logical that many of the factors discussed below do cause, either directly or indirectly, the high incidence of crime experienced in different environments, but empirical verifications of these relationships are few. We therefore have chosen to talk of 'correlations' rather than specific causal explanations of crime.

It is also important at the outset to differentiate, as does Perlgut (1966:6), among certain aspects of the crime 'problem':

> "When investigating the problems of crime, one should not fall into the trap of thinking that the criminal act itself is the only subject to be studied. One helpful tool is a three-dimensional definition of the crime problem which has been developed by William Brill Associates (1976b-c-d). These three dimensions are:

1. **Victimization**, which is the criminal act against a person, a housing unit, or some property.

2. **The fear of crime**, which is the degree one fears for oneself and one's family and regards the environment as dangerous and threatening.

3. **Altered behaviour**, which is the extent to which one alters behaviour to improve security."

2.2.2 Environmental Factors Related to Residential Target Crimes

EDM crime prevention strategies, by their very nature, are aimed at particular types of environments (rather than, say, particular types of offenders across all environments). This discussion of factors related to the EDM target crimes will therefore focus on the characteristics of criminally victimized residential environments.

The majority of the information currently available on the social and physical characteristics of criminally victimized environments is derived from research in the United States which concerned public housing developments, particularly developments experiencing high crime rates. Admittedly, this research focus was a reflection of the fact that, in many cases, the public housing developments involved did have higher crime rates than any other residential areas in the particular cities. However, the focus on public housing environments can also be attributed to their 'public' nature (e.g. more records were available and residents could be more easily interviewed than in private sector developments) which made them both easier to study and more clearly defined as discrete environments for study purposes.

Whether the findings resulting from this research are broadly applicable to other environments (whether middle or high income or even low income, private sector housing environments, or other public housing developments) is open to question. However, since these findings are the most detailed presently available, the only choice possible is to consider them, maintaining a constant awareness that the characteristics of criminally victimized environments discussed in this section are the characteristics of those environments which have received the most study, and are not necessarily representative of all high-crime environments.

i. **Social Characteristics of Criminogenic Environments**
Social characteristics of criminally victimized residential environments discussed in the literature include: income and unemployment, family structure, age composition of residents, degree of social cohesion and organization, and political capability or leverage. Newman (1976:20) concluded that:

> "...the social characteristics of the resident population were stronger predictors of crime rate [sic] than the physical characteristics of design. Varying aspects of a

family's makeup, income, and age of its members affect its adaptability to different environments, and its vulnerability to crime."

With regard to economic variables, there seems to be a fairly consistent relationship between income and rates of crime. Within most North American cities it is possible to identify certain areas which are known (e.g. by their inhabitants and the police) to have comparatively high rates of crime. Newman (1976:15ff), for example, notes that within residential areas of cities in the United States, crime rates tend to vary inversely with the income of the residential population: the lower the income, the higher the crime rate.[1] (An exception occurs when higher-income enclaves are located near lower-income areas, e.g. within the core area of many cities; in this case the higher-income population is also likely to experience a relatively high crime rate.) More specifically, Newman (1976:20ff) reports that two of the three social variables most prominent in predicting the crime rate for most categories of crime in the American housing projects he examined were: the percentage of resident population receiving welfare (excluding the elderly) and the per capita disposable income of the project's residents.

In a review of the econometric literature on deterrence of crime, Silver (1974) reached a similar conclusion regarding the probable negative relationship between an individual's income and his or her propensity to commit crime.

Many of the residents of low income, high crime rate environments are commonly unemployed or have a very low income, and are also frequently either part of single-parent families headed by a female[2] with a large percentage of teenage children,[3] or are elderly citizens. Often the composition of the populations of these environments also exhibits substantial proportions of minority groups of a variety of ethnic backgrounds, although the proportion of ethnic minority groups has not been found to be a particularly strong determinant of crime rates (see Newman 1980:91). Populations with all of the above socio-economic characteristics are often housed in public housing projects and as Newman (1972:38) comments, these characteristics of the residents are related to the occurrence of crime:

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[1] The central cores of American cities are frequently lower-income areas. However, the income of the area is presumably more instrumental as a crime determinant than is the simple geographical location of the area within the city; even a cursory analysis of cities such as Toronto, shows high-crime areas located in low-income suburban neighbourhoods (e.g. the Jane-Finch area).

[2] Newman (1976:20ff) found that the second most important variable in predicting crime in American housing projects was the percentage of families headed by a female receiving welfare through the American program, "Aid to Families with Dependent Children (AFDC)". This variable has obvious relevance as an indicator of 'economic conditions' as well.

[3] Newman (n.d.:114) notes that the majority (75%) of those arrested in the New York and Boston public housing projects he examined were teenagers.

"There are many factors contributing to crime rates in housing projects other than the physical characteristics of the buildings and the nature of their grouping. Housing developments are often located in high crime precincts, and New York City Authority Police statistics indicate that a housing development's crime rate usually reflects the crime rate of the surrounding community. Similarly, but for very different reasons, the greater percentage of elderly in a project, and the greater the percentage of teen-agers, the greater the crime rate. The elderly tend to be easily victimized and so suffer a greater number of crimes than members of middle-aged families. As long as records on crime rates have been kept, they have shown that the ages between twelve and twenty are the most prone to crime. Projects with more teen-agers therefore tend to have more crime."

Another common characteristic of criminally-victimized areas is the deficiency of amenities and opportunities common to middle-class communities. Teenagers in these areas are often deprived of even minimal recreational facilities and job opportunities (Newman n.d.:114).

Certain writers, in hypothesizing causal relationships between such area characteristics and crime, speculate that residents are vulnerable to criminal victimization in a number of ways. For example, female-headed families and the elderly are deprived of the security afforded by husbands and the extended family (Perlgut 1979:9), and the poverty of these residents means they neither can afford to hire the kind of protection (such as security personnel, mechanical surveillance aids, alarms, etc.) available to higher income groups, nor can they afford to move into middle-class environments which experience lower rates of crime (see Newman 1976:32-33).

Although such a causal chain has not been demonstrated empirically, it is also postulated that, although the majority of residents in low income residential areas are not criminals, sub-cultural differences (racial tension, conflicting values and lifestyles, distrust), frequently aggravated by high rates of transience, undermine the social organization of these neighbourhoods and mitigate against the development of natural social controls which would curb the motivation towards crime, particularly among youth (see Newman 1980). It is further postulated that this lack of social organization also undermines the residents' development of a strong social cohesion or community spirit and the kinds of neighbourly mutual support that can act as a natural protection against criminal activity.

A number of observers consider the lack of social organization, social cohesion and informal social controls to be critical in the occurrence of crime (see, for example, Rainwater 1970, Montgomery 1977, Rosenthal 1975, Krop 1976 and Wilson 1975). Many public housing projects in the United States have been noticeably lacking in these social features.

Brill (1973), for example, observes that social relations in these projects are marked by distrust, the social posture of residents is defensive and insular and there is a good chance that many feel alienated from the larger society as well. In addition, the same kinds of resident attitudes (i.e. feelings of isolation and neglect) extend to the housing authority and local agencies responsible for management. The National Advisory Commission on Criminal Justice Standards and Goals (1973:10) comments that: "Indeed, with each citizen looking out for himself only, there is no community, no strength in numbers, but rather a fragmentation that can serve only to embolden criminal elements."

Finally, as well as being socially and economically deprived, these (American public housing) residents are politically deprived as well. Unlike richer neighbourhoods, they usually have very limited or non-existent political leverage and are unable to obtain the kinds of police protection[1] and other social services which are common in middle- and upper-income neighbourhoods (see Newman n.d.:114).

This portrayal of disorder is supported by Brill's (1973) observations that, while some American public housing projects are very good, those that exhibit high rates of crime tend to share the following social characteristics: residents are fearful and socially isolated; few know more than a handful of people in the project even though the vast majority had lived there several years; many of the residents are poor and black with incomes below the poverty line, derived largely from public assistance; households are invariably female-headed; children and teenagers abound; and, few adult men live in the project with the result that the ratio of children to adult men could run as high as 100 to 1. He comments (Ibid.:26-27) that the problem of security in public housing does not stem simply from improper design and layout, but is also the consequence of "weak social structure of the residents, the absence of supporting groups, and a lack of interpersonal trust - all factors that inhibit people from protecting and helping each other."

The authors of this report would readily agree that such a situation does perhaps not exist at present as frequently and to the same degree in Canada. However, the reader should be aware that certain Canadian environments are at least beginning to exhibit similar characteristics to those described in the American literature. The possibility of more serious conditions developing here should therefore not be dismissed out of hand.

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[1] See Gandy and Cooke (1979) for a discussion of law enforcement and race relations in Toronto.

ii.   Physical Characteristics of Criminogenic Environments
Looking further at (predominantly American public housing) low income residential environments with high crime rates, one finds the following common physical (as opposed to social) characteristics:

. a high proportion of multiple-family dwellings;

. a poor distinction between the spaces intended for public, semi-public and private use;

. limited security features, either in terms of surveillance capability (e.g. proper lighting, potential for observation by casual observers or public/private police), or adequacy of locks on doors and windows; which in turn relate to

. limited control of access to the buildings and their surroundings by illegitimate users; and,

. an unattractive appearance and poor maintenance (see Brill 1973).

First, regarding the proportion of multiple-family dwellings, Newman (1976:22-23) claims that in the public housing projects he studied, three physical-design variables were significant in explaining their crime rates: (in order of importance) the height of the buildings, the total number of dwelling units in a housing project, and the number of other public housing projects in the area. Although it would be extremely difficult to test empirically the causal relation-ships implied, Newman claims that it is not height per se that is significant with respect to crime, but the consequences associated with highrise buildings. For example, he notes that highrise build-ings tend to have a larger number of apartment units and people using a single lobby, entry and set of elevators. He argues that this, in turn, produces greater anonymity among residents with the result that residents are not able to distinguish between neighbours and strangers. He further postulates that the anonymity thus produced inhibits casual interaction and the development of social ties among residents.

Newman considers the number of dwelling units in a housing project to be a physical feature because it can be controlled through physical design planning, i.e. projects can be broken up. Its significance with respect to crime, however, is claimed to be more in the social realm insofar as in public housing developments it concentrates large numbers of socially deprived people together and thus magnifies the social problems enumerated in the previous subsection that are characteristic of these people. Low-income projects, he postulates, tend to degenerate into "...conglomerations of the most helpless of our society, the elderly poor and families with female heads of households. Such projects house, as well, concentrations of teenage children, the most crime-prone element of any society..." (Newman 1976:23-24).[1]

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[1] What is being considered here is high concentrations of poor, socially deprived people.. Whether the same conclusions apply to high concentra-tions of economically and socially advantaged people is open to question. The effects of density per se are discussed later in this section (see 2.2.2.iv).

The number of other public housing projects concentrated in the same area is also felt to contribute to this same problem. Newman (Ibid.) concludes that:

> "The subculture so created not only operates against the majority of residents who are trying to maintain a crime-free existence; it may also work against the surrounding community. Some criminals make use of the large, anonymous environment of the housing project as their base of operation. A large housing project composed solely of low-income residents produces a subculture that, although not condoning crime, is incapable or unwilling to pay the price of resisting it."

The second physical characteristic common to high-crime environments -- inadequate distinctions between public, semi-public and private space -- is considered to be related to the crime rate because, put simply, people are felt to be more likely to exercise responsibility over space they regard as being under their control. Further, it is proposed that potential criminals are sensitive to whether residents are exercising this sense of responsibility. Large highrise housing developments are considered to pose particular problems in providing clear distinction between public and private space because of the relative preponderance of semi-public spaces such as the lobbies, stairwells, elevators and corridors. Such areas, which are not clearly identified as being either public or private, appear to be particularly risky spots with respect to criminal activity. For example, the U.S. Department of Housing and Urban Development (1973:14), reports that in buildings of six and seven storeys, 40.2% of the crimes taking place in or on the grounds of these buildings occur in the interior public spaces, whereas in buildings of thirteen storeys or more, 55.8% of the crimes occur in interior public spaces (22.6% in elevators, 10.8% in halls, 8.1% in lobbies, and 5.9% in stairwells) (New York Housing Authority Police Data for 1969).

Proponents of the design and management approach to crime prevention also consider the proper structuring of land-use (e.g. zoning from public to private spaces, strategic location of recreational facilities and amenities) to be important in fostering residents' feelings of territoriality and proprietary interest in what goes on in their neighbourhoods.[1] Newman and Franck (1980b), for example, found that in the public housing projects they studied there was a correlation between the way residents used the space around their residences and the degree of crime (i.e. burglary, robbery and assault) experienced: "...the larger the building, the less frequently residents will use the space outside their homes, and in turn, the greater the crime and fear of crime" (loc. cit. 20-23).

Next, apart from the ways in which the physical characteristics of environments can influence the social dynamics of residential

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[1] For a discussion of collective community responses to crime which grow out of concern with land-use issues, see Lavrakas (1980) and Lewis and Salem (1980).

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settings, physical features are also considered to contribute to the incidence of crime in their own right, for example by decreasing the degree of surveillance within environments and by facilitating access to victims and crime targets.

A number of writers have documented the relationship between the level of surveillance opportunities and crime rates (e.g. Angel 1968; Brill 1973, 1979; Luedtke and Associates 1970; Molumby 1976; Newman 1972, 1976; and Reppetto 1974). Surveillance problems arise when there are areas within and around a residential building or complex where surveillance (by residents, management or security personnel) is severely restricted; for example, grounds not overlooked by windows, poorly lighted areas, hidden areas such as stairways, shrubbery surrounding entrances and windows, poorly placed amenities such as laundry rooms near basement entrances that are concealed from sight, and so on. Highrise buildings are thought to present particular potential problems in this regard since they contain considerable proportions of interior semi-public space which is hidden from view, e.g. stairwells, corridors and elevators.

Lack of access control refers to the ease with which non-residents and potential criminals can penetrate the environment. Brill's study of the Millvale public housing complex reported that the two highest crime areas in the complex were near the perimeter of the complex where there is no access control to prevent non-residents from easily moving on and off the grounds (U.S. Department of Housing and Urban Development 1977). Similarly, Newman's studies and those of Bevis and Nutter (1977), the Brantinghams (1975), Molumby (1976) and Phelan (1977) all concluded that open, uncontrolled access represented a serious security problem for the sites they examined.

Finally, it has been proposed (Brill 1973 and Newman 1980) that residents' proprietary feelings and concern for what goes on in their neighbourhoods are affected by the quality of the initial design and ongoing maintenance. Specifically, it is hypothesized that drab, institution-like, oppressive and poorly maintained structures contribute to a feeling of indifference among residents with respect to what occurs in their area.

iii. **Interaction of Social and Physical Characteristics**
For analytic purposes we have distinguished between social and physical characteristics of criminogenic environments. However, it is clear that in many cases their ultimate impact on crime is a consequence of the interaction among both types of factors. Thus, for example, highrise buildings and the anonymity they engender need not necessarily result in high rates of crime if the social characteristics of residents (e.g. middle-class, childless, homogeneous ethnicity) are favourable with respect to their correlation with crime. Newman (1976:26ff) argues that although the socio-economic characteristics of the residents are, as independent factors, the strongest predictors of the crime rate, the physical characteristics of the buildings and surroundings can strongly counterbalance the social factors. Newman (Ibid.) goes on to state:

"The more complex and anonymous the environment, the
more difficult it is for a code of behavior following
societal norms to become established and to be
maintained. It is difficult for moderate-income
families with two adult heads of household to cope
with crime and vandalism in poorly designed environ-
ments: but when poor and broken families are
grouped together in such a setting the results prove
disastrous."

He provides summaries of his empirical studies which show that whereas
low- and moderate-income residents of highrise buildings will always
experience more crime than those living in walk-ups, moderate-income
two-parent families fare better in highrises than do broken and low-
income families. Newman claims that his findings indicate that the
crime rate suffered by middle-income families in a twenty-storey
building is similar to that experienced by a low-income family in a
six-storey building.

It is not only social factors such as age of residents, income and
family structure that play an important interactive role with the
design of buildings and the amount of crime experienced. A high
degree of recognition among neighbours has also been shown to
produce relatively low crime rates. Newman (1976:29) claims that the
extent to which recognition occurs among neighbours is in turn a
function of the following:

. the degree of similarity between them as defined by shared ages,
  lifestyles, and backgrounds;

. the number of years of continued residence in the same building or
  housing development; and,

. the degree of interaction among them resulting from similar life-
  styles, particularly as expressed in their sharing common needs for
  and use of facilities in their immediate residential environments.

Accordingly, what is critical to any understanding of the factors
affecting the incidence of crime in residential environments is a
knowledge of the comparative suitability of different types of housing
to the needs of different residents. It is felt that if the design
of environments does not facilitate, or if it impedes, the harmonious
interaction of residents, a breakdown of the natural protective
mechanisms occurs thereby providing greater opportunities for criminal
activity.

iv. Density

Density is an environmental characteristic which is both physical and
social in nature. Because there are many misconceptions regarding the
meaning of the term 'density' and conflicting views regarding its
relationship with crime, we examined the findings related to density
and crime in considerable detail.

Frequently, high crime rates are associated with high density areas.
This may be partially attributed to a North American cultural aversion
to high density living and a tendency to link bad effects (crime) with

perceived bad 'causes' (e.g. high density). It may also be partially
due to an imprecise understanding of Newman's studies in which he
relates high crime rates to highrise buildings (commonly thought to
be high density buildings). In any case, since in contemporary urban
environments we are currently witnessing an ever-increasing demand to
build at increasing densities, it is important that we examine the
relationship of density and crime more closely.

First, as we pointed out earlier, Newman does not explain his finding
of an association between high crime rates and high density buildings
in terms of the density of the buildings per se. Instead, he claims
that all other factors being equal, it is the height and size of
these buildings and the resulting factors commonly associated with
height and size (e.g. poor distinction of space in and around these
buildings, anonymity, etc.) that explain the high rate of crime:
"Crime rate may not correlate specifically with density, but it does
correlate with building height and size" (Newman 1972:194,
emphasis in the original; see also Newman 1973a:63 and Newman and
Franck 1980). Nieburg (1974:42) also refers to this point when he
writes:

"Density of population and regional locations are not
significant variables determining the crime rate. The
organization of space is the only significant variable;
it explains disparities within the same public housing-
project, where one side of the street is low-rise
cubicle design (low-crime) and the other is high-rise
open space (high-crime)."

Despite these clarifications and qualifications, it is difficult to
dispel the notion that high densities produce high crime rates. This
notion has an intuitive appeal because of the perceived problems and
strains that are often associated with high density. For example, in
a dense area there is competition for use of space and facilities
which may produce tensions that lead to crime (see Booth et al. 1976:
292). Booth and his colleagues enumerate a variety of ways whereby
those living in densely crowded environments may cope with strains
endemic to these environments. They may: (a) try to escape by the
use of drugs or alcohol; (b) become aggressive; (c) try to get more
money either to move out of the area or to provide themselves with
luxuries which mask the overall poverty of their living situations.
It is possible that any of these tactics may result in crime (e.g.
assaults stemming from alcohol or drugs and/or aggression, or property
crimes). Booth et al. (Ibid.:293-295) go on to point out that there
are other reasons why one might expect higher crime rates in densely
populated residential areas:

"1) Social controls based on a generalized feeling of
    responsibility for other people's welfare are more
    limited. Interpersonal overloading causes inhabitants
    to develop mechanisms to protect themselves.
    Offenders rely on the likelihood that bystanders
    won't interfere.

2) Potential deviants are more likely to have contact
with deviant role models in congested areas, because
there are more of them and therefore they can more
easily learn the required ways and means of crime.

3) Concentration of people and targets means greater
opportunities.

4) Extremely high concentrations of people and
buildings make formal surveillance and, therefore,
crime control more difficult."

Given these arguments, these authors examined whether or not densely
populated communities did, in fact, exhibit higher incidences of
property as well as personal crimes than less congested areas. They
used two measures of crowding: (1) household crowding, and (2)
dwellings per square mile (areal density). They also controlled, as
far as was possible, for such things as: percentage of non-whites,
percentage of foreigners, median age, percentage with income less
than $3,000, percentage with less than five years education, total
population of city, and city's regional location. Their findings,
albeit tentative, were that:

"- household crowding had virtually no affect, except in
areally dense cities, where it is positively
associated with the murder rate.

- neither of the crowding variables explained much
variation in the manslaughter rates.

- areal density related to a greater extent with
property crimes than personal crimes.

- but household crowding is little related to either
kinds of crimes in the large cities.

- in large cities of high areal density, however,
household crowding is associated with personal crimes
against property."

(Ibid.:303)

While this study lends some support to the view that density is
associated with crime, what is more interesting about this report is
its indication of the importance of distinguishing between types of
densities and types of crimes. Gillis (1974:308-309) for example,
distinguishes between three types of density: (1) internal density
-- number of persons per room; (2) building density -- number of
persons per building; and (3) external density -- number of persons
per square unit of space. He notes that internal density and
building density seem to be clearly separate dimensions of density.
External density, however, is related to building type, i.e. the
more occupied highrise apartments in a given area, the higher the
external density of that area. Internal density is weakly
correlated with external density. Based on his research, Gillis
(Ibid.:311) concludes that:

"- internal density is more highly correlated with social
allowance [or delinquency] than is external density

- external density is a stronger correlate of
delinquency than is internal density

- when effects of income and national origin are removed,
building type is the only measure of density that
correlates significantly with delinquency and social
allowance."

Gillis comments that it is difficult to determine whether or not these
relationships are causal, e.g. whether building type produces delin-
quency or attracts families containing delinquents.

Thus we see that, depending upon how density is conceived and what
crimes are being examined, different kinds of findings emerge which
have different theoretical and empirical implications. For example,
considering the finding by Booth et al. that areal density (the
number of dwellings per square mile) is related to a greater extent
with property crimes than personal crimes, it is theoretically
possible to understand why this would be the case. Property crimes
such as theft and burglary have, as a fairly substantial proportion
of their targets, dwelling units. Therefore, it follows that when
there are more dwelling units per square mile, there would be more
property crimes of this sort. With personal crimes, there is only a
weak correlation between the number of people contained within
dwelling units (internal density) and the number of people per square
unit of space (e.g. square mile) (Gillis 1974).

With respect to these observations, Boggs (1966) has suggested that
crime rates should be calculated on the basis of the types of targets
involved, rather than simply as rates per capita, as is the usual
practice. Thus, in calculating burglary rates, the denominator used
should be the number of dwelling units; rapes should use number of
women; commercial robberies should use number of commercial establish-
ments, and so on. When she employed such methods, Boggs found that
commercial areas which had previously been perceived to have high
rates of burglaries compared to residential areas (using crime per
capita rates), did not, in fact, exhibit such relatively high rates
when these were computed on the basis of available targets.

Other authors have questioned the methodologies of studies which
report a correlation between density and crime. Gillis and Hagan
(1979) discuss the problems associated with using official crime
statistics, e.g. idiosyncracies stemming from the official reporting
of offences, and the processing and adjudication of offenders. As
discussed earlier, they note, for example, that police tend to view
certain sectors of the city characterized by a high proportion of
multiple-family housing as likely trouble spots, and, that behaviour
is more rather than less visible in high density environments. This
results in higher complaint rates from citizens which affect and
combine with police attitudes and activities to produce higher rates
of official delinquency (Hagan, Gillis and Chan 1978). Add to this
the tendency of the courts to deal differentially with members of
lower-class segments of the population compared to higher-class
members (i.e. who tend to live in less densely populated areas)
(Gillis and Hagan 1979:5) and one can see that there is considerable
room to doubt whether densely-populated lower-class areas do, in
fact, have higher rates of crime. Gillis and Hagan (1979) report
that when they used self-report and victimization data, there was no

relationship between delinquency rates and the building density of
the areas inhabited by juveniles. They suggest that "high density
areas may suffer from a surfeit of formal control rather than a
shortage of informal social control" (Ibid.:6, emphasis in the
original). Pursuing this hypothesis further, they examined the rates
of juvenile delinquency (marijuana use, auto theft, fighting)
associated with two types of densities: building density (single
detached, semi-detached, four-plex, rowhousing, back-to-back row-
housing, maisonettes, walk-up apartments, and highrise apartments)
and household density (number of juveniles sharing a bedroom). They
ask whether it is the presence of formal controls (police) or the
absence of informal controls which produces the relationship between
delinquency and density.

Using self-report data, they found that building density did not
predict the juveniles' involvements in theft, auto theft and fighting,
but it did predict marijuana use. They argue that this finding is
consistent with the view that the built environment may impede
informal social control (e.g. may provide places of concealment for
smoking marijuana). However, they note that the absence of a signi-
ficant relationship between building density and self-reported
delinquency challenges the view that high density designs directly
contribute to theft and assaults on the part of juveniles by impeding
social controls.

Given these differences between marijuana use and other types of
delinquency, Gillis and Hagan (1979:18) suggest that particular
behaviours, legal or illegal, are associated with certain spaces or
designs, while others are not. They propose that subsequent
investigations of the relationship between the built environment and
criminal or delinquent behaviour should focus on specific behaviours
that fit logically with environmental factors, and not be concerned
with more general activities which have only their deviant status as
a unifying principle.

They conclude by noting that building density is the single best
predictor of police presence which, in turn, is a significant
predictor of police contact. This supports the idea that high
density housing attracts formal agents of control, independent of
the apparent level of adolescent deviant behaviour (i.e. as indicated
by self-reports). They comment further that impaired informal control
(as described by Newman 1980 and Yancey 1972, among others) may
result in increased formal control, i.e. an environmentally-induced
impairment of traditional informal control may have resulted in a
compensatory (or even an over-compensatory) increase in the activities
of the agents of formal control:

"It is possible, therefore, that the transition from
informal to formal control that has accompanied urban-
ization and modernization on the macro level...has been
paralleled on the micro level in the housing environ-
ment." (Ibid.:18-19)

Roncek (1975) has also questioned the methodologies of studies which
report an association between density and crime. Common methodolo-
gical defects include: (a) excessive aggregation of data; (b) poorly
chosen indicators of variables; and (c) a lack of statistical control
and improper use or reporting of statistics.

First, regarding excessive aggregation, essentially the problem here
is that, frequently, data based on census tracts or similarly large
areal units are used to talk about individual-level relationships.

As the degree of aggregation increases, so does the magnitude of the
correlations, and the poorer they become as a measure of individual-
level relationships. This is due to the heterogeneity of land uses
and varying densities within areas over which average density figures
are calculated. It may be that crimes are committed, or criminals
reside, in low density or uncrowded parts of these areas -- or that
the area may contain high density, high-crime pockets. However,
neither hypothesis can be tested using data aggregated over large
areas (Roncek 1975:845-846).

Second, the 'indicators of variables' problem largely relates to the
use of official statistics. Further problems emerge when there is
no attention paid to the degree to which the offender rate correlates
with the offence rate (as is discussed in the next subsection) and
the extent to which these rates correlate with density (Ibid.:847).

Third, the statistical control problem refers to the type of statis-
tical methods used to analyze the data. Roncek (Ibid.:854-855)
claims that frequently researchers misuse factor analysis, multiple
regression or predictive attribute analysis and methods,. and distort
the significance of their data.

Given these weaknesses in many studies of crime and density, Roncek
presents a number of recommendations and conclusions. First, he
suggests that block-level statistics should be used to avoid the
problem of excessive aggregation. Second, for measuring the dependent
variable (crime rate) he suggests that primary data should be drawn
from "offenses known to the police" data which, he points out, does
not depend on apprehension and conviction variations or the victim's
memory (Ibid.:855-856). He concludes that given the methodological
weaknesses of previous studies, it is difficult to determine whether
or not density affects crime rates, i.e. as an independent effect
after controlling for other variables. However, there does appear to
be some evidence that overcrowding is related to both the occurrence
of juvenile crime and the location of juvenile delinquents, although
its effects seem to be smaller than those of social-structural
variables (Ibid.:858).

One last point regarding density remains. It should be clear that the
association between crime and density varies from culture (or sub-
culture) to culture. It is easy to point to other countries (e.g.
Japan or Mexico) and observe that urban density does not appear to
have an effect on crime. The studies we have reviewed are Canadian
and American studies -- countries in which the social and cultural
mores are considerably different from, say, those of Japan or other

countries with high-density cities. On a more micro-level, the same point applies. The social structure of specific housing developments may influence the impact of density on crime. What is more important is that the social structure may be influenced by the physical design of these developments, but changes in the physical design may not be able to completely overcome the ills of a weak or deteriorating social environment. Freedman (1975:n.p.), for example, argues that:

> "If the situation can be structured so that people do not feel isolation, if they feel friendly and open...if they get to know and trust their neighbors...high density should intensify these positive feelings... If, however, the social situation is fear-producing or lacks a sense of community or territorial attitudes on the part of residents, physical design changes alone will have minimal impact."   (Emphasis added)

In summary, it can only be concluded that the relationship between crime and density is a complicated one which is largely unknown at this time. What does appear to be certain is that the relationship, if any, depends upon the type of density to which one is referring, the type of crime, and the presence and nature of other social and cultural variables.

2.2.3 Specific Issues Related to the Nature of Residential Crime and Criminogenic Environments

The previous subsection examined the nature of residential crime from the viewpoint of what is currently known about the environments in which such crime most commonly occurs (acknowledging that the research which developed that knowledge has been limited in scope). Here we investigate in more detail several specific issues related to the nature of crime because of their significance for the Environmental Design and Management approach to crime prevention.

i.   Victimization from Within or Without
One major factor to consider in developing preventive responses to crime in a particular area is the extent to which the area is victimized by people living inside or outside those areas. With regard to the distinction between low- and middle-income areas, Newman claims that "...we have found that one characteristic which most distinguishes crime in public housing from crime in moderate and middle-income housing is that most public housing crime is initiated from within, whereas middle-income housing crime is initated from without" (written communication from Oscar Newman, July 5, 1978). In effect, it is argued that the circumstances and characteristics of residents in low-income, high-crime areas make these residents more vulnerable to criminal victimization than residents in middle- and upper-income areas who, because of their relative wealth, cultural homogeneity and stability, are better able to protect themselves against criminal victimization. From the perspective of potential

criminals, it is also noted that these high-crime areas contain or attract people from nearby locales who are motivated toward crime for a variety of reasons: either because they are young and/or poor, with few prospects of bettering their social-economic situation, for example, or because they recognize the relatively easy opportunities for crime provided by the vulnerable circumstances of the local residents.[1]

Criminologists argue that it is important to recognize the relationship between an area's 'offender rate' (proportion of offenders living in the area) and its 'occurrence rate' (proportion of crimes occurring in the area) (see, for example Mawby 1977:171). For some crimes, there appears to be a close correspondence between offender rates and occurrence rates. Boggs (1966:903), for example, reports that in the American cities she studied, there is a strong correspondence between the offender and occurrence rates for homicide, assault and residential burglary; a moderate correspondence for 'highway robbery' and 'miscellaneous robbery'; a slight correspondence for auto theft; and no correspondence for forcible rape, grand larceny, non-residential burglary and business robbery.

When the nature of these crimes is considered, it is perhaps not surprising that there should be a correlation between the offender rate and occurrence rate for only certain types of crimes. With regard to residential burglary, for example, Boggs (Ibid.:907) argues that while the social and economic deprivations to which lower-class populations are subject partially explain the motivation behind this offence, the fact that the offenders tend to victimize their own residential neighbourhoods might be explained by the fact that:

> "...familiarity with the neighbourhood may precipitate illegitimate entry into other people's houses for purposes of theft. The kinds of knowledge useful to burglars -- knowing when the premises are occupied and unoccupied, how to get in and out of the buildings without detection, where to look for objects, when and where police and watchmen are present, etc. -- are doubtless more readily known and more easily obtained about their own neighbourhoods than other areas."

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[1] For instance, Boggs (1966:902) comments that "...one possible explanation for the differential distribution of crimes is that conditions conducive to producing offenders also provide opportunities for crime, and offenders are most likely to exploit the opportunities in the areas where they live." What this suggests is that the characteristics of low-income areas which experience high rates of crime produce a situation in which both the criminally-vulnerable and the criminally-motivated are concentrated in the same area.

Business robberies, grand larceny and so on can be similarly analyzed, whereas rape presents no distinguishable pattern as might be expected.

Such observations argue strongly that any analysis of crime in an area must differentiate between types of crimes -- and that alternative crime prevention measures must be evaluated in terms of their probable differential impact on different crime types.

The foregoing observations also introduce the useful hypothesis that a great many crimes, particularly property crimes, are 'crimes of opportunity'; that is, they occur as a result of potential criminals perceiving an opportunity for the crime. The possibility is thus opened that, if the immediate opportunities were removed or made to seem prohibitively difficult or risky, would-be criminals might be deterred from committing the crime and would not, in most cases, purposefully seek further targets.[1] Nieburg (1974:45) comments in this respect:

"If action tends to be opportunistic (regardless of its background incentives and causes) then planning and social policies that intelligently eliminate certain kinds of opportunities (without inadvertently creating new ones) may in fact have a positive impact upon behaviour itself. All the demiurges of crime may vent themselves harmlessly in a variety of ways other than by adding to the criminal statistics."

ii. Differential Crime Reporting
Some authors question whether so-called high-crime low-income areas (identified by official crime statistics) actually do experience these higher rates of crime compared to wealthier districts. Hagan, Gillis and Chan (1978) for example, have suggested that police develop conceptions of areas exhibiting high incidences of deviant behaviour in exaggerated correspondence to the pattern of citizen complaints. They suggest further that the people in dense "under class" areas report more incidences of deviant behaviour -- for the simple reason that both legal and illegal activities are more detectable in these areas, and residents of these areas have comparatively limited access to unofficial means of resolving disputes, thereby resulting in a greater reliance on the police and the courts. Thus, they argue, "the same act detected, reported and recorded as illegal in a dense, underclass area, may go undetected, unreported, and unrecorded in the more sparsely populated middle and upperclass areas" (Ibid.:338-389). To the extent that this hypothesis may be corroborated by empirical analysis (and the Hagan, Gillis and Chan report did provide some verification), this argument presents important insights about the distribution of 'unofficial' crime. From the point of view of crime prevention, however, this perspective suggests that middle- and upper-income areas are better able to handle deviant or illegal behaviour than low-income areas, and therefore a logical place to focus crime prevention efforts is in the lower-income areas.

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[1] See, however, the discussion of 'displacement' in subsection 2.3.3.i

There is, however, evidence that residents of low-income, multi-problem, high-crime areas -- even those with very high densities -- do not report crimes for fear of reprisals from the offenders involved. In our discussions with organizers of the Anti-Crime Program in the Robert Taylor Homes public housing development in Chicago, it was explained to us that one of their biggest difficulties was getting victims and/or witnesses to report crimes (see also Newman 1972). This provides further confirmation for the proposal that low-income, officially high-crime areas are in need of crime prevention programs.

iii. Clustering of Different Types of Crime
In analyzing crime patterns as a first step in choosing prevention strategies, it would also be useful to know if certain types of crimes tend to occur together (i.e. cluster) in either a temporal or spatial sense.

Boggs (1966) notes that the distribution of different types of crimes appear to exhibit certain patterns. For example, in American cities, crimes such as homicide, assaults and residential burglaries tend to occur together in urban areas characterized as lower-class, non-white, and anomic (see also Reppetto 1974). Along similar lines, Boggs points out that offences associated with business and commercial activities, e.g. business robbery, non-residential burglary, grand larceny, auto theft, and to a lesser extent, highway robbery, form a second cluster of crimes which occur together. Forcible rape and miscellaneous robbery, however, do not seem to be correlated with each other or with any other crimes (Boggs Ibid.).

There is also evidence that certain types of property crimes (e.g. burglaries) have been shifting away from commercial locations into residential areas (Newman loc. cit. and Toronto, Metropolitan Board of Commissioners of Police 1981:Appendix A).

Finally, although studies addressing this 'clustering' issue have been rare in Canada, a recent study at the Ministry of the Solicitor General (Hung 1981) provides information directly related to the topic. In a factor analysis of crime data for 1974 and 1975 for 115 Canadian cities with populations of 25,000 or above, the study found that the crime types studied[1] can be described in terms of four groupings (factors), with the frequencies of each crime within one grouping being associated with the frequency of other crimes in the same grouping and significantly less associated with the frequency of crimes in other groupings. The four groupings were:

. minor offences (minor property offences and assaults)

. major offences (major property offences and robbery)

. victimless offences (prostitution and gaming)

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[1] The structure of the findings is similar when either 25 or 13 categories of crime are considered.

. violent offences (homicide and sexual offences).[1]

Additional conclusions of the study were:

"- There is no definite variation of crime patterns among the city size classes. The common notion that cities of similar size have similar crime patterns is proved invalid in this study.

 - On the other hand, crime patterns do have regional variations....

 - The results show great concentration of prostitution-gaming activities in particular areas of a metropolitan area, usually the core. The study also confirms the common belief that crime rates are higher in the central core than in the periphery or the suburbs."[2]

(Ibid.:42-43)

Although such attempts to identify whether and how crime types tend to cluster are in their infancy, they have obvious potential values for reducing the costs of data collection, facilitating a simpler, more easily grasped description of crime, and for identifying potential economies of scale for crime prevention measures (assuming that crimes within a grouping are susceptible to particular crime prevention strategies).

iv. Level of Crime
An awareness of the factors responsible for crime in a particular environment is obviously important in choosing the most effective crime prevention strategies to implement in that environment. However, in choosing whether or not to engage in crime prevention measures at all, or in deciding how intensive the crime prevention effort should be, one must also consider the levels of crime in the environment.

Some of the specific questions that must be asked are:

. Is there a sufficiently high level of crime (or fear of crime) to ensure that the private and public groups responsible for potential crime prevention efforts will actively participate in those programs?

. Is there a sufficiently high level of crime (or crimes of sufficient severity) to ensure that the cost of crime prevention measures can be justified in terms of at least the potential reduction in the levels and costs of crime?

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[1] Offences in this last factor grouping are the least frequently associated according to the factoral analytic perspective.

[2] The intracity analysis was undertaken for the Census Metropolitan Areas of Vancouver and Montreal only. In evaluating this last conclusion, one should remember the comments made earlier in this chapter, especially those regarding the use of appropriately small geographical units. In the above study, the geographical units used were cities within the Census Metropolitan Area.

. Is the level of crime high enough so that there is at least a reasonable probability that a particular offender will come under the influence of a particular crime prevention strategy?

Even though most of us would feel uncomfortable about any level of crime, in a time when demands for crime prevention resources must compete with increasing demands from a broad range of other services, such questions must be addressed.

Although "popular wisdom" (McDonald 1979) leaves one with the impression that crime is on the increase in Canada and the United States, there is considerable doubt as to whether this is in fact the case. Many argue, for instance, that much of the apparent increases in 'lawlessness' can be explained by such things as: revised reporting practices by police and increases in police officer numbers, or changes in the rates of opportunities for criminal violations. For example, McDonald (Ibid.) reports that 97% of the variation in traffic violations over the past few years can be explained by the increase in the number of registered motor vehicles.

Nonetheless, Statistics Canada reports (Globe and Mail, August 21, 1981:9) that in 1980, Canada experienced a 9.8% increase in the number of Criminal Code offences, the greatest yearly increase since 1974. This brought the total number of such offences to 2,037,697, a number just under 10% of the total number of persons in Canada. Regarding specific EDM target crimes, "Another decrease was reported for homicides, continuing a trend that began with the abolition of the death penalty in 1976....homicides number 593, a decline of 6 percent." (Ibid.). (See also McDonald 1979 and Giffen 1979). The overall increase was "largely a result of a significant upward shift in non-violent property crimes (12.1 percent increase). In particular, there was a 27.1 percent increase in house break-ins reported to the police." This brought the number of residences broken into to 208,753 which represents approximately 3% of the total number of residences in Canada. As well, thefts over $200 increased by 31.8%[1] and thefts over $200 from motor vehicles rose 42.1% to 109,073 (approximately 1% of the number of passenger vehicles registered in Canada in 1980[2]). Finally, robberies involving weapons increased 24.9% and robberies involving firearms rose 15.5% (see Statistics Canada 1981).

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[1] Partly explainable by inflation, which moved the value of many goods from under $200 to over $200.

[2] This percentage would drop to 0.8% if the calculations were based on the total number of all motor vehicles (i.e. passenger automobiles and trucks, buses, motorcycles and mopeds) rather than just passenger automobiles.

There were also differences among cities and regions of Canada, in
that "Property crimes rose substantially in all metropolitan areas but
Halifax." Violent crime rose 12.3% in Montreal but decreased in
Quebec City, Hamilton-Wentworth, London and Windsor. Provincially,
crime rates "were lowest in the East and highest in the West...(and the)
British Columbia rate was double that of the four Atlantic provinces."
(Ibid.)

The significance of these data on the incidence of crime in Canada is
discussed in more detail in Chapter 9. At this stage in the report,
the important point being made is that residential crime is a complex
phenomenon. Level of crime is only one of several issues of consequence
to be considered in any attempt to understand the complexity of this
phenomenon. It follows, then, that the issues involved in the prevention
of residential crime are also complex; the purpose of the next section
is to discuss the nature of crime prevention as a whole and those crime
prevention issues which are particularly relevant to the ensuing
description and assessment of the Environmental Design and Management
approach to crime prevention.

2.3   CRIME PREVENTION

2.3.1 Introduction

Despite the fact that there are some questions regarding whether crime is
on the increase in Canada and how different factors influence crime, an
almost ubiquitous feature of life in many North American cities is citizen
concern with and fear of crime (see CMHC 1979:3 and Environics Research
Group Limited 1981:30). Whether this is due to isolated and short-lived
increases in certain types of particularly alarming crimes, or to sensa-
tionalistic media coverage of crimes (McDonald 1979), or perhaps to the
'swing-to-the-right' currently emerging in Canada and the United States,
demands for increased crime control may require governments to make crime
control a major priority in the coming decade. At the same time, however,
governments are becoming increasingly aware of both the limited effects on
crime and the heavy costs of the more traditional methods of crime control
(e.g. reactive law enforcement, sentencing and prisons). Increasing
attention will therefore be directed to crime prevention and other
alternatives to the traditonal crime control responses of the criminal
justice system.

There are many interpretations of 'crime prevention'. Sometimes crime
prevention is understood to be synonymous with deterrence and the latter's
implications regarding the sentencing and treatment of offenders. A less
expansive definition of crime prevention restricts its application to
those measures which are initiated before the commission of criminal acts.
Perhaps one of the clearest definitions is that proposed by the National
Institute of Crime Prevention (1978:1-2): crime prevention is the antici-
pation, recognition and appraisal of crime risk and the initiation of
some action to remove or reduce it.[1] Although this meaning may include
post-apprehension measures, its primary application pertains to the
reduction or elimination of criminal opportunities. As Jeffery (1971:20)
claims:

> "We may attempt to treat offenders or rehabilitate
> them after they have become criminals, but we should
> not confuse the treatment of criminals with the
> prevention of crime."

In this sense, crime prevention is distinguished as only one aspect of
society's overall crime control strategies (see Lejins 1967:2). However,
given this definition, certain of the advantages of crime prevention versus
other crime control measures become apparent. In particular, one does not
have to refer to allegedly soaring crime rates or the public's fear of
crime to justify increased attention to crime prevention. Crime prevention

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[1] See Brantingham and Faust (1976) and Alderson (1978) for their
definitions of different levels of crime prevention.

makes sense under any circumstances because it is concerned with fore-
stalling crimes before they occur and is thereby aimed at reducing the
fear, inconvenience and suffering caused by criminal behaviour, not to
mention the considerable costs associated with the activities of the
criminal justice system.

It is generally recognized that the number of criminals who are actually
apprehended, convicted and effectively deterred from further criminal
involvement is a miniscule proportion of the overall offender population
(see Canada, Ministry of the Solicitor General 1979:13). It is argued,
therefore, that interventions occurring further back in the progression of
events and circumstances leading to crime are more likely to have a
greater impact on crime insofar as the interventions affect a greater
number of potential and active criminals than are apprehended and deterred
by the criminal justice system (see, for example, Patricia Brantingham in
Liaison 6 (5) May 1980). Accordingly, crime prevention strategies are
considered to be particularly powerful approaches to control because they
are primarily applicable before the commission of criminal acts and there-
fore affect a far greater number of potential offenders. A further
advantage of crime prevention is that it has the capability of affecting
a large number of potential victims as well.

2.3.2 General Crime Prevention Orientations

One way of categorizing different crime prevention orientations is to
consider the nature of the prevention strategies used and the groups most
likely to use them. From this perspective, five separate general
orientations to crime and delinquency prevention can be identified:
punitive prevention, corrective prevention, mechanical prevention,
environmental prevention, and structural prevention (Lejins 1967:3; Angel
1968:3-4). Punitive prevention, traditionally of primary concern to the
criminal justice system, refers to the prevention of crime by investiga-
tion and apprehension activities of the police and the trial and
sentencing activities of the courts. Generally speaking, traditional
urban planning has been concerned, admittedly to a small degree, with
corrective prevention: it emphasizes the reduction of overcrowding,
creation of viable neighbourhoods, rehabilitation of slums, and provision
of recreation and community health clinics. Mechanical prevention focuses
on hardware (e.g. improved locks, doors, etc.). Environmental prevention

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[1] For instance, recent Correctional Service of Canada estimates place the
average yearly costs (excluding capital costs) of imprisoning an offender
in penitentiaries at $35,766 in maximum security, $22,604 in medium
security and $18,345 in minimum security, (Globe and Mail, May 18, 1981).

entails the manipulation of the physical design of urban environments to
reduce the motivation towards and opportunities for crime. Lastly,
structural prevention, being more the concern of philosophers and political
theoreticians, refers to the conceptualization of crime and its causes
(Perlgut 1979:11; Reppetto 1976b).

Alternatively, one can categorize crime prevention orientations in terms of
the variables through which specific strategies are expected to affect crime.
To do this it is useful to note that crime prevention should take into
account three types of factors which must be present for a crime to be
committed (National Crime Prevention Institute 1978:1-2):

. the desire or motivation of the criminal

. the skills and tools required

. the opportunity for crime.

i.   Motivation Change
      Whereas many traditional crime control strategies have focused on the
      offender and his/her motivation, past experience in this area has not
      proven this approach to be very practical or encouraging. Tradition-
      ally, the concentration of effort in this area of crime control has
      been undertaken by the criminal justice system, social services, and,
      in some cases, private citizens, after the apprehension of the offender
      (e.g. treatment and rehabilitation programs, youth counselling and
      diversion programs, etc.). Generally, these programs reach an insig-
      nificant number of offenders and come too late to be truly preventive.
      Their effectiveness, even for this relatively small group, has also
      been the subject of much debate.

      Pre-apprehension programs, such as youth recreation programs, counsel-
      ling and employment programs for both youths and adults, crisis inter-
      vention programs (battered wives, child abuse, drug abuse, Alcoholics
      Anonymous) also generally reach a small proportion of potential offen-
      ders and/or victims and frequently service a segment of the population
      least in need of the programs, although there are some encouraging
      signs that these types of programs are being more widely used. Two
      major problems with crime prevention strategies (either pre- or post-
      apprehension) which are exclusively oriented towards changing the
      offender's motivation are that:

      . it is unrealistic to expect that these programs will ever be able to
        overcome the overwhelming macro-social factors which play such an
        important role in the motivation towards crime (e.g. unemployment,
        racial discrimination, inequalities in all areas of social endeavour);
        and

      . they fail to come to grips with the total confluence of circumstances
        which produce the criminal event, of which motivation is only one
        element (as mentioned in section 2.3.2 earlier).

Engstad (1975a:1), for example, comments that:

> "Crime prevention schemes based on offender-change have failed, at least in part, from the fact that offender-based theories typically ignore environmental variables affecting crime occurrence. As such they may be too far removed from the actual occurrence of criminal acts to generate programs which will significantly affect the incidence and pattern of crime or the criminal propensities of known offenders."

This does not mean that these approaches to crime prevention do not have a valuable contribution to make, but rather suggests that they are unlikely to. be sufficient to provide a significant impact on crime in and of themselves because of their limited scope.

ii. Skills and Tools

Strategies which are oriented towards the skills and tools required for the commission of crimes constitute target-hardening techniques (e.g. fences, stronger doors and locks, etc.). These strategies also have a limited impact due to the fact that they are aimed at preventing only certain types of crimes (e.g. those involving forcible entry) and because the criminal and society are continuously engaged in an escalating spiral of attack and defense. In addition, these kinds of strategies are extremely difficult to implement on a universal basis: this is always another target close by.[1] Nevertheless, like motivation-oriented strategies, they have a contribution to make towards the prevention of crime.

iii. Opportunity-Reduction

The opportunity for crime includes a number of elements: perceptions of gain, perceptions of risk, and accessibility of targets/victims (see Brill 1973:28ff). Crime opportunities are reduced either by eliminating crime targets or by making it (seem) more difficult and risky to commit a criminal act and successfully escape. Opportunity-reduction, therefore, may incorporate target-hardening techniques but goes beyond these measures to encompass a broader range of strategies. In comparison to crime prevention strategies concerned exclusively with either offender motivation or the skills and tools required, opportunity-reduction strategies are considered by some (and especially those advocating an EDM approach) to be capable of providing greater security against crime because:

. they can reach a greater proportion of potential offenders and victims, and

. they address a very broad range of crimes.

On the other hand, opportunity-reduction strategies have been criticized on the grounds that they may only displace, as opposed to forever prevent, crime. It is to this specific issue that we now turn.

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[1] See the discussion of 'displacement' which follows in 2.3.3.

2.3.3 Specific Crime Prevention Issues

In this subsection we deal with three specific issues related to crime prevention which are particularly important to the Environmental Design and Management approach: displacement, fear of crime, and responsibilities for prevention.

i. Displacement

Many of the EDM strategies discussed in later chapters place particular reliance on the prevention of crime through opportunity-reduction. As just stated, however, the broader effectiveness of opportunity-reduction depends to a large extent on whether opportunity-reduction prevents or simply displaces crime.

Views regarding displacement are mixed. For example, at one end of the scale, Stanley (1976:13) claims that displacement, in terms of crimes, does not appear to be significant. Engstad (1975a:5) reports that the evidence to date suggests that creating obstacles through environmental design will result in a nominal amount of "specific" displacement (i.e. displacement of crimes which are functionally equivalent and which have similar social and personal significance) but that it is unlikely that these obstacles will produce a "general" displacement (i.e. the substitution of other types of crime for which different internal and external sanctions apply) (see Great Britain Home Office Research Unit 1975). At the more pessimistic end of the scale, Reppetto (1974:87) has suggested that displacement "looms as one of the major obstacles to any strategy for the control of residential crime".

Probably the most realistic assessment of the possibility of displacement is that it is not an 'all or none' type of phenomenon. Instead it depends on the type of crime prevention strategy being used, what type of displacement one is referring to, what type of crime, who the perpetrators are, and the characteristics of any given area as well as those of surrounding areas. Each of these considerations may operate individually or in conjunction with each other.[1]

Reppetto (1976a) has enumerated five different types of displacement:

1. Temporal - the offender continues to commit the same type of crime, in the same places, against the same targets, using the same tactics, but at a different time. For example, intensive police patrol at one time may suppress crime at that time, only to reappear at a different time.

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[1] For a discussion of the problems of analysing displacement see Gabor (1978).

2. Tactical - the offender continues to commit the same type of crime, in the same places, against the same targets, but uses different tactics or modus operandi. For example, the installations of alarms may result in a shift from burglaries involving actual bodily entry towards more smash and grab burglaries.

3. Target-related - the offender simply shifts to another target. For example, an increase in police patrol in the New York subway resulted in an apparent increase in bus robberies.

4. Spatial - the offender simply shifts locations. For example, target-hardening in one building may result in a shift to adjacent buildings (Fairley and Liechenstein 1971:49).

5. Functional - the offender changes from one type of crime to another: e.g. from burglaries to street robberies or vice-versa. Sometimes this type of displacement, when it involves a shift from less serious (e.g. burglary) to more serious (e.g. robbery) types of crimes is called "escalation" (Clendinning n.d.:19).

Whether any of these types of displacement will occur depends, as we have mentioned, on a variety of factors. Apart from the nature of the crime prevention strategy being used, the potential for displacement is also dependent upon the type of crime concerned. It is unlikely, for example, that certain types of arson (e.g. revenge or insurance-motivated arson) will be displaced. Similarly, vandalism is also unlikely to be displaced owing to the nature of this crime, i.e. vandalism is often a response to a specific opportunity presented in an environment, whether that response is motivated by ritualistic rule-breaking, random play activity, ideology or malice (see Cohen in Ward, C. 1973:23-53).

Other types of factors, such as the characteristics of offenders, will also affect the possibility of displacement. Some authors argue that many crimes perpetrated by drug-addicts are unlikely to be deterred by crime prevention strategies and that displacement is inevitable. On the other hand, when the offenders are juveniles, it is speculated that displacement will be minimal owing to the limited skills and expertise of juveniles, their generally limited knowledge of surrounding areas, and the socially opportunistic nature of many of their delinquencies Reppetto (1976a:177) argues that:

"Some crimes are so opportunistic in nature that their prevention in one circumstance will not lead to their reoccurrence in another. Even in the more likely instance where offenders blocked in one sphere would wish to operate in another, there are real limits or costs to their doing so, and these limitations and costs will lessen their frequency of operation and therefore reduce the overall crime rate."

Similarly, the National Crime Prevention Institute (1976:3.6 to 3.7) notes that:

"It has been observed, for example, that many - if not most - opportunistic, impulsive criminals (particularly the younger, less experienced individuals who appear to be responsible for the great bulk of criminal incidents) will only displace their activities to a limited degree. They operate most comfortably within their 'home turf'. If opportunity is denied them within that familiar area, they may go somewhat beyond it to commit crimes [sic]. By the same token, it appears that the impulsive, opportunistic criminal who is denied opportunity for 'low skill' crimes (for example, random burglary or vandalism) is unlikely to tackle more difficult crimes."

There appears to be a strong connection between crimes of opportunity and the various kinds of displacement. Newman (1972:205) concurs with this perspective and claims that "since a sizeable percentage of crimes in housing projects is estimated to be crime of opportunity, the reduction of opportunity may, therefore, result in less crime rather than displacement".

It has been claimed, for example by Reppetto (1976a:177), that spatial displacement represents one of the most worrisome types of displacement because it could be the most common:

"Among various displacement possibilities, it has been hypothesized that geographic relocation to adjacent areas is most likely. This suggests that the most effective crime prevention strategies are those applied across fairly large geographic areas, particularly those where serious crimes such as robbery are concentrated. The most appropriate strategies appear to be those which permit wide area coverage, leveraging of resources and flexibility."

The difficulties surrounding the implementation of crime prevention strategies on a sufficiently widespread basis so as to avoid spatial displacement are considerable. Newman (1972:205-206) acknowledges this problem and asks whether a pattern of uniformly distributed crime is preferable to one in which crime is concentrated in particular areas. He argues that the second alternative is more desirable and would like to see crime displaced, if displacement is inevitable for some crimes, to the commercial and industrial sectors of the city -- i.e. areas which are inherently more easily served by formal police protection. He recognizes, however, that this would be both difficult to accomplish and would entail moral dilemmas.

What the authors mean in this sentence is that there appears to be a strong inverse relationship between distance and the desire to commit crimes.

In short, displacement is a relatively unknown phenomenon at this time. Most authors appear to downplay its significance -- particularly with respect to opportunistic crimes. However, there has been little-analysis of opportunity and crime, and the implications regarding displacement, and there is clearly a need for further research in this area.

ii.   Fear of Crime

Although much of the literature on the environmental approach to crime prevention presents this approach as a means of preventing fear of crime as well as the incidence of crime (e.g. see the American Institutes for Research [1980] review), we have deliberately chosen to discuss fear of crime and measures to reduce fear of crime as separate issues. Although there is some evidence that fear of crime may be associated with some of the factors considered by EDM[1] (see section 2.2 of this chapter) and may be reduced either directly or indirectly (i.e. by reducing crime itself) by the EDM strategies, it is also argued that fear of crime emerges from a variety of factors, only some of which are addressed in the environmental approach. Moreover, as will be pointed out later in our discussion of the merits and disadvantages of the EDM strategies, some of the strategies may increase the fear of crime. Newman (1973b:56), for example, comments that:

"...with every additional lock and security guard, there is a corresponding escalation by the criminal and an increase in the fear and paranoia of the victim, with a decrease in the natural mechanisms that have once operated to ensure the safety of our streets."

One perspective concerning fear of crime is that it is the consequence, direct or vicarious, of the rate of criminal victimization. This view implies that if one wants to reduce fear of crime, then one should reduce the incidence of crime. This view has been called the "victim-ization perspective" by Lewis and Salem (1980:35). They write:

"The victimization perspective...postulates 'crime' as an event experienced by the individual as either a direct or indirect victim. Fear, from this perspective, is a consequence, a response in time, of having had contact with crime events. If direct victimization fails to account for particularly high levels of fear, then indirect contact usually through the media or personal communication is postulated as the mechanism

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[1] Examples of studies documenting the relationship between fear of crime and the level of surveillance are Dingemans (1978), Malt and Associates (1973b), and Rouse and Rubenstein (1978).

through which the experience of crime affects the individual. Fear then becomes an indicator of the effect of victimization on the individual. Fear is seen as a direct consequence of crime exposure. There is a direct linearity to this scenario which is assumed and rarely tested." (Emphasis in the original)

Empirical studies attempting to demonstrate this relationship have, however, frequently met with little success and sometimes have produced some surprising findings. Skogan and Maxfield (1980:388-389) point out that some of the difficulties associated with empirical studies of fear and victimization rates stem from the fact that victimizat-tion is a relatively rare event. They conclude that, when properly analyzed, fear is related to victimization but they also observe some interesting associations. For example, their studies of fear in several neighbourhoods in three American cities revealed that young males are disproportionately victimized by violent crimes but are generally less fearful than other members of the population. Conversely, women and the elderly were less likely to be victimized but generally reported greater fear of crime. Skogan and Maxfield note, however, that women and the elderly are certainly relatively more vulnerable to victimization (in terms of their abilities to resist a criminal attack) and, in this respect, their fear makes sense even though it may not be objectively justified from the point of view of probabilities.

As a result of the studies at Northwestern University (Skogan and Maxfield 1980, Lewis and Salem 1980) in the "Reactions to Crime" series, the researchers involved have proposed an alternative analysis of fear of crime which goes beyond the victimization perspective. They argue that the victimization perspective is too narrow an inter-pretation of fear and fails to take account of the political and social structures which play an important part in shaping the fears of citizens (Lewis and Salem 1980:2). They suggest, instead, that four factors appear to be significant correlates of fear:

1. Victimization - direct, personal experience with crime is directly related to fear.

2. Vulnerability - i.e. physical and social vulnerability, where physical vulnerability refers to powerlessness to resist attack, and social vulnerability reflects frequent exposure to the threat of victimization. It was found that measures of physical vulner-ability had a stronger relation to fear than social vulnerability measures. (Interestingly, they did not find that persons who are more vulnerable are more attuned to conditions around them.)

3. Vicarious Experience - e.g. media and personal conversations. They could not document any discernible impact of the media, but did find that conversations carried news of great significance to the people they interviewed. Conversations tended to magnify the importance of each local incident and had equal importance for both low and high risk groups.

4. Neighbourhood Conditions - it was found that pessimism regarding neighbourhood conditions and future trends (more pronounced among blacks and the poor) was strongly related to fear. But when neighbourhood residents were relatively more integrated, there were lower levels of fear. (Skogan and Maxfield 1980:388-393) (see also Newman 1972a:92-93)

In view of these various dimensions of fear, Lewis and Salem (1980:3) propose a "social control perspective" towards fear of crime. This perspective proposes that fear is the consequence of an incapacity of local institutions to exert social controls and to maintain the integrity of the local moral order. Or, put differently, the level of fear in a community is a consequence of the level of social disorganization perceived by its residents.

Lewis and Salem (1980:Chapter 2) enumerate a variety of conditions which are perceived by residents to be signs of social disorganization: for example, abandoned buildings, vandalism (disregard for property), youths hanging around on the streets, perceived drug use (inappropriate personal conduct), and other incivilities such as garbage, broken fixtures and facilities, graffiti, etc. In some instances, neighbourhoods may be 'invaded' by businesses and industry which weaken traditional norms. They argue that a "faarful neighbourhood...is one in which the signs of disorganization (e.g. invasion) give rise to a sense that the community standards are no longer enforced or conformed to... Communities which have few signs of disorganization will have very little fear." (Ibid.:18-19).

These authors also argue that social disorganization not only causes fear but causes crime as well and that the way to prevent crime is therefore to work through and with the local people and institutions to strengthen the community's capacity to enforce "values consistent with the standards of conventional society" (Lewis and Salem 1980:12). They believe that it is certain features of city life, and not individual pathologies, that produce crime. Crime and fear can be prevented by counteracting the disorganizing effects of city life and reinforcing natural social controls. Crime is the product of value erosion; therefore, one should attempt to reinstate values. What this means is that crime and fear can be prevented only if social institutions (rather than the criminal justice institutions) are strengthened (Ibid.:12-14).

They go on to propose that a community's capacity to regulate itself depends on two types of factors:

. external forces (e.g. demographic, urban land-use, economic conditions) impinging on the community, and

. the strength and viability of those local institutions which exert social control.

Accordingly, crime prevention, from their perspective, should have a neighbourhood, as opposed to an individualistic, orientation. Neighbourhood conditions such as shifts in population, density, business

growth or decline, all affect the development of social problems which, in turn, affect crime and fear of crime. (Ibid.:14-16).

In short, the social control perspective advanced by these authors directs attention to a broader range of variables in the analysis of fear of crime. Whereas the victimization perspective looks primarily at individual motivation, the social control perspective examines differences between communities rather than between individuals. It also acknowledges a broader range of fear-engendering conditions and recognizes the relevance of both citizens' perceptions of these conditions as well as the actual sources of social control enabling citizens to cope with them (Ibid.:49). According to these authors, a primary implication of the social control perspective for policy and operations aimed at reducing fear of crime entails the political mobilization of local citizens, e.g. citizen collective action which is neighbourhood-based (Ibid.:135ff).

Newman's studies lend some support to the Northwestern analysis. In public housing projects studied by Newman, which often exhibit severe signs of social disorganization, "fear of crime is by far the greatest single problem identified by residents" (Newman 1972a:94). Newman notes that although fear is roughly correlated with the actual danger of victimization, the design of buildings influences the perception of risk. Physical design factors influencing fear of crime include:

"1. The division of projects by public streets. Public streets provide a haven of safety, especially if they are faced by project windows and building entrances.

2. Project paths are safe if defined by buildings. The path systems through projects, defined by building entrances and walls containing windows, provide a corridor of safety through the project and create areas outside the home in which parents allow their children to play.

3. High-rise buildings induce anonymity and isolation. High-rise buildings with a large number of families and their guests sharing a single entry make it impossible to distinguish neighbors from intruders. Where tenants can come to recognize their neighbours, they can be more alert to strangeness or breaks in routine." (Ibid.:95)

In addition to physical design modifications, some writers have proposed social-action programs, along the lines suggested by the Northwestern authors, as a means of reducing the fear of crime. Escort services, apartment watch programs, resident patrols, tenant associations and liaison with police and management, are all viewed as potential strategies against fear. One report included in the Northwestern "Reactions to Crime" series, examined the kinds of motives which lead people to engage in crime prevention responses. Lavrakas and his colleagues (1980) hypothesized two basic motives. The first motive stemmed from a risk-avoidance disposition which was thought to be linked to fear of crime and victimization experiences, and the second motive stemmed from participation in formal voluntary

organizations in their community. Along with these two types of motivations, Lavrakas et al. enumerated three types of reactions to crime: (1) behavioural restrictions, (2) household anti-crime measures, and (3) neighbourhood/community-based anti-crime measures.

They argue that behavioural restrictions aimed at protecting individual citizens from personal victimization appear to be linked to risk-avoidance motives, e.g. perceptions of risk, seriousness of risk, and fear of crime. These in turn are related to (a) assessments of danger in local neighbourhoods (including both crime and incivilities), (b) personal characteristics (e.g. sex, age, race and income), and (c) direct and vicarious exposure to victimization. For example, the characteristics of being female, young or old, black, poor, a past victim or knowing other local victims are largely associated with greater fear of crime, increased perceptions of risk and seriousness, and a greater concern for local crime and incivility (Ibid.:11-13).

Household-based anti-crime measures appear to be linked to both risk-avoidance and participation in local organizations. For example, past experience as a burglary victim, knowledge of local burglary victims and concern for local crime appear to lead some citizens to take household crime preventions. There also appears to be a correlation between the social participation motive and the installation of house-hold anti-crime measures, but Lavrakas and his colleagues (Ibid.:13) note that the chronological order in which these take place is unclear.

Neighbourhood/community-based anti-crime measures seem to be connected primarily to the social participation motive. Citizens become involved in a collective anti-crime effort as a consequence of their participation in some voluntary group or organization in which crime prevention has been put on the agenda. The resultant kind of anti-crime effort has a territorial base, i.e. to protect their own turf (Ibid.).

Further, in their examination of citizen responses in three American cities Lavrakas et al. found that avoidance or behavioural restric-tions (stemming largely from fear of crime) appeared to be the most prevalent response of citizens, most particularly among females, younger (and sometimes older) adults, Blacks and Latinos, those in lower-income brackets, renters and central city residents. Community organizations tended to have a problem-solving orientation, e.g. the problem with juvenile delinquency is that the children and youths do not have adequate recreational facilities (or so it is believed) -- therefore create more parks and programs. Most citizens who partici-pate in these neighbourhood-based anti-crime efforts do so as part of their participation in these community organizations and not as a consequence of their fear of crime.

Lavrakas and his colleagues draw several tentative conclusions from their findings. If what is desired is an increase in the extent to which citizens engage in behavioural restrictions, increasing their fear of crime would be the most effective means of ensuring this, particularly among women and the elderly. This would also increase the use of some household anti-crime measures. If, on the other hand, what is desired is an increase in the extent to which citizens engage

in household anti-crime measures, it appears that this could result not only from increasing the fear and concern for crime, but also by providing incentives and opportunities for social participation in neighbourhood-community groups which see crime as a local problem worthy of their attention. In addition, if incentives and opportun-ities for social participation in local groups were increased, one would expect an increased citizen involvement in collective anti-crime measures providing crime was perceived as a large enough local issue to address (Ibid.). They conclude by noting the commonly observed paradox facing crime prevention: resource-poor people do least about crime prevention but are more likely to be victims, while the resource-rich are least likely to be victims and yet are generally more greatly involved in anti-crime measures. The challenge, there-fore, is to somehow increase the security and safety of resource-poor people.

In contrast to those views which look to social (either individualistic or collective) action strategies to reduce fear of crime, the American Institutes for Research (AIR) report (1980a:64) claims that "We believe that changes in the physical environment are probably the fastest way of reducing fear of crime. Since the response is to the program's inputs (lighting, fences, security stations) rather than its outcomes, almost instantaneous impact can be expected." (Emphasis in the original.) This view is in keeping with the opinions of some of the Northwestern writers cited above, e.g. reduce the signs of social dis-organization (incivilities, broken fixtures, faulty equipment, etc.) and one reduces the fear of crime.

The authors of the AIR report go on to note, however, that they do not see any particular advantage in strategies exclusively aimed at reduc-ing the fear of crime unless the incidence of crime is also reduced. In contrast, there is some evidence from the Northwestern studies which suggests that if fear of crime is reduced, then people may begin to trust one another (and eschew the 'fortress mentality') and thereby contribute to the prevention of crime via the build-up of community relations and the natural protection mechanisms (e.g. more 'eyes on the street', increased recognition of strangers, greater willingness to intervene, etc.) that result.

In conclusion, we can only observe that the causes of fear and the role of fear in crime prevention is a complicated issue. We do not know whether fear of crime is an important factor in the prevention of crime nor is it absolutely clear what the nature and extent of the impact of crime is on fear of crime. In some situations, for some crimes, for some people, and with respect to certain crime prevention measures, there appears to be a very strong, almost reflexive, rela-tionship between crime and fear of crime. In other instances, the relationship between these two phenomena appears to be rather tenuous. While some of the EDM strategies to be discussed may help to reduce crime, there is also the risk that they may inadvertently increase fear. At this point in time, the available empirical studies only offer extremely tentative concrete guidelines or insights into these issues.

iii. Responsibility for Crime Prevention

The final specific issue related to preventing crime (or reducing fear of crime) to be discussed in more detail in this section is the issue of the allocation of responsibilities for crime prevention among the numerous public and private groups who are affected by, and who could affect, the occurrence of crime.

In the past, industrialized societies have tended to delegate responsibility for the control of crime to their criminal justice systems (police, courts, corrections) which, in turn, initiate most of their interventions after the completion of a criminal act. In its discussion of community crime prevention, the National Advisory Commission on Criminal Justice Standards and Goals (1973:8) observed that:

"Community leadership appears all too willing to delegate (or default) its responsibility for dealing with anti-social behavior. Eventually that responsibility is assumed by large, public agencies... The extremely expensive services of these agencies never seem to catch up with the need. They come too late to be 'preventive' in the most desirable sense of the word. Moreover, the policies are controlled from political and administrative centers far removed from the 'grass roots'....where delinquency and crime originate through obscure and complex processes."

Within the criminal justice system, the majority of responsibility for the control and prevention of crime has been allocated to the police. By and large, policing operations have been reactive (as opposed to proactive) and as such have had a limited impact on preventing many crimes. In an article which specifically addresses the issue of responsibilities for crime prevention (Engstad and Evans (1979:5-6), list a number of reasons advanced by different authors why police effectiveness in controlling crime has been limited:

"...the police have directed their resources toward improving the traditional means by which police services are delivered, and have paid insufficient attention to the substantive outcome of police practice on the problems they are called upon to handle (Goldstein, 1979).

...the numerous underlying 'causes' of crime over which legislators and the police have virtually no control (Coates, 1974).

...as much as 60% of serious crime occurs in private places which are ordinarily inaccessible to the police (Farmer, 1976).

...the failures of courts and the correctional system.

...exponential increases in opportunity for crime.

...the existence of the tremendous volume of non-violent property crime which occupies an enormous amount of police resources but which the police, by themselves, have little hope of controlling (Heywood, 1979a, 1979b; Grant, 1979).

...and, finally, in addition to being a serious social concern, 'crime is a source of fun, a means of profit, a source of occupation, and a mainstay of entertainment' (Coates, 1974)."[1]

Disillusionment with traditional practices can also be illustrated by the testimony of one police witness for the President's Commission on Law Enforcement and the Administration of Justice (1976: 2):

"I have spent my life enforcing the laws. It is a stupid procedure, and has not, nor will it ever, solve the problem unless it is supplemented with preventive measures."

In summary, it is increasingly recognized that the police alone, even allowing for more police, with better equipment, responding ever more rapidly to calls, will never be able to effectively control crime (Engstad and Evans 1979:4).

As a consequence, there has been a growing trend toward sharing the responsibility for crime control among various groups and agencies, including private citizens and community organizations. Engstad and Evans (1979:6-7) refer to Parkinson's comments in this respect:

"Police departments throughout North America have begun to move towards various forms of 'community policing' programs in which they attempt to re-define their own role in the community, to establish new and more helpful relationships with the community, and to act as catalysts to involve other professionals and citizens in sharing responsibility for things which have been seen as problems for the police alone... We are going to see growing acceptance by communities that social and economic ills are indeed community problems and to hold the police accountable for the level of crime is totally illogical." (Parkinson, 1977:31)

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[1] Goldstein, H. (1979) "Improving policing: a problem oriented approach" Crime and Delinquency 25 (2): 236-258; Coates, J. (1974) "A future perspective" Community Crime Prevention and the Local Official Washington, D.C.: Office of Urban Services; Farmer, M.T. (1976) "Direct crime prevention: a state of the art" Washington, D.C.: Police Foundation (unpublished manuscript); Heywood, R. (1979a) "Traditional and innovative policing" Proceedings: Workshop on Police Productivity and Performance, P. Engstad and M. Lioy (eds.) Ottawa: Solicitor General of Canada; Heywood, R. (1979b) "Keynote Address" Proceedings: National Symposium on Preventive Policing Ottawa: Solicitor General of Canada; Grant, A. (1979) "Some philosophical, political, policy and operational concerns in the delivery of police services" Proceedings: Workshop on Police Productivity and Performance P. Engstad & M. Lioy (eds.) Ottawa: Solicitor General of Canada; Kelling, G.L. (1978) "Police field services and crime: the presumed effects of a capacity" Crime and Delinquency 24 (2): 173-184.

There are a variety of approaches to crime prevention which are oriented, either directly or indirectly, towards opportunity-reduction. In the United States there has been a general flourishing of community crime prevention programs involving citizen responsibility for and participation in programs designed to protect persons and property from criminal victimization (see Lockard, Duncan and Brenner 1978, and Yin 1979:114-115). Many of these community programs are educational: they attempt to acquaint citizens with crime risks and measures they can take to protect themselves. Other programs are explicitly pro-active in the sense that they involve citizens in the active patrolling of their neighbourhoods.

However, even when the constraints placed upon police departments' capacities to undertake effective crime prevention measures are recognized, it is important to note that the police will (and should) continue to have a major role to play in this area. Whether in terms of guiding and facilitating greater community responsibility for crime prevention, or in undertaking prevention programs under their own auspices, police involvement is critical to the prevention of crime. Police forces have become increasingly more active in the realm of crime prevention: e.g. educational and inspection programs, Operation Identification programs, shoplifting prevention programs, and consulta-tion with regard to target-hardening techniques are now fairly common services provided by the police.

Obviously the impact of these programs will depend critically on the police departments' willingness and ability to provide these programs, and their suitability with respect to the nature and incidence of crime in their jurisdictions. On the other hand, while the more active role of police in these types of crime prevention programs can be a valuable addition to what are considered to be their 'traditional' services, it is also obvious that the police, acting largely on their own with these specific types of programs of limited scope, can be expected to have only a limited effect on the prevention of crime. What is needed is a wider variety of crime prevention programs and the assumption of greater responsibility by many public and private groups for the initiation and implementation of those programs.

2.4   SUMMARY

As an introduction to the next chapters' detailed discussion of what is entailed in the Environmental Design and Management approach to crime prevention, this chapter summarized the relevant characteristics of residential crime and criminogenic environments. In this regard, it has been argued that what is particular to many criminogenic areas is an unfortunate combination of poverty and social deprivation, inadequate social cohesion, and physical design faults. Although most of the research in this area has focused on (American) public housing develop-ments, which in many jurisdictions do exhibit relatively high rates of crime, it has also been found that other types of residential environments can have high crime rates. In general, while all criminogenic environ-ments may not possess all of the above characteristics, most do appear to exhibit some of the social and physical features which are hypothesized to make their residents more vulnerable to or motivated towards crime.

In addition, it has been proposed that the physical and social features of an environment can reinforce their individual impacts and thereby render residents of a criminogenic environment even more vulnerable to crime. What is admittedly lacking at this point in time, with regard to both the individual and combined effects of such physical and social factors, is an understanding of just how the relevant factors operate, for example, regarding their range of values and their relative weights, their combined effects, and their impact on different types of crimes.

Crime prevention is considered to be a promising approach to tackling the problem of crime since its focus is on forestalling crimes before they occur, and thereby having a greater impact, in terms of both the potential criminals and victims affected, than other more traditional crime control responses (for example, relating to the sentencing and treatment of offenders). Crime prevention can address either the desire or motivation of the criminal, the skills and tools required to commit a crime, or the opportunity for crime presented in an environment. None of these orien-tations is considered to be perfect in its ability to address the many problems associated with crime.

Some of the issues which need to be considered in assessing the potential of any crime prevention approach relate to the extent to which the approach might cause the displacement of crime, affect fear of crime, and allocate responsibilities for crime prevention. While there are many views regarding the potential for crime prevention strategies causing crime displacement (in terms of the time it is usually committed, the methods used to commit the crime, the target to which the crime is directed, the location in which it is committed, or the type of crime itself), the state of knowledge regarding this issue is inadequate to suggest more than that the possible effects of displacement must be considered in the development of a crime prevention program. The situation is similar with the issue of fear of crime, which in some cases has been found to be closely related to the actual incidence of crime but in other cases to be only tenuously connected. The picture with regard to the allocation of responsibility

for crime prevention is more clear, in that it is widely acknowledged that while any effective crime prevention program must draw on the expertise and resources of the police, its effectiveness is likely to be increased if there is the active participation of other groups from both the public and private sectors.

Chapter 3

Evolution of
the EDM Approach to Crime Prevention

3.1   INTRODUCTION

As noted earlier, this study developed the term 'Environmental Design and Management' for the approach to crime prevention discussed here largely because the various antecedents of the EDM approach (such as "defensible space" and "CPTED") were, in our view, inadequate expressions to describe the current concept regarding how a crime prevention program needed to be designed and applied, that is, by utilizing both design and management strategies in sensitive combination. We do not, however, wish to imply that the Environmental Design and Management approach is entirely our invention. Rather, the strategies incorporated in the EDM approach, and the orientation taken to its implementation, draw on the experience of various individuals and groups in different jurisdictions. The purpose of this chapter is to summarize that experience to illustrate how this study arrived at its definition of the Environmental Design and Management approach to crime prevention. It focuses on the key actors -- individuals and organizations -- who have been involved in the development of components of the EDM approach in order to illustrate how their various areas of interest influenced how the overall concept evolved. It also looks at the different emphasis given to various elements of this approach to crime prevention in the United States and in England.

This overview of the evolution of the EDM approach concentrates on developments during the last two decades. This is a somewhat arbitrary time frame since the concept of designing living environments to be secure against crime has been an integral part of the history of urban society. Locks, bars and gratings on doors and windows are not new, and the purpose of having security personnel is basically the same whether they are limiting intrustion to a Roman villa, a sultan's harem, a medieval castle or a high-rise apartment building. (Robert Gold 1970 has documented the use of environmental design and form as a means of protection against acts of violence at least as far back as the cities of the Middle Ages.)

Those types of approaches to crime prevention may have served the needs of historic urban societies; times, and urban landscapes, have changed and today's society has to operate in a much more complex and expanded environment. Many elements of the modern urban environment -- from extensive transportation systems to highrise buildings -- are relatively new, and their impact on social behaviour has become the subject of considerable research, particularly in the field of sociology. The related work conducted at the Chicago School of Sociology in the 1920's can be considered an important intial step in the development of the EDM approach because it stimulated and focused research aimed at documenting the behaviour-environment relationship. Until more recently, however, such research was primarily concerned with the social environment and rarely addressed the hypothesis that the urban environment could be changed to encourage or prevent

particular types of behaviour. As the body of knowledge about the behaviour-environment relationship has expanded to include the physical environment[1], it has attracted the interest of a wide range of disciplines including psychology, geography, architecture and urban planning, that are particularly interested in applying this knowledge to the effective design and management of the environment.

The fact that elements of the EDM approach have received more attention in the United States and Britain than elsewhere reflects their mutual concern with the incidence of crime in residential environments, particularly in the large public housing projects (called 'council estates' in Great Britain) which are common to each country. The different emphasis given to various components of the approach in these two countries to some degree relates to the nature of the crimes which are their respective concern and to their respective orientations to crime prevention and housing design and management. For example, the incidence of crimes against the person, which have a strong effect on the public's perception and fear of crime, is a much greater concern in the United States than in Britain, where there is a particular problem with vandalism. Vandalism, no matter how extreme or extensive, is usually considered to be a victimless and therefore less serious crime and arouses less public concern than assault, for example. One British reviewer of Newman's book Defensible Space noted that the orientation to crime prevention proposed therein "requires translation not into English, but into an England with so relatively low an incidence of violence as to make some of the factual pemises on which this book is predicated all but incomprehensible" (Cunliffe cited in Banham 1974:109).

The attention given to the design elements of the approach in the United States was stimulated, to a considerable degree, by concern about the high crime rates associated with highrise buildings (particularly with buildings of double-loaded corridor[2] design) which housed large proportions of welfare families, and in particular, single-parent welfare families (see Newman 1972). The use of this type of building design is somewhat more prevalent in the United States than in Britain, where there has been a stronger focus on designing housing which is appropriate to the needs of the users, and where high-density housing needs have therefore been met by a wide range of building types, including single-loaded corridor buildings, rowhousing, garden apartments and others. Perhaps because the concern in the United States initially focused on building design as a criminogenic factor, the

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[1] Jeffery (1971:185-190) provides a useful summary of how sociological and psychological theory developed to include the physical environment (ecology) as a determinant of behaviour.

[2] 'Double-loaded corridor' is an architectural term for buildings with individual units located along each side of an interior central access hallway.

U.S. experience with the EDM approach to crime prevention has generally tended to favour the design-oriented strategies whereas the British have leaned more toward management strategies. This is not to say that the management element has been ignored in the United States or design improvements in Britain; there has, however, been a difference in emphasis, and the majority of the tests and demonstration projects of design improvements have taken place in the United States.

3.2 BRITAIN

Crime prevention in general has a longer and more extensive history in
Britain than in the United States. When the new Metropolitan Police of
London was established in 1829, the instructions of one of its first joint
commissioners, Sir Richard Mayne, were that: "The primary object of an
efficient police is the prevention of crime; the next that of detection and
punishment of offenders if crime is committed" (Marshall 1971a:101). For
the next century and more, the police forces in London and elsewhere in
Britain continued to emphasize crime prevention as their major role,
primarily through uniformed police patrols; the detective capability of the
police increased only as it became evident that not all crime could be
prevented, and was not the initial raison d'être of the police.

In the period following World War II, there was an increase both in crime
occurrences and in the gap between crime occurrence and clearance rates.
In consequence, some police forces in Britain initiated campaigns to encour-
age the public to take simple and elementary crime prevention measures to
protect their homes and property and some forces developed a crime preven-
tion specialty in 'target-hardening' (i.e. the installation of better locks,
alarms, etc.). Then in 1950-1951, the first organized campaign for crime
prevention took place in Britain. The next major related development was
in the early 1960's, when a committee of the Home Office recommended the
adoption of crime prevention as a full-time specialization by all forces,
and the establishment of a central crime prevention training centre (the
Home Office Crime Prevention Centre opened in 1963 in Strafford).

The implications of these recommendations can be best illustrated by the
experience of the Metropolitan Police in London, which in many ways serves
as an example to other police forces throughout Britain. In 1967, the
Metropolitan Police was increased by ninety officers to staff its crime
prevention service, which was "believed to be the largest commitment to
full-time crime prevention activities by any police force in the world"
(Marshall 1971b:50). The majority of the crime prevention staff then and
now are mature and experienced constables or sergeants. Their role as
local crime prevention officers is to be fully alert to crime trends and
criminal methods in their area, to establish effective two-way communication
with other officers to ensure a maximum orientation to crime prevention, and
to communicate with the public, concentrating on those sectors most at risk
and most likely to act upon police advice. Because of the connection with
the EDM approach to crime prevention, it is important to note that the crime
prevention officer's communications with the public include discussions with
residents' associations and municipal officials with regard to security
planning for new developments, and that the officers gain some expertise in
this area as part of their month-long basic training course at the Crime
Prevention Centre, which includes lectures by architects and other profes-
sionals in the environmental design field.

It is a matter of conjecture whether or not the traditional crime prevention
role of police in Britain has had a major influence on deterring the
incidence of crime, as there are many other physical and social factors
characteristic of the British environment which may also have had a signifi-
cant effect. In any case, the prominent role of the British police in crime
prevention represents a major difference in the way crime prevention has

been approached there and in the United States. In 1970, a senior British
police officer made an extensive visit to various urban centres in the
United States, and concluded that:

"Crime prevention as a specialized police activity
involving full time use of police trained in the
techniques of target hardening is almost unknown
amongst major city police departments in the U.S.A.
This contrasts sharply with Britain where every force
has this capacity and makes good use of it. The one
exception encountered, Oakland, has approached the
problem systematically and the added support provided
for their work by building security ordinances is a
logical extension of legislation from the field of
fire safety regulations." (Marshall 1973: n.p.)

The lack of emphasis given to the crime prevention function in police work
in the United States may be attributed to the American perception that "the
function of the police has traditionally been to apprehend criminals"
(Newman 1972:14).

Police involvement is considered to be an important element in the manage-
ment part of the Environmental Design and Management approach to crime
prevention. The historical commitment of the British police to preventing
crime was summarized above both for this reason and because it suggests why
crime prevention strategies which are oriented to managing the environment
have continued to receive considerable attention in Britain. For example,
at a 1974 British conference on architecture, planning and urban crime, the
majority of the recommendations for action or research on crime prevention
related to improving the overall management of the environment rather than
to designing it differently. As noted by one of the participants.

"...buildings on their own, no matter how carefully
researched their design, are not enough. The way the
decision to build is reached and the way these buildings
are to be allocated and controlled may crucially
determine their worth. This fact is frequently high-
lighted in the provision of new community facilities in
housing... It's no good simply thinking in terms of
spaces and walls enclosing them... One's got to think
much more fundamentally in terms of what kind of social
institution, using that term sociologically, are we
wanting, as community facilities and community services
in housing?" (Burbridge in Ash et al. 1975:39)

Thus, much of the EDM-related crime prevention activities in British housing
have been concerned with developing means of managing the environment more
effectively. With regard to public housing, the particular focus has been
to encourage more tenant involvement in management and better tenant-council
(i.e. housing authority) relationships. This emphasis can also be
attributed to the lessons learned from such major public housing projects
as Park Hill in Sheffield which was built in 1961 to house 2,800 people,
displaced by slum clearance, in 995 units. The design of this project

appears to run counter to many of the guidelines for designing a crime-free environment, and, according to such guidelines (particularly as developed by Newman as discussed later in this section) "Park Hill ought to be a behavioral sink" (Banham 1974:112). Almost fifteen years after its opening, however, Park Hill was still a relatively crime-free and successful living environment, particularly in comparison to a more recently build adjacent project, the design of which benefited from the architectural lessons learned from Park Hill. The success of Park Hill has been largely attributed to the efforts of the architects and the local housing department to ensure that the original tenants were fully informed about the project and were encouraged to develop a sense of community. One of the first tenants was a trained social worker, appointed by the housing department, who acted as a liaison between tenants and officials and who was instrumental in helping the tenants to organize themselves into a residents' association. Banham (Ibid.) noted that this approach to averting social problems in public housing could be considered paternalistic, but he also suggested that there was a "caring" component in such paternalism which could and should be retained in order to replicate the success of Park Hill in other projects and that a "caring attitude" on the part of official bodies responsible for housing could, in fact, generate a secure living environment despite the presence of major architectural flaws.

It should not be assumed that because the British experience with crime prevention has concentrated on management approaches that it has ignored design approaches; rather there has been a greater emphasis than in the initial work in the United States on using the two approaches in a complementary way. This may be due to the fact that many of the EDM-related crime prevention strategies which were tried in Britain were developed in response to the concern about vandalism, which as noted previously, is stressed in the literature as a wide-spread problem in both urban and rural areas in Great Britain.

Although vandalism may not appear to be as serious a crime as the robberies and assaults which are a concern in the United States (particularly in terms of creating a fearful population), it can incur significant direct and indirect costs. In 1979, the direct costs of vandalism in England and Wales were estimated to be a minimum of 100 million pounds a year (The Design Council 1979:7). The indirect costs of any crime are impossible to measure, but some of those attributed to vandalism include the inconvenience and potential danger (in case of emergency) resulting from broken elevators, telephones and street lights and the frightening atmosphere created by a seriously vandalised environment. Further, while much of the publicity on vandalism in Britain has given immoderate attention to discrete incidents caused by the hooliganism of soccer crowds and youth gangs, a report of a government committee on crime prevention indicated that vandalism was much more widespread than such publicity might indicate and that "the scale of vandalism in some spheres -- housing departments in particular -- defeated attempts to keep track of it" (Great Britain Home Office Standing Committee on Crime Prevention 1975:7). Thus, while the threat of vandalism may not deter individuals in Britain from pursuing their normal activities (as the potential for being victimized by other crimes does in the United States), it is nevertheless a major source of concern in that country and, as noted, has been the stimulus for most of the EDM-related activity in Britain.

Until the last decade, efforts to combat vandalism in Britain were basically of the target-hardening variety, i.e. using materials which were hardy enough to withstand purposeful damage. Although target-hardening strategies are considered part of the design component of the Environmental Design and Management approach to crime prevention, they do not really reflect the emphasis on what can be called "opportunity-shaping" (Stoks and Wise:1981) which forms the basic rationale for most of the other design-oriented strategies in the EDM approach.

The historical British emphasis on target-hardening to combat vandalism was largely based on the assumption that vandalism was a homogeneous crime and that all acts of vandalism were meaningless or wanton in nature.[1] The target-hardening approach therefore was aimed at lessening the effects of supposedly inevitable acts of vandalism and not at preventing their occurrence. Through the 1960's, prevention efforts were primarily in the area of extensive media campaigns initiated by public and private sector agencies. Such campaigns could be only peripherally considered part of the EDM approach; however, their questionable success may have provided the impetus for considering other prevention measures. On reviewing the impact of ten years of intensive anti-vandalism propaganda, the Working Party of the Home Office Standing Committee on Crime Prevention noted that there appeared to be a need "for great caution in its use, for it can be counter productive and at best there is little evidence of its efficacy" (loc. cit. 1975:20).[2]

By the early 1970's then, both private and public sector agencies in Britain were giving serious attention to other ways of approaching the continuing problem of vandalism and other crimes. Publications such as Vandalism (Ward 1973) provided both new perspectives on the nature of vandalism and various design guidelines[3] for preventing its occurrence. These guidelines were based on the experience of numerous authorities and organizations involved in the design, construction and management of housing developments in Britain. While most of the guidelines related to appropriate finishes and other construction details, the total design of the environment was also considered because of the growing belief that attacking "the problem at the overall and detailed planning stages will alleviate or even eliminate the later problems encountered in the selection of appropriate finishes, materials, components and details" (Leather and Matthews in Ward, C. 1973: 119). Thus, some of the design considerations noted, particularly regarding the provision of surveillance opportunities and the encouragement of residents' sense of territoriality, can be seen to relate to the

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[1] See Cohen in Ward, C. (1973:23-53) for his comparison of the stereotypical perception of vandalism with the current understanding of the range of meanings and motivations behind vandalism.

[2] See also Cohen in Ward, C. (1973:215-257) for a discussion of the problems associated with such publicity campaigns.

[3] See Leather and Matthews in Ward, C. (1973:117-172)

environmental design concepts laid out in Oscar Newman's Defensible Space (1972) which was receiving considerable attention in Britain at that time. Even in such design guidelines however, the concept of managing the environment effectively was still a significant feature, with reference again to encouraging territoriality and to ensuring the attractiveness and proper maintenance of the total environment.

More general recommendations for preventing vandalism were proposed in the 1975 report of the Home Office Working Party mentioned previously. As with the design guidelines proposed by Leather and Matthews, these recommendations, to a large degree, reflected the experience of such agencies as the police, local authority housing departments and the building industry. (In contrast, as is discussed in detail later in this chapter, the development of design guidelines for crime prevention during this same period in the United States was based on somewhat more rigorous attempts to evaluate the effectiveness of different methods.)

In brief, the recommendations of the Working Party assumed that a basic requirement for preventing vandalism was concerted action by the public and that "public reaction is unlikely to be fully mobilized on social grounds alone; an appeal to the 'pocket' is far more likely to succeed" (Great Britain Home Office Standing Committee on Crime Prevention 1975:28). The recommendations therefore emphasized: the need for more precise statistics on the cost of vandalism and for more publicity about this expense; the need for more positive action by the police and for the support of parents and teachers; the need for more research on the nature of vandalism, with particular regard to the potential of constructive youth programs (and of less conventional activities for youths who typically reject imposed or structured activity programming) for redirecting the energies of young vandals; and, finally, a series of disparate requirements including the need to 'design out' opportunities for vandalism through the provision of improved formal and informal surveillance opportunities and the use of vandal-proof materials, the need to encourage and publicize more severe penalties for vandalism, and the need to maintain up-to-date records of successful anti-vandal measures (Ibid.:28-31).

These recommendations of the Working Party neatly summarize the difference in emphasis in environmental design and management approaches to crime prevention as they evolved in Britain and in the United States, the major emphasis in Britain being to change public attitudes rather than to change the physical environment (undoubtedly, this approach is more likely to appear feasible when the crime in question is vandalism than when it is assault or murder). Particular features of the housing environment which represent a major area of concern in the United States -- such as highrise apartments -- are mentioned only peripherally in the recommendation regarding the role of police: "...the police and local authorities will need to come to terms with the surveillance problems brought about by new types of housing, particularly high-rise flats..." (Ibid.:29).

The lack of specificity in the recommendations of the Home Office Working Party was perhaps inevitable, given the broad mandate of the study. Other agencies and individuals with more clearly defined concerns have also undertaken research on the crime-environment relationship over the last decade in Britain. Again, however, the environment is usually understood to

include physical (design) and management components, which are rarely considered in isolation in the conclusions of the various researchers. While some criminologists such as Mawby (1977) did examine the relationship between physical characteristics of the housing environment and the occurrence of crime, such investigations were often undertaken in reaction to the "crude" (Mawby 1977:175) methodology and research techniques used by Newman in developing the "defensible space" concept, and the resulting recommendations emphasized the need for more research on the crime-design relationship before useful guidelines could be established. Newman's theories, while they received a great deal of attention in Britain in the mid-1970's (particularly by critics of highrise developments) generally left the British "conspicuously under-awed" (Banham 1974:109). While Banham acknowledged that this might be due to "anti-colonial" snobbery, he also suggested that it was more likely because the British have learned from "slowly accumulated experience ...that it is infernally difficult to show any statistical, let alone causal, relationship between better design and social melioration" (Ibid.).

Most of the recent British research relating to the EDM approach to crime prevention has been commissioned by such government agencies as the Home Office Research Unit and the Department of the Environment. The policies which have come out of this research have continued to emphasize management-related actions, for example with regards to avoiding housing children in highrise buildings, providing adequate play facilities and programs, improving tenant-management relationships through increased consultation, and improving the maintenance of buildings (see Ash et al 1975; Wilson 1977; The Design Council 1979). Perhaps the best summary of the current British stance regarding the design and management approach is provided in The Design Council's recent publication on designing against vandalism (1979). While this provides extensive instructions regarding the design of site and building elements, the importance of considering these elements in their overall context is repeatedly emphasized. This is best illustrated in the following quote from Alison Ravetz, of Leeds University, who has been actively involved in researching the crime-environment relationship:

> "...instead of needing more and more sophisticated designs
> to achieve tighter and tighter control over their effects,
> the designer could regard himself as only one agent among
> others providing built environment. Though his role is
> indispensable, improvements in levels of use do not
> devolve on him alone, but might more properly be the
> concern of users and managers." (The Design Council 1979:57)

There has been frequent reference to how this British approach to EDM-related ideas differs from the situation in the United States. The purpose of the next section is therefore to examine how various components of the EDM approach to crime prevention evolved in the latter country.

3.3   UNITED STATES

The idea of designing environments for the purpose of preventing crime has received more attention in the United States than in any other country. Before reviewing how various elements of the EDM approach developed in the U.S., it would be useful to summarize some of the developments in housing which are somewhat unique to the United States and which motivated this level of interest.

Throughout this century, the U.S. population has become increasingly concentrated in dense urban environments. However, in the second half of this century, the composition of these environments has experienced radical change. According to Newman, these changes took place mainly because, "as housing and educational opportunities for blacks opened up in our northern cities in the 1950's, there was a dramatic shift of population from southern towns and cities to the large metropolitan areas of the Northeast, Great Lakes and Northwest" (Newman 1980:26). The increased numbers of blacks in the Northern cities were primarily housed in lower-income locations in the metropolitan cores, particularly in the large public housing projects which were the result of the federal government's commencement of its housing assistance programs in the 1940's. While this influx of the black population was a contributing factor, other economic and social developments through the 1950's and 1960's led to deterioration of the urban cores of many cities in the United States and a consequent desertion of the core areas by middle-class families who moved to new suburban housing developments. This population change further reduced the stability of the core areas and rising crime rates in these areas became a matter of increasing public concern.

Initial investigations into the causes of these crime rates were quick to identify the similar character of high-crime areas. These usually comprised low-income populations with substantial numbers of minority ethnic groups, housed in large highrise projects, and particularly in public housing projects. Because of the economics of constructing public housing, such projects were often located in the less desirable areas of the urban core (e.g. adjacent to industrial and expressway developments) and had poor access to services such as shopping, recreation and educational facilities. For similar economic reasons, much of this public housing had been built to house a maximum density of residents in the land available and with minimal regard for the design needs of the families who would reside there. As the correlations between high crime rates and building or neighbourhood design became more and more evident, concerned individuals and organizations became increasingly involved in considering how to ameliorate the problems associated with living in American cities.

Two of the earliest proponents of the specific notion that the physical environment could be designed to prevent crime, and in particular residential crime, were Jane Jacobs and Elizabeth Wood. Their respective writings in the early 1960's focused on the broad need to improve the general quality of life in the built environment, citing crime prevention as one important element of that need. Jacobs (1961) was interested in the operation of the urban environment as a whole and particularly in the role that "eyes on the street" could have in maintaining informal control of public urban spaces. Jacobs emphasized that:

"The first thing to understand is that the public peace - the sidewalk and street peace - of cities is not kept primarily by the police, as necessary as police are. It is kept primarily by an intricate, almost unconscious network of voluntary controls and standards among the people themselves and enforced by the people themselves " (Jacobs 1961:31).

Jacobs' theories reflected an increasing concern, evident in most urban centres in the United States, with the architectural and urban planning trend to provide housing in massive highrise projects surrounded by undifferentiated areas of open space. Beginning in the 1930's, this trend became increasingly popular after World War II and obtained particular prominence in the production of new federally-subsidized housing.

Jacobs claimed that one of the flaws in this urban development trend was the elimination of the "eyes on the street" informal surveillance as a result of economic and planning policies which (a) restricted mixed uses (and therefore decreased ongoing street activity) and, (b) which encouraged the development of isolated highrise housing projects whose physical design discouraged a sense of community and constrained the potential for maintaining control of the environment through informal surveillance. Jacobs' claims were largely based on her personal observations and experience of urban life, and have been criticized for that reason by more scientific researchers. Nevertheless, her suggestions on designing neighbourhoods to increase the surveillance and informal control potential of their residents were significant to subsequent developments in EDM-related ideas.

Elizabeth Wood was more directly concerned with the design and management of the residential environment. As a consultant to the Citizens' Housing and Planning Council of New York, Wood developed a social theory of housing design which focused on issues related to the public spaces in high density, highrise public housing projects, and how these could be designed to make "...possible the development of a social structure by means of which people can create their own social controls, and do their own self-policing" (Wood 1961:6). Wood noted that her theory could apply to all high density urban residential areas but that highrise public housing was the major area of concern because of its very high population densities, particularly in terms of children, and because the low-income residents of public housing had the least resources to satisfy their social and recreational needs, and were therefore more tied to their immediate home environments than high-income residents of private highrise apartments. In brief, Wood recommended that the design of indoor and outdoor public spaces in highrise apartment buildings should pay greater attention to satisfying the varied needs of the residents and to encouraging the development of a cohesive social fabric. She criticized the design of typical highrise apartment projects in New York and elsewhere in that they "...seem designed to minimize or to prevent accidental and casual communications between people and the informal gathering of people, and to provide minimum facilities for the formal gatherings of people" (Ibid.:5). In Wood's view, designing buildings to accommodate these types of activities would not only meet some very real social needs of people but would also create opportunities for the surveillance and social control of otherwise undefined areas of a housing project. Further, Wood noted that good design was not the total solution to the problems of high density, highrise living and emphasized the need for enlightened building management practices and a balanced neighbourhood population.

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Throughout the 1960's researchers from a variety of disciplines started to examine the relationship between crime and the residential environment in a more rigorous way (for example, Boggs 1966; Rainwater 1968). These investigations were generally exploratory in nature in their attempts to document the spatial and socio-economic correlates of certain crime types. Shlomo Angel (1968) was one of the first of this generation of investigators to propose specific physical configurations which would deter crime. Angel also coined the term "environmental prevention", which in a few years had evolved into "crime prevention through environmental design" or CPTED.

From the late 1960's on, the majority of the work in the CPTED field was commissioned by U.S. federal agencies, and was therefore usually undertaken with a view to policy and program development at the federal level. The Department of Justice, through the Law Enforcement Assistance Administration (LEAA) and its research arm, the National Institute of Law Enforcement and Criminal Justice (NILECJ) started to fund a series of exploratory research studies in 1969. The establishment of this research arm, and its subsequent involvement in commissioning CPTED-related research and allocating local grants to test CPTED ideas, were primarily a result of the government's growing awareness of the problems in the courts and correctional systems at all levels in the United States.[1]

The initial emphasis in the research commissioned by NILECJ was on factfinding, i.e. documenting the relationship between the physical design of neighbourhoods and buildings (particularly in public housing projects) and citizen fear of and vulnerability to crime. The study undertaken by Gerald Luedtke and Associates (1970) for NILECJ exemplifies this initial emphasis. The Luedtke study analyzed the crime rates and socio-economic and physical characteristics of selected areas of Detroit with a view to determining what environmental features (e.g. location of structure on block, nature of adjoining land use, traffic density) could be instrumental in facilitating or decreasing the probability of crime. Such studies were intended to build the information base necessary to make design judgements rather than to make immediate recommendations on appropriate design guidelines for crime prevention.

However, the results of one of these initial studies commissioned by NILECJ were interpreted as the basis for re-designing buildings and neighbourhoods with high crime rates. This was the research program conducted by Oscar Newman (1972) which examined the physical and social characteristics of several public housing projects in New York City in terms of how these related to the respective crime rates. As a result of his investigations, Newman, an urban planner and architect, developed his "defensible space" theory which he defined as "a model for residential environments which inhibits crime by creating the physical expression of a social fabric that defends itself" (Newman 1972:3). The concept of defensible space has been widely criticized, both for its questionable empirical foundation and for its implied support for fortress-living. In many ways however, defensible

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[1] Thus, crime prevention became an issue of consequence in the United States only after the responsible agencies accepted that the traditional apprehension-sentencing focus of the criminal justice system was proving inadequate as a deterrent or control measure. This contrasts with the British situation where crime prevention has traditionally been the major component of the British efforts to control crime.

space has been misinterpreted; when reduced to its essence, defensible space design is concerned with more than fortress-living. Rather, it is concerned with utilizing the following characteristics of the residential environment in a way that deters crime:

> "...the capacity of the physical environment to create perceived zones of territorial influence... the capacity of physical design to provide surveillance opportunities for residents and their agents...the capacity of design to influence the perception of a project's uniqueness, isolation and stigma...(and) the influence of geographical juxtaposition with 'safe zones' on the security of adjacent areas."   (Newman 1972:50)

Newman's ideas were favourably received by administrators at the Department of Justice and the Department of Housing and Urban Development. NILECJ therefore continued to provide substantial grants to Newman and his colleagues at the Institute for Community Design Analysis to continue to research, implement and evaluate architectural guidelines for preventing crime (Newman 1973a and 1976; Newman and Franck 1980a and 1980b). In his work for the federal government and for various municipal housing authorities through the 1970's, Newman concentrated on further refining his design guidelines for creating defensible space, i.e. increasing opportunities for casual surveillance and heightening residents' sense of territoriality. The initial focus of Newman's work was on improving the design and configuration of multi-family buildings or building projects and their sites to clearly indicate the way in which the spaces comprising a project were allocated to public, semi-public or private use. Some of Newman's proposals for defining these zones of influence included providing real and symbolic barriers, transitional spaces and recreational and other amenities. Newman and his associates have applied these and other similar site design guidelines to modify the environments of public housing projects in several U.S. cities. One of the most successful and well known examples of implementing these modifications is Clason Point Gardens located near the South Bronx in New York City (see Newman 1980:247-256). The basic intent of the changes to this large row-housing project was to define clusters of residences within the project and to then define the private areas allocated to each residence within the clusters. These modifications led to a substantial increase of residents' interest in and care of their own yards and of the public spaces, and more importantly, to a 50% reduction in the project's overall crime rate in the two years following the modifications (Ibid.:256).

From the development of his initial hypothesis in the early 1970's, Newman reserved particularly strong criticism for the poor defensible space characteristics of many highrise buildings, and in fact the defensible space concept largely grew out of his comparison of the characteristics of lowrise and highrise buildings which had respectively lower and higher crime rates. His criticism of elevator buildings, particularly those of double-loaded corridor design intended for low-income families, was based on his belief that limiting the number of families sharing an entry, elevator and corridor was critical to the development of residents' sense of territoriality. In some of his earliest work, Newman was involved in implementing site modifications to improve the allocation and definition of the surrounding space. However, while he developed detailed designs for encouraging the clustering of residential units in highrise buildings (Newman 1973a:40 and 1980:180-187)

according to an "organic" approach to design (as opposed to what he calls the traditional "compositional" approach), it appears that few of these designs have been implemented as yet. Most of the interior modifications carried out in highrise buildings by Newman and his associates have involved changes to the lobby design and performance to improve the surveillance potential, and the use of electronic surveillance equipment in both exterior and interior public areas. The success of these modifications in preventing crime in the long term is as yet unknown.

Newman's theories have suffered from considerable over-simplification in the past. For example, the work of Newman and his associates has not been solely concerned with highrise public housing projects, as might be inferred from the above discussion;[1] however, a major part of his influence on the entire concept of designing and managing the environment to prevent crime derives from his work regarding such projects and it is emphasized here for that reason. Newman's ideas and concerns have also expanded over the decade he has been involved in the EDM field. As he notes in his most recent publication, Community of Interest (1980):

> "In my previous research activity...my purpose was to find ways, through the mechanism of physical design, of improving the security and utility of the housing environment for low-income families with children living in public housing.

> In this book, I examine many different types of housing environments - middle- as well as low-income developments, those serving elderly and working couples as well as those serving families with children, detached single-family units as well as multifamily units - I also examine the ways that housing environments function as sociopolitical entities. Residential environments are examined as settings which not only answer housing needs but which also influence residents by the social milieu they offer, the life-style that can be pursued, and the capacity to influence activities within the development and the areas beyond." (Ibid.:5-6)

It is more than likely that Newman's proposals focusing on the issue of "community of interest" will also be subject to over-simplification, particularly in the popular media, since these proposals address such emotional issues as: the need to develop optimum economic and racial mixes (through quota systems) to ensure community stability, and the need to create "small, distinct subhabitations within the larger urban milieu which are clearly defined for specific groups and designed to answer their specific needs" (Ibid.:21). However those ideas are received in the long term, it is important to note that Newman now views physical design and the concept of defensible space as only one element contributing to the effective and safe operation of residential environments.

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[1] See, for example, his Design Guide for Improving Residential Security (U.S. Department of Housing and Urban Development 1973) which addresses the security needs of a broad range of building types.

Newman is unquestionably the most prominent individual associated with the early development of the EDM approach to crime prevention in the United States, and the commercial publication of his book Defensible Space (1972) contributed to the broad dissemination of his views.[1] However, other individuals and organizations in the United States were also active during the 1970's in the development and implementation of what was commonly called CPTED.

The term CPTED is most often associated with the implementation and evaluation projects undertaken by the Westinghouse National Issues Center, with NILECJ funding assistance, during the mid-1970's. Three major CPTED demonstration projects were implemented by Westinghouse to evaluate the effectiveness of defensible space concepts (which had until then been applied almost exclusively in public housing environments) when they were directed to preventing crime in other environments.[2] These demonstration projects involved a more balanced mix of design and management crime prevention strategies than had been implemented in the United States up to that time, reflecting a growing awareness that the success of physical changes was greatly affected by attitudinal changes in the people who used or managed a particular environment.

The CPTED demonstration project undertaken by Westinghouse in Hartford, Connecticut (see Hollander and Brown 1978) is of the most interest to this present study because it was concerned with reducing residential crime. The Hartford project included a combination of physical and social changes aimed at increasing residents' sense of control over and responsibility for what occurred in their area. The physical or design changes were mainly directed to changing automobile and pedestrian traffic routes and densities through street narrowings and closings; the social or management strategies included changes to the policing procedures (i.e. the institution of neighbourhood team policing) and the development of programs aimed at encouraging residents' involvement in crime prevention (e.g. Neighbourhood Watch). As with most of the other CPTED demonstration projects, the Hartford project is now viewed by NILECJ as being terribly expensive for what was obtained (interview with Richard Titus, NILECJ on July 10, 1980).[3] The project took several years to research, implement and evaluate and the evaluation results did not satisfy the high expectations with which the study had been initiated. The evaluation which took place during and one year after the three-year implementation period indicated that there had been a substantial reduction in burglary rates and residents' fear of burglary and that a rise in the

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[1] Banham (1974:112) cynically comments that the world-wide photo coverage of the dramatic demolition of the infamous Pruitt-Igoe project, at almost the same time as Defensible Space was published, could not have been bettered as a promotion stunt for Newman's book.

[2] These demonstration projects included a private residential area of Hartford, Connecticut; a commercial area of Portland, Oregon; and schools in Broward County, Florida.

[3] The Westinghouse research contract for all of the CPTED demonstration projects totalled $4 million; additional funds of approximately $1 million were expended directly by NILECJ on implementation.

rates of robbery/purse snatching had been halted and may even have been reversed (Hollander and Brown 1978:viii). However, the durability of this initial success was questioned because it was attributed primarily to the increased resident involvement, and since the area population had a high rate of transiency, it could not be assumed that such involvement would endure without continual intervention or reinforcement.

Because of its concern regarding the time and cost involved in such demonstration projects, and regarding the validity and broad applicability of their findings, in the latter part of the 1970's NILECJ decided that there was a need for more fact-finding research similar to the Luedtke and Newman studies it had commissioned ten years previously. The current view, as expressed by NILECJ representatives, is that more comprehensive and detailed information on the physical and social characteristics of the urban environment is required before useful recommendations can be developed on how and where CPTED strategies can be most effectively applied. To that end, NILECJ is currently assisting studies such as the one being conducted by Lavrakas (1980a and 1980b) and his colleagues at Northwestern University in order to develop a broader picture of what makes neighbourhoods in general work, e.g. what factors facilitiate or discourage citizen involvement in anti-crime activities. This clearly represents a shift from the initial emphasis of the NILECJ research programs on physical or design changes to a more comprehensive or holistic treatment of the total environment in which EDM strategies might be implemented.

The Newman and Westinghouse studies do not represent the sum total of all EDM-related activities sponsored by the Department of Justice through the LEAA or NILECJ; these have been emphasized here because of their concern with implementing a broad range of design and management crime prevention strategies. Other studies funded by NILECJ have addressed specific EDM-related issues, including research on the specific housing security needs of the elderly (U.S. Department of Justice, LEAA, NILECJ 1972); a research and evaluation study on street lighting (Tien et al. 1979); and research and development work on citizen crime prevention programs (U.S. Department of Justice, 1977 and 1979b). The Department of Justice has also been responsible for organizing a number of major seminars on crime prevention through environmental design and management. In addition, this department has used the results of its research to assist the Department of Housing and Urban Development (HUD), the other major federal agency involved in the EDM approach to crime prevention, to develop, for example, minimum building security guidelines for public housing (U.S. Department of Justice 1971). These two federal departments also cooperatively funded a publication by Richard Gardiner (1978), which drew on the findings resulting from Hartford and other demonstration projects to develop "a comprehensive planning process for analyzing and understanding neighbourhood crime problems and generating environmental solutions" (Gardiner 1978:1). This manual is directed to the urban planning and design professions and is concerned with the total design and operation of neighbourhoods, as opposed to individual buildings or housing developments. It represents one early illustration of the increasing tendency to balance design and management needs in crime prevention planning.[1]

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[1] This manual also publicized yet another term -- "Environmental Security (E/S)" (Gardiner 1978) -- to add to the EDM-related lexicon.

Since the concept of implementing design and management changes to prevent crime was initially developed in response to the high crime rates evident in public housing environments, HUD has had an ongoing interest in the concept because of its federal responsibility for public housing. Through the early 1970's, HUD's involvement in the EDM field was mainly restricted to disseminating related information on the subject to municipal housing authorities. HUD initially emphasized the environmental design types of strategies, rather than the management types, as a natural consequence of its orientation as a 'bricks and mortar' agency.[1]

HUD's major involvement in actual research and implementation programs was through its funding of the work undertaken by William Brill Associates, Inc. in the mid-70's. Brill's comprehensive "Approach to Security Planning" was developed through his studies of the security features in public housing projects in ten cities across the United States. As a result of these studies, HUD published a series of four manuals which provide guidelines for assessing and improving a public housing environment in order to prevent crime (Brill, 1979a, 1979b, 1979c, 1979d). Brill's approach to security planning illustrated the increasing emphasis being given to improving both physical and social elements of the environment, and focused on the importance of developing a mix of improvements which would have a synergistic or mutually reinforcing impact. The two main components of applying Brill's approach include undertaking a "residential vulnerability analysis" aimed at identifying those features of the social and physical environment that contribute to residents becoming victims of crime or fearful about crime; and then preparing a comprehensive plan which addresses the problems identified in the vulnerability analysis through improvements to the site and building design and through reinforcements of residents' social defenses. Although Brill's approach has not been evaluated, HUD indicated that it published the manuals "with considerable confidence...clearly organized and easily understood, they are the first books in the literature to offer comprehensive, specific, and practical guidelines to security planning" (Brill 1979a:i).

While HUD's support for Brill's work approach indicated the department's growing awareness of the need to treat social problems in its crime prevention efforts in public housing, the programs in which HUD was involved after 1977 formalized its commitment to address these needs. This commitment can be attributed to two factors: first, the reports on the large CPTED demonstration projects carried out in the mid-70's questioned the effectiveness of design changes instituted without strong resident/management involvement and support; and, the Urban Initiatives Program set up by the Carter administration (which came into power in 1977) encouraged the development of comprehensive programs which fostered citizen self-help activities (which are considered part of the management component of EDM) directed at improving the general quality of urban life, including those elements which contributed to crime or fear of crime.

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[1] As noted in our December 11, 1980 interview with Dr. Lynn Curtis of HUD, in the past HUD has tended to pay more attention to building design and construction issues than to management issues both because these more directly relate to HUD's mandate and because they are simpler and easier to resolve.

In 1978, then, HUD put together a comprehensive Urban Initiatives Anti-Crime Program directed at reducing crime and fear of crime in public housing. Two of the most important characteristics of this program relate to the way it was funded and to the broad range of causes and symptoms of crime it addressed. The funding for the program (a total of $43 million) was achieved primarily through inter-agency agreements at the federal level, by which HUD, the Department of Labour, Department of Justice, Department of Health, Education and Welfare, and Department of Interior all contributed funds from their existing budgets (i.e. no new funding appropriations were required) for the purpose of various anti-crime activities[1]; the local public housing authorities which participated in the Anti-Crime Program also contributed a minimum of 10% of the federal funding received to ensure local commitment to the program. Through this coordinated funding approach, the Anti-Crime Program was able to include a variety of program areas which related to crime prevention, some of which went far beyond what had been included in the CPTED-type of crime prevention projects.

The seven program areas of the Anti-Crime Program were summarized as follows in HUD's First Annual Report to Congress on the program:

"1. Public Housing Authority (PHA) Action

    1.1 Improved PHA management of public safety
    1.2 Rehabilitation of anti-crime facilities and physical design.

2. Citizen Action

    2.1 Tenant anti-crime participation
    2.2 Youth employment
    2.3 Special anti-crime services -- youth, elderly, anti-drug/alcohol abuse, victim/witness, crisis intervention.

3. Local Action

    3.1 Additional and more sensitive law enforcement
    3.2 Area-wide public/private partnerships targeted on the public housing sites and surrounding neighbourhoods."

    (U.S. Department of Housing and Urban Development 1980:10)

As is evident from this list of the program areas, the emphasis of the Anti-Crime Program was more on the management end of the EDM approach. The environmental design element represented only one of the seven program area variables which, in HUD's view, needed to be considered together to develop a comprehensive program for crime prevention. The allocation of the Anti-Crime Program funds clearly illustrates the recent shift in the United States from a physical design focus to a balance of design and management strategies for crime prevention. As noted in the Report to Congress mentioned previously:

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[1] It is worth noting that, in the view of the then director of the Anti-Crime Program, Dr. Lynn Curtis (interviewed December 11, 1980), the organization of the inter-agency agreements represented the bulk of the work and problems involved in establishing the program, and required considerable patience and diplomacy on the part of the organizers.

"Fifty-one percent is for 'software' programming...for salaries, anti-crime and criminal justice services, administration, technical assistance and evaluation.

Forty-nine percent of the funding is for 'hardware' programming -- the physical and environmental changes possible through the HUD modernization loan authority. Past Federal experience and widespread criticism of 'hardware' suggests that 'software', people-oriented, community, criminal justice and other service intensive programs can have a greater, more cost-effective impact on crime prevention for the dollar -- and so HUD will continue to seek 'software' funds."
(Ibid.:5-6)

The allocation of the Anti-Crime Program funds to local public housing authorities was basically determined on a competitive basis. HUD first advised all local authorities of the nature of the program and invited applications from any authority which could identify a particular high-crime public housing project that might benefit from participating in the program. In reviewing the one hundred and seventy applications received, HUD paid particular attention to those which included a complementary mix of the different program areas and which reflected tenant involvement in and commitment to the selection of program directions. From this review, it appeared that some authorities had submitted applications to the program more because it was a source of "free dollars" (cited by Dr. Imre Kohn, Housing Program Specialist, HUD, personal interview, December 11, 1980) than because it would satisfy a crime prevention need. Once the thirty-nine final participants were selected (each in different cities and representing a range of project sizes and types), HUD staff assisted the authorities in refining their work plans; the actual administration of the program in each housing project selected was then turned over to an Anti-Crime Program Coordinator hired by the authority expressly for that task.

An important component of the Anti-Crime Program was to be an extensive evaluation, undertaken by an outside agency, of both the process and product of the program. It is unclear whether that evaluation will be completed since the Anti-Crime Program itself was terminated mid-stream in the summer of 1981 by a decision of the Reagan administration. However, discussions with HUD staff and visits to two widely varying examples of the housing projects participating in the program suggest some general conclusions that can be made about this type of crime prevention program and how it represents a major step in the evolution of the environmental design and management approach to crime prevention.

First, the environmental design aspect, as evidenced in the CPTED implementation programs, is by no means the answer to crime prevention. Environmental design needs to be part of a comprehensive approach which addresses a range of environmental factors which are facilitating or contributing to the occurrence of crime. Second, any effective crime prevention program must ensure citizen involvement as this is critical to successful implementation and is also the least expensive type of crime prevention. The importance of this point was made very clear by the experience of two different public housing projects involved in the Anti-Crime Program -- one in Chicago, Illinois and one in Toledo, Ohio. The

Chicago housing authority is much larger and more complex than the one in Toledo (the first administers 50,000 units, the latter 4,500 units) and the former's interest in and ability to ensure tenant involvement in programs like the Anti-Crime Program are more limited by bureaucratic constraints. In Toledo, for example, the personality and commitment of one key administrator in the housing authority was able to have a considerable effect on the total development of the program there and particularly on ensuring that the tenants played a key role. Also, the high-crime housing project selected in Toledo (centred around the Brand Whitlock project) was much more manageable in terms of its size and problems than the Robert Taylor Homes project in Chicago, and tenant participation was much more easily obtained in the former example. In the absence of evaluation results, it is impossible to state conclusively whether the implementation of the Anti-Crime Program in the Toledo project is likely to have a greater impact on the crime problem than it is likely to have in the Chicago example; however, the perception of HUD staff (Dr. Lynn Curtis, personal interview, December 11, 1981) early in the program's implementation was that the program was likely to have a greater impact in the smaller cities such as Toledo, because those housing authorities showed a greater interest in and commitment to the program and were able to ensure the extensive involvement of the tenants in designing <u>and</u> implementing the program.

It is very difficult to foresee what direction EDM-related crime prevention approaches will take in the United States in the future, now that the Anti-Crime Program has been cut. As is evident in the example of that program, the commitment to and direction of crime prevention in the United States is very sensitive to political priorities, particularly at the federal level. Despite the decreasing emphasis given to purely physical design strategies in the evolution of EDM components in the United States, some of the individuals involved in that evolution have expressed a concern that the focus could shift again back to the less complex, less effective and easier to administer design emphasis (particularly in design-oriented agencies such as HUD) depending on the personalities and politics involved at the federal level (Dr. Lynn Curtis, personal interview, December 11, 1980).

Predicting the future of EDM elements in the U.S. is further complicated by the fact that not all of the EDM-related work has been undertaken at the federal level. Some states such as California and Minnesota have established crime prevention institutes which promulgate some EDM components for crime prevention and occasionally undertake related research. Police forces and municipal planning departments in cities such as Arlington, Virginia; Chicago, Illinois; and Oakland, California have developed building security codes and/or formal working relationships to ensure that crime prevention concerns are addressed in <u>new</u> urban design and development. This type of EDM-related activity is likely to continue and even increase as its potential becomes more widely recognized. However, the treatment of crime problems in <u>existing</u> environments is more complex and problematic and only the federal government has accepted a clear responsibility for addressing those problems; the economic and political priorities established by the federal government will therefore be the prime determinants of whether or not crime prevention activities will be encouraged throughout the United States, and if so, what their direction or emphasis will be.

3.4 SUMMARY

This chapter has reviewed the ways in which crime prevention approaches to designing and managing the residential environment have been applied in Britain and the United States. The major finding to come out of that review is that there is a growing acknowledgment of the importance of combining complementary design and management strategies in order to prevent crime effectively.

There are several other important conclusions which can be drawn from these countries' EDM-related experiences. First, evaluations which attempt to define the specific effects of various interventions on crime or fear of crime are unlikely to provide findings which are broadly applicable (i.e. to other environments). This is primarily because current data bases and research techniques do not allow researchers to identify precisely what effects can be attributed to particular interventions; it is also because some interventions appear to be effective in preventing some crimes in some situations, and not necessarily the same or other crimes in other situations. Thus, it has become clear that there is no one set of principles or rules which should be adopted in order to prevent crime in every environment. Instead, the incidence of crime and the circumstances surrounding or causing its occurrence are seen as a variable phenomenon requiring a different approach in each of the environments in which they occur.

A further conclusion to come out of other jurisdictions' EDM-related experiences is related to the importance of combining design and management strategies, more specifically to the importance of obtaining the commitment of a range of groups, particularly residents and police, in designing and implementing a crime prevention program. As indicated by current directions in EDM-related programs in Britain and the United States, the current view is that these groups possess both knowledge and concern relating to crime in their particular environments, and tapping their potential is critical to ensuring that a crime prevention program is effectively designed and implemented. Thus, the findings which have come out of the work to date in implementing EDM-related components indicate that a crime prevention approach oriented to changing the environments in which crime occurs must recognize:

- that each environment represents a special set of circumstances related to the incidence of crime;

- that these circumstances include a myriad of both social and physical environmental factors; and

- that responsibility for crime prevention must be shared among a number of private and public agencies, including individual citizens.

These findings are all important to the Environmental Design and Management approach to crime prevention; the purpose of the next part of this report is to discuss precisely what is entailed by the EDM approach.

Chapter 4

Rationale and Objectives of the EDM Approach to Crime Prevention

4.1 INTRODUCTION

The term 'Environmental Design and Management (EDM)', as noted earlier, was developed during the course of the early stages of this study's research. The reasons for developing this term, instead of continuing with "CPTED" or "defensible space", were two-fold. First, the concept of designing and managing environments in such a way as to prevent crime has evolved considerably from the initial "defensible space" and "CPTED" theories and experiments and the development of a new term was considered necessary both to illustrate that evolution and to ensure that it is clearly understood that we are now talking about something different from those earlier concepts. Thus, the second reason for developing the term EDM was to clarify and emphasize the major element which distinguishes EDM from its antecedents, i.e. its formal incorporation of <u>management</u> strategies as an integral part of an effective crime prevention program. The Environmental Design and Management (EDM) concept should not, however, be viewed as a completely new approach to crime prevention. Rather, it is an approach which builds upon the current state of knowledge regarding the nature of residential crime, the environment in which it occurs, and the impact of various types of crime prevention strategies.

The EDM approach, as it is described in this and the subsequent four chapters, can be viewed from several different perspectives. For example, the EDM approach is both simple and complex in nature, in that many of its strategies are based on common sense but their effective application requires a sensitivity not only to the intricate inter-relationships between strategies, but also to those existing in the environment in which they are implemented. Further, the EDM approach can be considered both an established and novel approach to crime prevention, in that it proposes using many traditional crime prevention strategies but in a uniquely comprehensive manner.

On the whole, it is easier to state what the EDM approach is not, rather than what it is. First, EDM is not a replacement for other crime prevention strategies. Second, EDM is not solely a set of physical design strategies. Third, EDM is not a set of solutions that can be universally applied to all environments. And finally, EDM is not an approach whose underlying assumptions and effectiveness have been theoretically and empirically validated beyond dispute.

At least the first three of the above statements might have applied to (or been claimed by) various antecedents[1] of the EDM approach. However, the

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[1] For example, "defensible space", "Crime Prevention through Environmental Design (CPTED)", and the "situational approach" proposed by the United Kingdom Home Office.

EDM approach, as it has developed as a result of this study's research, is not just a set of strategies but is instead a 'philosophy' of crime prevention that entails the discriminate use and matching of strategies specifically tailored to each environmental situation. Some strategies will be better suited to certain environments than others, and the inter-action among strategies within any given environment is expected to produce, if suitably implemented, a synergistic effect.[1] EDM is thus not a particularly new approach with respect to the types of crime prevention strategies which it proposes as potentially useful. Strategies such as citizen patrols, target-hardening, youth programs, certain police patrol-ling practices, etc. have been in existence for decades, and in some cases, since the beginning of crime. What is unique about the EDM approach is that it attempts to combine only those strategies which appear to be in accordance with the specific needs and vulnerabilities of specific environ-ments. It does not advocate a universal application of any one type of crime prevention strategy.

Further, while the environmental approach to crime prevention began, in the works of Oscar Newman and others, with a specific emphasis on modifying physical features of an environment, it is now generally recognized that physical factors form only one aspect of the criminogenic factors surround-ing crime. Physical factors are important in that they can reinforce or undermine citizens' ability to protect themselves from criminal victimiza-tion, but they are not the sole nor in many cases even the most critical factors involved in the perpetration of crime. Social factors are of at least equal significance and the interaction between social and physical factors can be decisive with respect to whether a neighbourhood experiences a high or low rate of crime. However, since these factors vary from environment to environment, the EDM approach places considerable emphasis on the need for a detailed crime analysis phase as an early step in any crime prevention effort.

From the perspective of crime prevention per se, recognizing this relation-ship between physical and social factors, recent proponents of an environ-mental design approach to crime prevention (see, for example Newman 1980) now include social management strategies as well as manipulation of the physical features of an environment. Thus, a comprehensive approach to environmental crime prevention entails not only architectural strategies but also social strategies such as citizen-action programs, building manage-ment strategies, policing strategies and so on.

The EDM philosophy therefore advocates that responsibility for crime prevention should usually be dispersed or shared among a variety of public and private agencies, and should no longer be entirely a police

[1] As noted in Chapter 3, the term 'synergistic' is closely associated with William Brill's work and means that the cooperative action of several strategies produces a sum effect that is greater than the individual effects of the single strategies.

responsibility. Responsibility would also be assumed by housing authorities, tenants' associations, private security agencies, and ad hoc citizens' groups. In particular, citizens, either by themselves or in concert with other authorities, groups and agencies, would participate in protecting themselves against crime. As a social and political force, this involvement would ensure, it is argued, that a greater concentration of resources and skills would be brought to bear on the crime problem, and that a more wide-spread and timely attack on crime would result.

Finally, the EDM philosophy emphasizes crime control through alleviating the causes of, and in particular, in minimizing the opportunities for, crime.

This conceptualization of EDM as an approach or philosophy rather than a cookbook list of do's and don'ts will undoubtedly be a disappointment to those people looking for a concrete set of rules or principles regarding the design of physical environments (for example, avoid highrise buildings, or avoid densities over 100 people per acre, or place all residential entries six feet away from pedestrian walkways, etc.). Similarly, recog-nizing the fact that each environment represents a unique pattern of social and physical features means that EDM does not propose a common set of principles of the order that team policing is preferable, or Operation Identification programs should be implemented, etc. However, it should be clear from the analysis of the nature of crime and crime prevention presented earlier in this report, that to suggest that any set of crime prevention strategies would work the same in all environments would be naive at best, and counterproductive at worst.

This having been said, it is still important that the EDM approach be subjected to a more detailed analysis. The remainder of this chapter therefore outlines the rationale for, and objectives of, the EDM approach to crime prevention. Chapter 5 which follows describes the design strategies of the approach, and Chapter 6 the management strategies.[1] In these two chapters, each strategy is critically examined -- with particular attention given to its specific nature, rationale, objectives and effec-tiveness.

Chapters 7 and 8 then return to an examination of the EDM approach as a whole. The first of these chapters provides an overall assessment of the EDM approach to crime prevention and the second examines specific issues related to the implementation of the EDM approach.

[1] As will become obvious, there are important inter-relationships and inter-dependencies between the design and management components. The separation here is only to facilitate discussion of the basic strategies.

It should be noted that the compilation of information and judgments presented in these five chapters represents the results of a comprehensive examination of the EDM-related literature. To our knowledge, this type of assembly of the EDM strategies has never been undertaken previously and it can therefore be considered a major contribution of this study to the growing body of knowledge about this approach to crime prevention.

4.2   RATIONALE FOR THE EDM APPROACH TO CRIME PREVENTION

One of the most important underlying elements of the EDM approach to crime prevention is that the approach directly addresses the fact that a particular crime is not something that results solely from the psychological makeup, social and economic situation, and physical abilities and motivation of the offender (see Cohen and Felson 1979). For a crime (and especially the EDM residential target crimes of concern here) to occur, a number of conditons must be met:

. the physical presence of the offender, and
  .. the appropriate psychological, social, economic and physical motivations and abilities of the offender;

. the physical presence of a person and/or object to be victimized, and
  .. the necessary (indeterminate) degree of psychological, social, economic and physical vulnerability of that person or object to victimization;

. a specific physical location for both offender and victim (and/or object) to come together, and
  .. the necessary (indeterminate) lack of physical controls inherent in that location; and

. the socio-economic environment within which the offender, victim or object, and physical location exist, and
  .. the necessary (indeterminate) lack of social controls within that environment.

Finally, for the crime to occur, all of the above conditions must be met at an identical point in time. However, it is the converse of this statement that is especially important for our purposes here. The possibility is opened that the criminal event could be prevented by altering any of the above conditions related to the offender, victim, physical location, and socio-economic environment.

Brantingham and Brantingham (1975a) note that the interest in the EDM approach to crime prevention stems directly from this shift in criminological thought[1]: a shift that focuses on the criminal event as opposed to a previous emphasis on the criminal offender. The Brantinghams point out that solutions to crime over the past 100 years have been primarily directed towards the offender: modify his/her attitudes, income, education, child-rearing practices, social standing, etc. This approach, they claim, represents an overly simplified orientation and ignores the totality of the criminal event: "...the criminal event is holistic and divisible only for analytic convenience" (Ibid.:4). In contrast, the EDM perspective argues that the holistic total situation must be changed sufficiently to deter the offender from committing the crime -- and that this total situation can be modified more efficiently and easily by altering the other conditions or elements of the criminal event (i.e. conditions other than the psychological and socio-economic characteristics of the offender) (Ibid.:4-5).

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[1] See, for example, Mohr (1965).

At the extreme, some persons associated with the EDM approach would take the criminal's motivation as a given, and instead attempt to thwart the activation of this motivation through the reduction or elimination of criminal opportunities (see Cohen and Felson 1979). However, most proponents of the EDM approach today would not go that far. They would argue that one must not exclude consideration of the offender, but that one must treat him/her as only one aspect of the entire criminal event.

Next, in choosing which conditions of the 'holistic total' to modify, the EDM perspective would argue that the first step is to identify the "discriminative stimuli and cues" (Akers 1975:54) which can trigger or abate criminal behaviour according to the interaction between the potential offender's image or scheme of the 'right' environment for the commission of a particular crime and his/her perception of the environment in which (s)he finds her/himself at the crucial moment (Brantinghams loc. cit.).

The second task of crime prevention efforts would then be to identify the most critical cues and, among those, the ones that can be changed (Brantinghams loc. cit.:17-19). In deciding which cues are critical, many of the proponents of EDM would argue that one should focus on cues which indicate to the offender whether or not an environment is 'safe or unsafe'. (The Brantingham's study of burglary in Cambridge, England, for example, suggests that burglars tend to pick "safe" sites over "high-gain" sites.)

In essence, the 'cues' which are considered salient in the 'safe' perpetration of crime concern such things as:

. the offender's perception of low-risk situations -- i.e. low probabilities of being detected or apprehended, and

. the ready availability of suitable targets/victims.

These cues in turn are believed to be dependent on a number of factors, including:

. ease of access to victims/targets (e.g. low demands in terms of time and/or skills required to commit the crime)

. undefended victims/targets (e.g. passive or unprepared victims, or 'soft' targets)

. ease of escape

. absence of witnesses or presence of unwilling witnesses (e.g. witnesses who are unwilling to intervene), and

. anonymity or invisibility of the potential criminal (e.g. ability to move in on a target without being noticed even in the presence of potential witnesses).

Many of the above factors are dependent, to some extent, on the characteristics of the potential offender, but to a greater extent they depend on the characteristics of the other components or elements of the criminal event (i.e. the victim, the physical location and the social environment). It is therefore argued that crime prevention efforts should also include specific strategies directed to changing the 'cues' related to these latter components and it is this argument that forms the basic rationale for the EDM approach. While this argument is very important to the EDM approach, it should also be noted that the approach does not ignore the motivation of the potential offender. The rationale for some of the EDM strategies, particularly those related to improving the social environment, is, in fact, based on the assumption that these strategies will prevent crime by changing potential offenders' motivations.

4.3 OBJECTIVES OF THE EDM APPROACH TO CRIME PREVENTION

The overall objective of the EDM approach is, obviously, to prevent crime through the use of two types of crime prevention strategies: design strategies and management strategies.

The objective of the design strategies is to prevent crime by altering the physical characteristics of the built environment. Certain changes to the built environment are expected to prevent crime independently and directly by altering particular elements of the criminal event (e.g. by making specific victims/objects and locations physically more difficult to victimize or by modifying the cues which indicate vulnerability to a potential offender). Other changes to the built environment are expected to prevent crime indirectly, by altering the same or other elements of the criminal event (e.g. by fostering a sense of social cohesion which in turn is expected to improve surveillance effectiveness within a community).

These design strategies build on the growing body of information from the ecological psychology field supporting the concept that man's behaviour is, in part, a reaction to the physical environment or to his perceptions of that environment. This information is particularly important for crime prevention efforts for two reasons. First, the vast majority of crimes occur in built-up settings (i.e. cities); and, second, there is consider-able potential for altering the built environment (or building it differently in the first place) so that it deters, or at least does not encourage or facilitate, criminal behaviour.

The EDM design strategies can be further broken down according to the different means by which they attempt to manipulate the cues that determine the actual or perceived safeness of environments. If this is done, the following five types of design strategies result:

- target-hardening,
- improving hardware for detection of crime,
- improving surveillance,
- increasing control of access and escape, and
- fostering territoriality and/or social cohesion.

The specific design strategies within each of the above types are shown in Figure 4.1.

Although these design strategies play a significant role in the EDM approach to crime prevention, it should be clear from the previous section that current researchers in the EDM field would also advocate that alterations to the built environment alone would be a far from optimal approach. One must also use management strategies, that is, strategies which aim to prevent crime by altering or 'managing' the social aspects of an environment. This group of strategies is certainly not restricted to those available to 'housing managers'. In fact, the list of specific

management strategies presented in Figure 4.2 reflects the EDM belief that crime prevention is a responsibility of a wide range of individuals and organizations.

It should be noted that the division of these strategies into two groups, design and management, is based on the nature of the strategy itself, and not on which element of the criminal event (i.e. offender, victim/object, location, social environment) the strategy is attempting to alter, or the way that alteration is expected to change the cues signalling to the poten-tial offender whether or not the environment is safe. For example, both design and management strategies can be used to accomplish what might be termed the sub-objectives of the EDM approach to crime prevention:

- to control access and escape -- i.e. to make it more difficult for illegitimate users or criminals to penetrate the environment (building or grounds) and to escape after the commission of a crime if they do manage to gain entrance.

- to increase the surveillance capability of the environment -- i.e. to facilitate observation of suspicious or illegal behaviour by both casual observers (residents, service people, etc.) and formal law enforcement personnel (police, private security personnel).

- to improve the social organization of residents -- i.e. to reinforce residents' sense of community and willingness to intervene in the event of suspicious or illegal behaviour.

- to induce proprietary feeling among residents -- i.e. to foster a concern for what goes on in their neighbourhood, a feeling of territoriality.

- to increase the technical difficulty and risk attendant upon the commission of a criminal act -- e.g. placing targets and victims behind stronger doors and locks, (target-hardening) and using electronic surveillance devices (e.g. cameras, video, intercoms).

These EDM sub-objectives are a common thread linking the detailed discuss-ions of the specific strategies in the next chapters. All contribute to an attempt to decrease the built environment's and its inhabitants' vulnerabil-ity to criminal attack. Finally, both as a means to reducing vulnerability and as an end in itself, most attempt to maintain or develop a stronger social organization within the environment affected.

FIGURE 4.1

EDM DESIGN STRATEGIES FOR CRIME PREVENTION

1. Target-Hardening[1]

   i. Improving hardware (e.g. deadbolt locks) which restricts illegal access to buildings or building units

   ii. Using vandal-resistant materials (e.g. ceramic instead of plaster wallcoverings) which decrease the likelihood and seriousness of vandalism

2. Detection Hardware

   i. Alarms

   ii. Cameras

3. Improving Surveillance Potential

   i. Reducing concealment opportunities

   ii. Improving lighting

   iii. Improving placement of windows

   iv. Improving visibility of locations for indoor and outdoor resident service and activity areas

   v. Increasing pedestrian and street traffic

4. Controlling Access and Escape

   i. Controlling access to and escape from the general area (e.g. through restricted street configurations)

   ii. Using real or symbolic barriers to control circulation within the area (e.g. defining zones of influence)

   iii. Improving ease and speed of response to crime (e.g. improving access for police/security personnel)

5. Fostering Territoriality and Social Cohesion

   i. Clustering dwelling units

   ii. Decreasing height and size of developments

   iii. Distinguishing between resident and non-resident space

   iv. Reducing incompatible or conflicting uses of space

   v. Reducing differentiation between specific environments and neighbouring areas

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[1] Obviously, this group of strategies overlaps with the next group -- detection hardware -- which in turn overlaps with the next -- improving surveillance potential. These groups of strategies are separated here because, despite their similar objectives, they are quite different in nature and impact, as is discussed in detail in the next chapter.

FIGURE 4.2

EDM MANAGEMENT STRATEGIES FOR CRIME PREVENTION

1. Resident Strategies

   i   Education programs (e.g. talks, newsletters)

   ii. Resident or community surveillance programs (e.g. Neighbourhood Watch)

   iii. Self-help Programs (e.g. escort services, hot-line to private security)

   iv. Resident or tenant associations

2. Landlord Strategies

   i.   Private security personnel

   ii. Improved building image and maintenance

   iii. Improved rental and eviction policies

3. Police Strategies

   i.   Consultation and liaison (e.g. with planning/housing authorities)

   ii. Public relations programs

   iii. Team or neighbourhood policing

   iv. Security surveys and inspection programs

   v.   Operation Identification

4. Community Strategies

   i.   Improved recreational facilities and programs

   ii. Improved social services and crisis intervention services

Chapter 5

Design Strategies
of the EDM Approach

5.1 INTRODUCTION

In this section, each of the EDM design strategies listed in Figure 4.1 earlier will be discussed in turn. Particular emphasis is given to the nature of the strategy, the way in which the strategy is assumed to prevent crime, the types of target crimes felt to be especially susceptible to the strategy, and both the theoretical and empirical evidence and commonsense logic supporting or critical of the strategy.

Two important points about the EDM design strategies, as they are described in this section, require clarification. First, it should be clear that on the whole what is being discussed here is a set of strategies which are considered to meet certain objectives related to crime prevention (e.g. to control circulation within a residential area). Within each strategy, there can be many individual techniques or design solutions; for example, the use of specific types of fences or other physical barriers and the use of landscaping, changes in grade or other symbolic barriers are some of the techniques which could be used as part of the circulation control strategy. Throughout the discussion of the design strategies, there are brief references to the most common techniques used in each strategy. However, these are not listed or described in great detail for the following two reasons: most of the techniques are already well documented and illustrated in the EDM-related literature; and, more importantly, the effective use of specific techniques must be even more sensitive to the particular environment involved than the overall strategies (e.g. brick walls might be more appropriate in one environment and wood fences in another) and focusing on specific techniques is therefore of limited value (and might even be detrimental) in that it could encourage the reader to concentrate on fine details while ignoring the larger picture.

The second point which is important to the discussion of the design strategies relates to the way in which they are organized. As indicated in Figure 4.1, the design strategies are organized according to the following five categories:

1. Target-Hardening

2. Detection Hardware

3. Improving Surveillance Potential

4. Controlling Access and Escape

5. Fostering Territoriality and Social Cohesion

There is an obvious set of overlaps in this organization, in that some of the strategies related to both target-hardening and detection hardware could also be categorized as part of the next two groupings -- improving surveillance potential and controlling access and escape. They are,

however, treated as separate categories because not only are target-hardening and, to a lesser degree, detection hardware the strategies most commonly associated with the concept of designing to prevent crime, these strategies are in many ways the simplest strategies in conceptual terms (and therefore, usually easier to evaluate) in that they are more direct and mechanical in nature and appear to have a more straightforward connection with preventing crime in a specific location than do most of the other design strategies (which are often concerned with preventing crime in an entire environment or neighbourhood).

5.2   TARGET-HARDENING

This category includes two different types of strategies: those aimed at preventing illegal access to buildings, primarily through the provision of physical devices, and those aimed at decreasing the impact of vandalism on elements of the physical environment. (Note: since the term 'target-hardening' is most commonly used in reference to the first objective, and the second set of strategies is most often referred to as 'vandal-proofing', the following subsection will distinguish between the two strategies by using these terms.)

i.   Improving hardware which prevents illegal access
     Specific examples of target-hardening techniques which increase the technical difficulty of illegal access at a specific location include improved quality in door and window frames, adequate hinges, stronger glazing, solid doors, adequate fencing and grills. Such target-hardening devices have been advocated for a considerable range of applications, one set of which can be found in the document, The Housing Manager's Resource Book, produced by the National Center for Housing Management, Washington D.C. (1976)[1], and partially reproduced here as Figure 5.1. As will be discussed in more detail in Chapter 10, target-hardening is one of the most common EDM strategies promoted in Canadian crime prevention activities.[2]

Target-hardening strategies are, as noted previously, perhaps those most frequently associated with the physical design approach to crime prevention and are responsible for its being, incorrectly in our view, perceived as a reactive, selfish and myopic 'urban fortress' approach. Nonetheless, because of their high visibility, relative ease of implementation, relative low cost, and availability, target-hardening devices are often the first thought of (and/or advertised) among the many EDM strategies.

Through increasing the technical difficulty of committing a crime, target-hardening devices are expected to prevent crime:

. because the potential criminal will not easily possess the necessary skills or tools to neutralize the device, and

. because the time required to overcome the device will be sufficiently long to seem prohibitive due to fear of detection or apprehension.

Target Crimes
The crimes which are considered to be most susceptible to prevention through target-hardening are: break and enter (burglary, housebreaking); theft; and, to a lesser degree, vandalism, motor vehicle theft and certain types of arson (e.g. arsons done by teenagers for 'fun' or, say, 'revenge' arson).

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[1] The relevant portion is contained in U.S. Department of Housing and Urban Development (1980:Appendix 6,17-19).

[2] See, for example, the CMHC (1981) publication Protecting Your Home Against Burglary.

Assessment

As noted above, compared to some other types of crime prevention strategies, target-hardening is relatively inexpensive and can be relatively easy to implement and enforce.

There are several studies which relate poor locks, doors and windows to higher than average rates of crime (see Newman 1973a, 1976; Brill 1973, 1979c; Pope 1977; Scarr 1973a). The City of Chicago Planning Office (1980:3) reports, for example, that "if entry can be delayed for only four minutes, a burglar will abandon the attempt." Target-hardening is also considered to have the additional advantage of reducing the fear of crime when citizens know that their dwellings are secure (American Institutes for Research AIR 1980a:7).

However, the AIR document also reports that "although the rise of hardware strategies is widespread, only a handful of methodologically sound studies have assessed their effects on crime and fear of crime" (Ibid.:15). For example, Seattle conducted a pre-post study on the effects of deadbolt locks, solid case doors, construction of short walls to prevent exterior access to interior door latches, and the restriction of window openings to nine inches, in four public housing developments. It was found that in three of four developments, there was a significant decrease in burglary rates (AIR 1980a:16). However, it was also found that the mode of entry of offenders changed after target-hardening: there was an increase in the proportion of entries through unlocked doors and windows. The authors of this report point out that this finding suggests the need for concurrent education programs for residents so that they may become sensitized to the need for securing doors and windows. Another fairly successful crime prevention project, at the Cabrini-Green public housing development in Chicago, instituted such measures as enclosing lobbies (so that people entering the buildings must pass through a locked door controlled by apartment buzzers), installing intercoms, locating security personnel at entries, and putting locks on doors and stairways (to decrease interior crimes). The evaluation of the crime prevention program at Cabini-Green showed "a marked decrease in crime and fear of crime in lobbies and interiors of buildings with access control" (Ibid.:17).

On the other hand, a number of criticisms of target-hardening have been raised, primarily relating to the issues of limited scope, escalation, displacement, safety, alienation of residents, de-activation by residents, increased fear of crime, the fostering of a fortress mentality, and cost and other difficulties in implementation.

First, it is pointed out that target-hardening is intended to prevent only those crimes involving forcible entry (see Harvey 1980:6, and Rouse and Rubenstein 1978:13). Second, with respect to these types of crimes it is argued that target-hardening could result in escalation and/or displacement.

Escalation refers to the possibility that potential criminals will simply escalate their attack and adopt more sophisticated m.o.'s (sometimes escalation is called "tactical" displacement) (see Brill

TABLE 5.1

EXAMPLES OF AREAS OF TARGET-HARDENING APPLICATIONS[1]

AREA	WHAT TO DO
Supplies, meter, boilers, etc.	Mark whatever you can for identification. Lock meters and supplies.
Roof	Secure skylights (tamper-proof grills, bars). Fire exits should open only from inside, and sound alarm if opened.
Basement	Access from basement should be only to ground floor. Keep exits to rest of building locked from outside.
Elevators	Provide: 24-hour, vandal-resistant lighting; waiting area fully visible from lobby, or beyond, with no blind corners; convex mirror in upper back corner; audio-intercom or CCTV, recessed against vandalism; heavy plastic shield for indicator lights; stainless steel mushroom call buttons; capacity of guard to stop elevator if intruder pushes in; eliminate emergency stop button if local codes permit.
Stairwells	Use 24-hour, vandal-resistant lighting. Restrict entry from stairwell to upper halls.
Fire Doors	Use panic hardware (vertical bolt, crash bar) inside, nothing outside, with automatic closing and possible alarm when opened.
Entry Door	Install intercom system with buzzer and telephone hookup to control access. Preferably only one entrance door. All doors should be as strong as main door and monitored in same way.
Doors	Minimum 1 3/4" thick, preferably metal or metal sheathed (solid core wood is the next best). Should be flush to wall (if panels, these must be 1/2" thick minimum). If sliding glass, should be break-resistant and lock from inside. Barlock vertical. Peephole, 1/4" with wide angle lens. Chain latch not recommended, easily broken.
Door Frames	Should be flush with wall. Heavy-duty (metal preferable), solid, minimum 2" thick, if wood. Tamper resistant connectors.
Locks	Well-made, 1" dead latch, key-in lock, with 6-pin brass cylinder. Also vertical bolt or 1½" horizontal bolt, strong metal. If lock extends beyond door, it needs bevel ring, escutcheon plate. Spring latch not recommended.
Windows	Need locks, preferably key-type. Security screen (removable from inside), grilles or bars (steel, not aluminum, for accessible windows).
Alarms	Use local alarm (contact switch, foil strips on windows, motion detectors, etc.) and/or central alarms (connected to police or other security persons). Possible distress signal for the elderly.

TABLE 5.1 (continued)

AREA	WHAT TO DO
Lobby	24-hour, vandal resistant lighting. Lexan/glass on inner doors for visibility. No dark corners or hiding places. CCTV or other monitoring system. Control access to lobby. Doors should open out.
Mailboxes	Heavy (16-gauge) metal, no perforations. Use cylinder (5-pin) locks. Openings as small as possible. Standard design for easy repair. Keep inside lobby, visible 24 hours.
Laundry/Social Rooms	Relocate near lobby if possible (basement bad). Use 24-hour lock, CCTV or other monitoring system. Tokens in laundry or vending machines preferable, not coins. Separate area for teenage socializing.
Storage Rooms	Windowless (basement). Extra strong doors and locks. Locked bins for resident storage.
Office	Visible from lobby. Safe bolted to floor. Grilles, bars, alarms for collection windows. Special locked cabinet for master keys, etc. Keep records of personnel with keys.
Garage	Self-closing doors, key or card operated. Doors to building as strong as main door. CCTV or other monitoring system.
Fencing	Decorative (chain fence is too institutional). Leave no area undefined (i.e. open to all).
Lighting	5-10 footcandles, minimum. High intensity (mercury, sodium vapour, floodlights). Plastic translucent globes. Use taller light stands (cover more area, hard to vandalize).
Parking Lot	Needs good lighting, CCTV or other monitoring system. Restricted access. Door(s) to buildings must be heavy duty and secure. Preferably, lot should be visible to tenants.
Recreation	Limited access, CCTV or other monitoring system. Clear demarcation from adult areas.
Landscaping	No dense shrubs or trees that offer hiding places. Benches and proper lighting.
Fire Escapes	Lowest ladder normally 12' from ground. Visibility from ground underneath.

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[1] See U.S. Department of Housing and Urban Development (1980: Appendix 6,17-19).

1973:36 and Harries 1980:100-101). It is argued that target-hardening devices could cause escalation because they signal to the potential offender that something of value is being protected.

Third, various types of displacement could occur as a consequence of target-hardening: the potential offender could switch to a different kind of target (called "target" displacement by Harries [loc. cit]) or to a different geographical location; (s)he could change the type of burglary from those requiring actual entry to 'smash and grabs'; or by blocking minor forms of criminality, target-hardening may increase the likelihood of more serious types of crimes being committed (e.g. robberies, muggings). (Harries [loc. cit] calls this latter type of displacement "functional" displacement.) This type of displacement is proposed as being particularly likely in the case of criminals who are not tempted to commit a burglary simply because the opportunity presents itself but who are highly motivated and determined to steal (e.g. drug addicts) (see Brill 1973:36-37).

Fourth, there is a risk that target-hardening could conflict with 'life safety considerations' by hindering emergency exit and rescue attempts. The City of Chicago Planning Office (1980:3), for example, points out that the installation of burglar bars on windows which have no release mechanism have contributed to many fire deaths because they obstruct exit in times of emergency.

Fifth, it is argued that target-hardening could be misunderstood by residents -- they may think it is being directed against them. Brill (1973:36-37) argues that this is a real danger in public housing and would have the unfortunate further effect of increasing the level of alienation already endemic to many of these developments. He emphasizes, therefore, the importance of consultation with residents before the installation of these devices.[1]

Sixth, target-hardening may cause inconvenience to residents with the result that they find ways to circumvent the devices and thereby render them ineffective. For example, in the Cabrini-Green public housing development (referred to above) it was found that the residents objected to the locks placed on stairways because it inconvenienced them when they wanted to visit each other from floor to floor. As a consequence, residents took to propping doors open, thereby completely undermining the locks (interview with Harvey Peck, Chicago Housing Authority, March 5, 1981).

Seventh, and in a similar vein, it is sometimes alleged that the effect of target-hardening on residents' fear of crime could backfire and residents could become more fearful once confronted with a panoply of locks, grills, fences, and so on. It could aggravate a feeling of vulnerability rather than diminish this feeling (Brill 1973:36-37).

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[1] On the other hand, residents often choose target-hardening devices over other available physical changes with potentially wider-ranging impact on crime, as was the case with the residents in the Toledo site of the U.S. Anti-Crime Program.

Eighth, it has been hypothesized that as residents depend more and more on target-hardening devices, the natural protection stemming from social cohesion is undermined. It is on this premise that target-hardening is considered to breed a 'fortress mentality': residents feel safe only behind their closed and locked doors, and interaction and mutual trust is diminished.

Finally, although it is claimed that target-hardening is comparatively inexpensive (i.e. in comparison to more large scale design strategies), it nevertheless does require a fair amount of money and, to be done properly, a considerable amount of planning and organization. Confronted with the usual citizen apathy and inertia, it is extremely difficult to get citizens to undertake target-hardening on their own volition.[1] The public is frequently ignorant about the proper kinds of doors, hinges, locks, frames, etc. that would be most suitable for their dwellings and vulnerable places are often overlooked. Accordingly, it is felt that in order to capitalize on the full benefits of target-hardening it would be necessary to: educate the public and/or inspect each home, and make it widespread and/or mandatory. The political ramifications involved, not to mention the organizational and administrative costs, could be considerable (see Chapter 8 following).

Summary

As with most crime prevention strategies, after reviewing the available evaluative literature one cannot state unequivocally that the target-hardening strategy either works or does not work. There are, however, in the case of certain target-hardening devices, and especially in the case of reasonably good locks (see AIR 1980a:66), sufficient commonsense arguments and at least a minimum of experiential observations to make the general assumption that target-hardening could prevent many crimes -- particularly property crimes of opportunity. But, it is also argued that, in view of the possible disadvantages of this strategy, it is necessary that resident and/or building-owner cooperation be obtained and that it be implemented in such a way that it does not produce the undesirable effects noted above.

This strategy is also one about which it would seem there is sufficient commonsense knowledge to allow the development of specific guidelines for specific target-hardening efforts. A detailed examination of target-hardening in general was excluded from the mandate of the current project. However, a number of quite acceptable sets of target-hardening guidelines have been developed and presented in other publications. The interested reader is referred to those works.[2]

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[1] See Chapter 10 for a discussion of past problems with implementing target-hardening in Canadian residential environments.

[2] Examples of target-hardening guidelines: Canada Mortgage and Housing Corporation (1980); U.S. Department of Housing and Urban Development (1980:Appendix 6,17-19); Hopf (1979), see especially, "Oakland Model Burglary Security Code" (Ibid.:4.6-4.11); and California Crime Prevention Officers Association (1978).

ii. Using vandal-resistant materials

In addition to specific devices which are primarily intended to make illegal access to a dwelling or its grounds more difficult, target-hardening also advocates improvements with regard to a broad range of design features with the aim of making acts of vandalism both less serious and less likely. With regard to making the impact of vandalism less serious, the vandal-proofing component of target-hardening includes such techniques as the use of vandal-resistant finishes (such as ceramic mosaic or glazed tiles on walls, rather than easily-scratched plaster) and the use of plastic glazing in place of glass in high risk areas. Some of the design techniques recommended to make vandalism less likely include concealing mechanical fixings, service ducts and rainpipes, recessing and screening light fixtures, raising planted areas, protecting susceptible plantings (especially young trees) with other prickly or thorny plantings, ensuring small-unit hard landscaping (e.g. cobblestones, brick) is securely laid, using vertical rather than horizontal boarding in fences, and securing copings of low walls (e.g. with concrete stop ends and corners).

Target Crimes

This strategy is obviously directed to preventing vandalism. However, vandal-proofing can indirectly prevent other crimes and fear of crime by decreasing environmental opportunities for criminal activities by improving the total image conveyed by an environment. As noted by Burall (see The Design Council 1979:7), "vandalised street lighting can...encourage thieves; and the general air of neglect created by graffiti, broken windows, and other signs of the vandal can be frightening."

Assessment

To our knowledge, vandal-proofing has not been empirically evaluated. However, this does not really pose a problem with regard to assessing this strategy since the recommended techniques and guidelines which have been developed reflect years of experience with the problem of vandalism (who commits it, what locations and materials are most vulnerable, etc.) and the solutions which have evolved are therefore more firmly based on empirical evidence than many other EDM strategies.[1]

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[1] As noted in Chapter 3, concern with vandalism has been a primary motivation behind British involvement with EDM-related strategies, and this involvement has resulted in several useful publications on target-hardening techniques to prevent vandalism (Miller in Ward C. 1973:96-111; Leather and Matthews, in Ward C. 1973:117-172; and The Design Council 1979). A critical point made in these and other guidelines for designing against vandalism is that the architect or designer must be constantly aware of the fact that every design decision may have an impact on facilitating or deterring vandalism.

Both the occurrence and prevention of vandalism are closely related to a number of broad issues relating to the total design and management of the environment, many of which are considered in other EDM strategies. For example, a group of local housing authorities in Britain which investigated the extent and nature of vandalism in local housing projects came to the conclusion that:

> "...the likelihood of vandalism occurring was affected, broadly, by two things: first, the general building design - its siting, the relationship of adequacy of play space[1] and circulation spaces, its robustness in areas of high use and risk of attack, the relationship of its parts and the overall atmosphere created; and secondly, detail design and the choice of materials and fittings."
>
> (The Design Council 1979:46)

Thus it is proposed that vandal-proofing on its own (in terms of the finishes and other materials used in an environment) is less likely to be effective than when it is an integral part of an environmental design and management approach which is sensitive to the total objective of preventing vandalism. This point is neatly summarized in a statement by a British architect, Oliver Cox, involved in designing against vandalism: "From the design point of view, you have to ask how is the building going to be managed, then design it so it's possible to manage it, then manage it properly" (The Design Council 1979:57).

Vandal-proofing in many ways is just good design. What is interpreted as vandalism (but which may be the result of normal wear-and-tear or of unintentional damage caused by children's play activities) is actually an indicator of "a serious mismatching of the designers' intentions and the users behaviour" (Ibid.:54). Thus, an effective design strategy to prevent vandalism is one which understands how the environment under consideration is or will be used, and one which can benefit from past mistakes. One example for ensuring such design in new residential environments is the system established by the Greater London Council housing authority (Ibid.):

> "Here, the architect is obliged to seek expert advice on maintenance, security, and fire prevention at the time he is working on the element of the building. In this way he can, at an early stage balance the conflicting demands of, say, security and fire safety: the general requirement for secure windows may have to be modified to provide access for the fire brigade for fire fighting or rescue services." (Emphasis in original)

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[1] In this connection, Wilson's survey of vandalism in London public housing "shows quite clearly that child density is a critical factor determining degrees of vandalism" (Ibid.:52).

Where there are vandalism problems in an existing environment, the critical element in effectively preventing such occurrences is, in the British experience, related to the extent to which both the housing management and the residents are willing to communicate and work together to develop solutions. It is clear from several examples in Britain that prevention measures imposed by authorities often have a negative effect and lead to increased vandalism. In addition, using the traditional vandal-proofing techniques may prove to be more expensive than providing what the residents feel is needed to decrease vandalism (such as a playground) (see The Design Council 1979: 30-42). In effect, it is believed that vandal-proofing techniques must work in concert with many of the management-related EDM strategies discussed in the next chapter, because, as has been noted, there are basically two ways to stop vandalism:

> "...either you can try to prevent people from wilfully damaging their surroundings, or you can try to stop them from wanting to do so. To impose security to a degree where vandalism could be completely eradicated would not be practicable... The alternative is arguably more difficult, but in the long run must be far more satisfactory." (Ibid.:30)

This point is particularly important in light of the fact that one of the most common types of vandalism -- using aerosol paint cans to write slogans or designs on walls, doors, etc. -- is almost completely invulnerable to any vandal-proofing design. It is only through management strategies which change potential vandals' motivations and attitudes that this type of vandalism is likely to be prevented.

Some vandal-proofing techniques are more expensive than others and the decision to use a particular technique should therefore be based on a clear understanding of the needs and (likely) problems of a particular environment. Beyond this point, however, there are two issues which affect the successful implementation of vandal-proofing.

First, in new housing, there are often problems (see The Design Council 1979:47) in convincing the authority responsible for capital costs that the use of more expensive and durable finishes, hardware, etc. will prove more economical in the long term by decreasing the operating costs incurred by both maintenance and crime problems.[1]

Second, with regard to existing housing where vandalism is a problem, the solution is more complex than just putting grilles over lights and windows or just fencing in landscaping. The proper implementation of a vandalism prevention strategy requires a great deal of thought and consultation, and it can be very difficult to stimulate the coordinated effort required among both building managers/owners and residents.

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[1] This is a problem common to other EDM strategies, target-hardening in particular.

One final point regarding vandal-proofing is that the finishes and the fixtures employed should not "create an institutional atmosphere, not unlike that achieved in our worst hospitals and prisons" (Newman 1972:105). In Newman's experience with public housing projects in the United States, unattractive vandal-proofing can convey a negative image to residents -- "one that begs them to test their ability in tearing it down" (Ibid.).

5.3   DETECTION HARDWARE

The detection hardware category includes alarms, intercoms and electronic surveillance devices such as cameras and CCTV (i.e. closed-circuit television).[1]

The primary objective of detection hardware is to deter crime through increasing the offender's actual and perceived risk of detection and apprehension. (This objective, as noted previously, overlaps with those of the next two design strategy categories to be discussed in this chapter.) Cameras and similar devices could also aid in the successful prosecution of suspects by supplying evidence. Finally, it is also thought that detection hardware might reduce fear of crime by assuring residents that activities are being monitored (AIR 1980a:7-8).

Target Crimes
Depending upon how and where this hardware is used, it could help to prevent all of the EDM target crimes, but the detection hardware strategy is more commonly thought of as contributing to the prevention of burglary, robbery and vandalism.

Assessments
Specific assessments of alarms and electronic surveillance devices will first be presented separately. Those subsections will then be followed by critical and summary discussions relevant to both types of devices.

i.   Alarms
Alarms are more commonly used in commercial and industrial locales, and occasionally in schools, than in residential settings. As a result, there have been very few evaluation studies of their effectiveness in preventing residential crimes, the focus of the current study. Nevertheless, one study has examined the effectiveness of alarms in over 100 businesses and schools and found that:

". Alarms had the effect of significantly reducing attempted crime. There was a reduction of approximately 55 percent in burglaries of business places with alarms from 1970 to 1971, as compared with a reduction of only 8 percent for the control group.

. Arrests at the scene were significantly higher for places with alarms. There were arrests at the scene in 31 percent of the cases in the experimental group, but in only 6 percent of the cases in the control group.

. Clearance rates were higher for places with alarms. For the stores with alarms, 46 percent of the 1971 burglaries were cleared, as compared to a 27 percent clearance rate for the control group and a 31 percent rate city wide.

[1] See CMHC (1980:36-37) for descriptions of four basic types of residential burglary alarms; see Hopf (1979:Appendix A) for a useful security product directory (U.S.-based).

. Alarms also were effective in the school demonstration
effort. Burglaries decreased by 75 percent from 1970
to 1971 in the schools with alarms, and by less than
25 percent in the control group." (AIR 1980a:18-19)

The findings of this study have been supported by those of two other
studies: one by Conklin and Bittner (1973) and one by Reppetto
(1974) (see AIR 1980:19). The AIR report (Ibid.:19-20) concludes
that:

". Alarms increase the probability that security
personnel will intercept a crime in progress or soon
thereafter.

. Alarms increase the perceived risk of apprehension
by offenders (as shown by the reduction in attempted
crime and by interviews of offenders).

. Alarms increase the real risk of apprehension (as
shown by the increase in clearance rates).

. Alarms reduce successful crime (as shown by lower
crime levels and less gain per crime)."

False alarms and their attendant costs are the major problem associat-
ed with this type of detection hardware. Police report that false
alarms often run as high as 80% of all alarms.

ii. Cameras
Evaluation studies of cameras have shown less successful results than
those of alarms. As summarized in the American Institutes for
Research document, one study of cameras in a public housing develop-
ment in Bronxdale, New York found that:

". The surveillance system took three years to put into
place due to vandalism, bureaucratic tie-ups, and
construction delays.

. Only 14 percent of the respondents used the equipment
daily.

. No tenant had observed a crime on T.V.

. There was no significant change in crime rates after
the experiment.

. There was no significant difference in resident
attitudes about crime after the experiment."

"The authors concluded that the experiment (which cost
approximately $1.5 million) was a failure. The post-
test took place only three months after final install-
ation of the system; but, in this instance, the short-
term indicators are presumably an accurate predictor
of longer-run impacts."
(AIR 1980a:20)

Similarly, the cameras installed in the Cabrini-Green development did
not appear to be successful (see AIR 1980a:22 and noted in interview
with Harvey Peck, Chicago Housing Authority, March 5, 1981).

Assessment
There are few positive arguments made in the literature for the installation
of detection hardware in order to prevent crime in residential environments.
This is most likely because evaluations of such hardware have been undertaken
in multiple-housing projects. It is our hypothesis that management or crime
prevention consultants installed such hardware for experimental purposes and/
or as the easiest crime prevention measure available (i.e. using detection
hardware demands, in the short term, less effort than other design strategies
particularly because it is not necessary to obtain the views and commitment
of residents). There may be many good arguments to be made for using
detection hardware in single-family dwellings, however these arguments are
not documented as yet.

Criticisms common to both alarms and electronic cameras (but in particular
to the latter) revolve around the issues of cost, displacement, operation,
privacy and fear of crime.

Expense is a major drawback to alarms and especially to electronic cameras.
Not only are the initial costs substantial, but additional maintenance
costs due to vandalism and wear are also extremely high.

In addition, because this kind of equipment seems to invite vandalism, it
is frequently out-of-service. Further, because of expense, it is generally
not possible to 'saturate' an environment with these devices with the
result that there is a high likelihood of displacement. This means that the
scope of these devices in preventing certain types of crimes (e.g. muggings,
assaults, rapes in underground garages) is limited.

It has further been noted that to be effective as a deterrent, these
security devices do not necessarily need to be operative (deVines 1973a:44)
but to effectively detect crime, security devices must be operative and
must be responded to. Because ordinary residents do not always pay atten-
tion to their signals, these devices are often monitored by security person-
nel which means the incursion of additional costs. On the other hand,
security guards do not always use these devices properly either and so
this extra expense may not be cost-efficient (interview with Winston Moore,
Chicago Housing Authority, March 5, 1981).

In order for the devices to be effective as a deterrent, offenders must be
aware of their presence. Sometimes this can be accomplished by installing
signs that report their presence while, at the same time, removing the
devices from reach or tampering. In other cases, there is no alternative
but to place the device where it is accessible -- but this means it will be
seen by both serious criminals and vandals; either of these may then render
the device inoperative.

Resident reaction to detection hardware can be negative. As with target-
hardening, they may feel it infringes on their privacy or is being used
against them, thereby increasing their feelings of alienation. For
example, we were informed that the residents of Cabrini-Green, who are
largely women living without husbands, objected to the cameras in the
lobbies and elevators because they monitored the presence of boyfriends who
were living with them illegally according to the housing authority's rules
(interview with Harvey Peck, Chicago Housing Authority, March 5, 1981).

In view of the problems that surround surveillance technology with respect to tenants' rights to privacy, A.F. Westin (see Fairley and Liechenstein 1971, Appendix B:107) has suggested that five basic questions should be asked before public and private authorities consider the introduction of such devices:

. What is the seriousness of the need?

. Are there other ways less violative to privacy and civil liberties?

. Will surveillance instruments provide the desired degree of reliability and effectiveness?

. Has the proper expressed or implied consent to surveillance been obtained (or is non-consent permissible in this situation)?

. Have the proper measures for setting limitations and controls on the surveillance been developed and can they be effectively applied?

These devices could have negative effects in two other respects. Rather than decreasing fear of crime, it is hypothesized that fear could increase due to the implicit message these devices convey: i.e. 'this area requires surveillance -- therefore, this area is unsafe'. Second, like target-hardening, it is argued that surveillance hardware could foster the fortress mentality, thereby undermining a setting's natural protective mechanisms.

Finally, others (e.g. Brill 1973:34-35) have pointed out that there is a risk that cameras, for example, will be put to unintended uses -- e.g. by exhibitionists.

Summary
There has been little research regarding the effectiveness of alarms in residential settings. Although their effectiveness has been demonstrated in commercial and school settings, they do however suffer many of the drawbacks noted above. Electronic surveillance cameras suffer all of those same drawbacks, particularly those related to privacy and cost, and the available empirical evidence indicates that they also should not be considered a particularly promising crime prevention strategy.

5.4   IMPROVING SURVEILLANCE POTENTIAL

Basically, the argument for increasing the surveillance capability of residential environments is that it would:

. increase the risk of detection of would-be offenders and thus act as a deterrent, and

. increase the likelihood of the offender's being apprehended after a crime is committed.

Although the chief aim of surveillance is not to keep intruders out but to keep them under observation, it may have the former effect if the would-be offender perceives that the chances of being observed are high.

The surveillance capability of an environment has two dimensions: surveillance by _formal_ agents such as police and private security personnel, and natural or _informal_ surveillance by residents themselves (or servicemen and casual passersby) in the course of their day-to-day routine activities. Many of the strategies that have been proposed by EDM are directed at facilitating either formal or informal surveillance, while others are aimed at promoting both. This section discusses five design strategies to improve surveillance potential[1]:

i.   reducing concealment opportunities

ii. improving lighting

iii. improving placement of windows

iv. improving visibility of locations for indoor and outdoor resident service and activity areas, and

v.   increasing pedestrian and street traffic.

After separate discussions of each of these strategies, a summary section provides an overall assessment of the surveillance design strategies.

i.   Reducing Concealment Opportunities
     Essentially these strategies are aimed at deterring crime through increasing a would-be criminal's fear of detection and apprehension. They are also purported to have a significant impact in reducing fear of crime.

     There are many suggested techniques for reducing concealment opportunities with regards to the landscaping, the external design elements of a building, and the interior design of multiple-family dwellings. The first two groupings of techniques are relevant for every type of residential building and include such recommendations as: avoiding solid fencing and shrubbery which conceals windows or doors (see Figure 5.1); locating exterior service elements, including

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[1] Mechanical devices for improving surveillance (e.g. cameras) were discussed in the previous section.

garages, storage buildings and parking areas so they do not provide hiding places (particularly if they are close to potential targets, etc.); avoiding partitions around entry points; and with particular reference to multiple housing, avoiding breezeways and other building elements which provide concealment opportunities (see Figure 5.2). Recommended techniques which particularly concern the shared interior space of multiple-family buildings include avoiding blind turns in corridors and alcoves or other recessed areas in corridors, lobbies and parking garages.
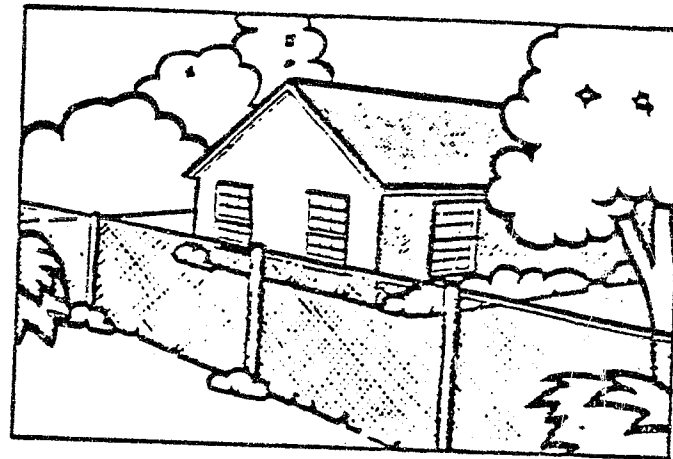
Figure 5.1: Chain-link fence and low shrubbery allow a good view of the property (CMHC 1981:3).
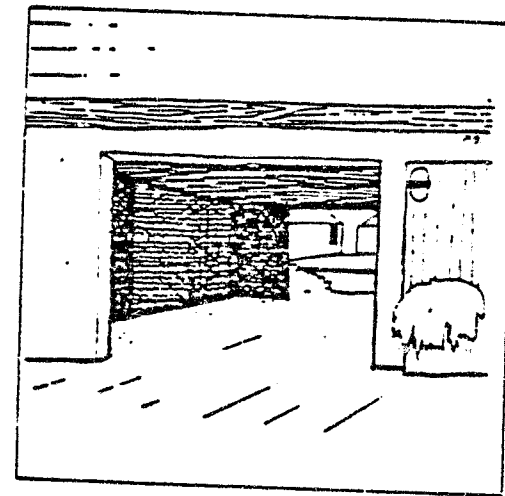
Figure 5.2: Dark breezeway, providing poor surveillance opportunities and good potential for concealment, can increase both crime risk and fear of crime (Stoks and Wise 1981:110).

Target Crimes

These strategies are considered to be predominantly helpful in the prevention of breaking and entering, assaults and rape and, to a lesser degree, crimes such as vandalism, theft and other types of robberies.

Assessment

Essentially, these strategies are aimed at deterring crime through fear of detection and apprehension. They are also considered significant in the reduction of fear of crime. The AIR document (1980a:31-32) reports that two studies established a direct link between the opportunity for concealment and the level of crime (i.e. Molumby 1976 and Detrick 1977). Other studies (e.g. Clay 1972 and Brill 1974 and 1981) report that fear of crime appears to be directly related to the existence of an area of concealment near residents' dwellings.

Finally, the study by Phelan (1977) claims that concealment is a factor in burglars' choice of targets. Unfortunately, there have been no evaluation studies which have attempted to measure the impact on crime after improvements with respect to concealment opportunities have been made to an environment (AIR loc.cit.).

Clearly, implementing these kinds of strategies is much less expensive if they are instituted at the construction stage, rather than in subsequent retrofitting of a house or building complex. In addition, it is generally recognized that strategies which reduce concealment opportunities are not, by themselves, sufficient to have a significant impact on crime. What is also required is for the public to become aware of potentially dangerous places and to take precautions. For example, in our discussion with the staff of the Chicago Housing Authority we were informed that trap doors in elevators (placed there for maintenance purposes) were a serious problem because muggers and rapists could climb through these trap doors and hide on top of the elevator until a likely victim entered the elevator. To circumvent this problem, all that would be necessary would be to fasten trap doors from the inside of the elevator with wing nuts. Then, all the potential victim would need to do is check to make sure these wing nuts were in place before entering the elevator. Creating this kind of precautionary awareness within the public is, however, not an easy task. Similarly, removing places of concealment, and thereby making the criminal more visible, has little advantage if witnesses to suspicious or illegal behaviour are unwilling to intervene (either by raising an alarm or by reporting such occurrences to the police). In other words, what is also necessary for these types of strategies to be truly effective is for the public to be educated about crime risks and motivated to intervene. (For a discussion of strategies for encouraging this motivation, see later sections.)

It has also been pointed out that these strategies could be in potential conflict with other considerations. For example, residents could object to a reduction in shrubbery or fencing because of aesthetic or privacy considerations (Waller and Okihiro 1978b). As well, these strategies could be in conflict with other crime prevention strategies such as using shrubbery and fencing to create a feeling of territoriality, or to define 'influential zones', or to channel pedestrian traffic.

Summary

Strategies of reducing concealment opportunities seem to be effective in reducing crime and fear of crime. However, their degree of effectiveness is improved considerably when:

. they are implemented at the initial design and construction stage,

. they are implemented in such a way so as to not conflict with other strategies or design objectives,

. they are implemented in conjunction with other strategies (e.g. education programs),

. there is a sensitive and motivated population which will respond to suspicious or illegal behaviour, and

. there is support for these strategies from the residential population.

ii.   Improving Lighting
Like other surveillance strategies, improved lighting is considered to be a deterrent to crime through its effect on increasing the risk of detection and apprehension. It is also considered to be important in the reduction of fear.

It is recognized that in order for lighting to be improved, decisions must be made regarding the placement of lights (height and spacing), the protective covering of lighting (to avoid vandalism), and the wattage involved.[1] Proper lighting is particularly needed in underground garages, interior corridors and stairwells, and walkways (e.g. alleys, sidewalks surrounding the exterior of buildings).

Target Crimes
All of the target crimes are considered susceptible to prevention through this strategy, but property crimes and muggings are considered particularly susceptible.

Assessment
Compared to other design strategies, lighting improvements are relatively easy to implement and are relatively inexpensive. There is also a fair amount of empirical evidence which supports the claim that lighting reduces fear of crime (Tien et al. 1979). In addition, this is one strategy which citizens are likely to support (see AIR 1980a:30).

Unfortunately, perhaps due to the considerable methodological problems surrounding the evaluation of this strategy, there is no conclusive evidence that improved lighting reduces the incidence of crime (AIR 1980a:27ff and Tien et al. 1979:20-24, 40-46). Tien et al. (Ibid.:35) conclude that if lighting is to be effective it must be combined with other strategies which will concomitantly improve citizen response to their detection of suspicious or illegal behaviour, and strategies which will also improve police performance (in responding to citizen complaints and in conducting surveillance).

Another limitation of this strategy concerns the problem of displacement. In the study by Tien and his colleagues (Ibid.:72), displacement was found to occur in Kansas City and Portland evaluations: "...night street robbery, assault and larceny in residential blocks were displaced to non-relit residential blocks...the largest effect was for robbery, for which a fourth to a third of the night street robberies were displaced to non-relit blocks."

Other concerns with improving lighting relate to problems of vandalism and energy and maintenance costs, and, in some cases, citizen objections to night lighting outside their residence on the grounds that it

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[1] See Weibel in Hopf (1979:14.1-14.21) for a detailed discussion of the choices available from which the most appropriate security lighting can be selected.

is "like daylight, 24 hours a day". In addition, there is the possibility that it could be put to unintended uses (e.g. by exhibitionists).[1]

Lastly, although improving lighting may be inexpensive compared to other types of strategies, it nevertheless entails considerable liaison between municipal authorities, citizens, contractors, and so on. The study by Tien et al. (Ibid.:20ff) documents at great length the problems that were encountered by many municipalities.

Summary
There seems little doubt that lighting improvements can have a significant impact on the fear of crime. However, the evaluations of the effects of such improvements on the incidence of crime have been inconclusive. Furthermore, if lighting improvements are to be effective, it is argued that citizens, police, and private security must be motivated to respond to the suspicious or illegal behaviour observed.

iii.   Improving Placement of Windows
The placement of windows is considered important in affecting the informal surveillance capability of an environment; improving this capability is expected to increase a would-be criminal's risk of detection and apprehension. The security guidelines for residential developments published by the City of Chicago's Department of Planning (1979:44-45) recommends:

"Proper location of windows of sufficient size will minimize the likelihood that parking areas, open spaces and similar portions of development grounds will be unobserved. The location of windows on lower floors is of particular importance, as these are most likely to be of use for surveillance purposes."

Newman (1980:223) has even developed a multiple-unit building design for elderly use which includes windows (of non-breakable, fire-resistant glass) in each apartment to provide views of the interior corridor.

This strategy emphasizes that windows should be located in the major activity areas of a residence (e.g. kitchen, family and living rooms) to ensure that residents' opportunities to watch over the exterior areas (particularly parking areas and children's play areas)

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[1] Another unexpected side effect was noted by a probationer interviewed as part of the case study research undertaken in Hamilton, Ontario for this project. That probationer pointed out that better lighting in underground garages may scare off amateurs, but also served to make the approach of possible witnesses more visible to the offender -- and made it easier to find and remove the screws holding car stereos in place.

This strategy incorporates a variety of recommendations regarding the site and building design. For example, it is recommended that wherever possible, resident facilities such as laundry rooms, lockers, parking areas, recreational areas and transportation facilities (e.g. bus stops), should be placed in the 'line of sight' of residents and casual observers (e.g. service men) in a residential complex. It is also argued that grouping compatible activities (e.g. laundry rooms and toddlers' play areas) in proximity to each other will result in an even greater degree of casual or informal surveillance.

Target Crimes
All of the target crimes are considered susceptible to these types of strategies with special emphasis on assaults, rape, street robberies and vandalism.

Assessment
While the theory behind this surveillance strategy appears to make sense, there do not appear to have been many empirical studies that evaluate its effectiveness.

In a Seattle study examining correlates of environmental behaviours in subsidized housing (Stoks and Wise 1981:103), it was found that: "Laundry rooms located partly below ground level and concealed from public view at the rear of a dwelling group, sustain vandalism and breakins through easily reached and unprotected windows." The authors of this study attribute the crime incidence in these laundry rooms to their poor location.

As with all of the surveillance strategies, the ultimate effectiveness of this strategy would be expected to depend upon people's willingness to respond or intervene in the event of suspicious behaviour. It is also recognized that there could be considerable implementation problems, particularly in existing housing projects. Once again, maximum cost-effectiveness could be gained if these kinds of considerations were taken into account at the initial design and construction stage. However, developers of multiple-family buildings, where these types of facilities are most commonly found, may be unwilling to locate service areas in more attractive and marketable areas of the building instead of in the basement where they are usually located. Also, for aesthetic and privacy reasons, residents may not wish to have service areas (particularly laundry rooms and parking areas) located nearer to their units. Further implementation problems stem from the fact that other public agencies may be involved; for example, locating bus stops at suitable places requires the cooperation of the municipal transportation authority.

Summary
The effectiveness of these kinds of strategies is unknown at this point, but it seems clear that to be most cost-effective these strategies should be built into housing developments at the initial construction phase.

are maximized. It assumes that such windows, particularly those at ground floor level and beside entry doors, are securely built (with regards to the frame, glazing and lock, and in the case of windows beside doors, the protective grille).[1] It has also been proposed that windows providing views into and out of semi-public areas in multiple-unit buildings (including lobbies, laundry rooms and stairwells) would improve both informal and formal surveillance of activities occurring in these areas and in the building site as a whole.

Target Crimes
Improving the placement of windows is proposed to have a deterrent effect on all of the target crimes, most particularly vandalism, street robberies, theft of and from motor vehicles and where windows provide views to other resident unit entries, burglary.

Assessment
The argument for improving the placement of windows is based more on common sense and general observation than on empirical evaluations, since to our knowledge there have not been any cases of modifying buildings to improve window placement in order to decrease crime. However, the commonsense logic behind this strategy appears to be quite strong given several conditions.

First, the windows must be well secured if they are easily accessible (either to potential burglars or vandals). Second, as with all other strategies aimed at increasing informal surveillance opportunities, residents must be motivated to respond if they observe suspicious or illegal behaviour. And finally, the number and size of windows provided must be balanced by other objectives such as residents' desire for privacy and energy and maintenance concerns.

iv. Improving Visibility of Locations for Indoor and Outdoor Resident Services and Facilities
As noted, increasing the surveillance capability of an environment is thought to deter would-be criminals due to fear of detection and apprehension. It is argued that locating amenities and services in more accessible and visible areas will not only deter crime but will also encourage residents to interact more often and get to know each other -- thereby facilitating the recognition of strangers or intruders. This increased interaction among residents could also improve the social cohesion of an area and reduce the fear of crime (see AIR 1980a:9-11; U.S. Department of Housing and Urban Development 1973a:8-10; and Rouse and Rubenstein 1978:20).

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[1] A very common and secure method for improving the surveillance potential at entry doors is the peephole or optical viewer. In effect, optical viewers can be categorized as small windows in doors.

v. Increasing Pedestrian and Street Traffic

Like the foregoing strategy, this strategy is viewed as a way of increasing interaction among neighbours -- thereby contributing to their ability to recognize intruders and perhaps strengthening the social cohesion of a neighbourhood. In addition, by increasing the number of 'eyes on the street', the potential criminal may be deterred due to fear of detection and apprehension. Lastly, it is thought that this strategy may reduce fear of crime.

Ways of increasing street and pedestrian traffic include: (a) providing a mixture of residential and desirable commercial uses (e.g. variety stores, grocery stores, banks, dry cleaners, etc.) in a residential area, (b) locating desirable outdoor amenities around residential buildings (e.g. tennis courts, children's play areas, benches for strollers in parks, and so on), and (c) developing street configurations which achieve the desired traffic patterns. Related to the goal of increasing 'eyes on the street' are two other types of strategies: removing abandoned and derelict buildings which tend to obstruct vision and discourage normal circulation, and controlling the number of alleyways which run behind residential streets. Both of these types of land-uses represent low-activity areas with poor surveillance capabilities.

Target Crimes

All of the target crimes are considered susceptible to this strategy, most especially vandalism, street robberies, assaults and rape.

Assessment

It is important to note that there is good reason to believe that there is a point at which increased traffic becomes counter-productive in the sense that too many people may facilitate a criminal attack by offering more targets/victims and by making it easier for the criminal to 'blend' into the crowd without being challenged or stopped. Angel (1968), noting that most crimes occurred where there is either a very small or a very large volume of traffic, concluded that there is a "critical intensity zone" such that the "right amount" of traffic is a deterrent to crime (see also Brill 1979a).

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¹ The literature (e.g. Brill 1979a) and our Canadian research emphasize the importance of avoiding 'undesirable' uses (e.g. liquor stores, taverns, pinball parlours, etc.) in or near residential areas as these uses can be generators of both crime and fear of crime.

A more recent study (Stoks and Wise 1981:62) concludes that pedestrian paths in public housing projects "tend to increase vandalism rates above both the project and street averages, and that the actual vandalism rate is proportional to the amount of pedestrian traffic ...The orientation of dwelling units with respect to the path near which they are sited affects the susceptibility of these units to vandalism. Arrangements that provide greater opportunity for surveillance are less susceptible to damage." Thus, the location of pedestrian paths can have significant impact on the extent to which they facilitate or deter crime.

It is also noted that city planners and citizens should take care with respect to the types of commercial enterprises that are allowed into a residential neighbourhood: uses such as bars, arcades, pool halls, discos and record stores (which attract potentially undesirable and disruptive users) are clearly less desirable than grocery stores, banks, and so on.

While a number of studies (see AIR 1980a:33ff and Molumby 1976) have documented the relationship that exists between traffic density (both high and low densities) and crime, there do not appear to have been many studies which evaluate specific attempts to make changes or improvements in this respect. The Hartford project referred to in Chapter 3 did include changes to street configurations to reduce through traffic which was considered to be a crime generator. However, since this project included the implementation of several other design and management strategies to prevent crime, the specific impact of reduced traffic densities could not be determined.

As with other strategies, implementation of this strategy could pose problems since it would require the cooperation of city planners and could require a strong resident lobby in the event that there are opposing pressures from commercial interests and traffic control authorities. It is also difficult to dictate who the pedestrians should be: teenagers and teenage gangs are considered to be more crime-prone; certainly, they can increase fear of crime if not the incidence of crime. And, once again, it requires the cooperation of residents and street-users to report or intervene in suspicious circumstances.

Summary

"The best summary statement of the relationship between pedestrian traffic activity and crime is that it depends on who the pedestrians are" (AIR 1980a:35). Clearly, the issues involved with this strategy are very sensitive, and implementation would probably require careful and thoughtful negotiations.

Overall Summary: Strategies for Improving Surveillance Potential

The preceding subsections have discussed five physical design strategies
most commonly suggested as methods for improving an environment's surveil-
lance capacity:

. reducing concealment opportunities

. improving lighting in and around residences

. improving placement of windows

. improving visibility of locations for facilities and services so they
  are in line of sight of residents and casual observers

. increasing pedestrian activity and/or density of street traffic.[1]

Certain issues have arisen repeatedly in those discussions. Interestingly,
these entail social responses which are felt to be necessary for the
physical strategies to be effective:

. the potential offender must perceive that his/her risk of detection and/
  or apprehension is high, and

. residents and casual passersby must be willing to intervene (either by
  reporting or raising an alarm).

Luedtke and Associates (1970) reported that a large proportion of muggings
and purse snatchings in the public housing developments they studied
occurred during the day when surveillance opportunities were supposedly
good. In view of these findings it has been concluded that surveillance
alone may not deter crime -- or may deter only certain types of crime.
Equally important are residents' reactions and offenders' perceptions.

There is some evidence that offenders are not as rational and receptive to
environmental cues as the environmental psychologists would have us
believe. For example, Goodman et al. (1966) found that the offenders inter-
viewed by them reported that they did not consider such factors as visibil-
ity and presence of witnesses before committing their crimes. The sample
of offenders interviewed by Goodman and colleagues consisted of incarcerated
offenders, which may have some bearing on this finding. In contrast, other
authors (e.g. Phelan 1977) report that the convicted burglars they inter-
viewed did take surveillance into account (see AIR 1980a:39). These
conflicting findings raise important questions: Do offenders differ in
their sensitivity to environmental cues and if so, in what ways? Are some
cues more compelling than others? Which ones? There seems to be a need
for further work in this area before the environmentalist theory can be
fully understood and documented (see AIR 1980a:40).

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[1] See AIR (1980a:23-24) for a summary of studies which provide empirical
     evidence on these strategies.

A similar problem pertains to residents' and casual observers' reactions.
It is not simply a question of residents' willingness to intervene, but
also a matter of their being able to 'read' crimes as crimes. The
experienced and busy 'casual observer' may not become suspicious when (s)he
sees a van pull up outside of a neighbour's house during normal working
hours.[1] (S)he may simply think her/his neighbour is having some repairs
done. Add to this people's natural embarrassment and reluctance to
challenge suspicious people lest they 'make a fool' of themselves, and it
becomes evident that proper surveillance by residents is a highly uncertain
phenomenon.

Accordingly, the success of physical design strategies aimed at improving
surveillance and thereby deterring or preventing crime is dependent upon
social responses (of both offenders and observers) and as such is a very
problematic issue. This is borne out by empirical studies. Most of the
empirical studies relating to this aspect of crime prevention document an
association between poor surveillance and crime; very few have documented
the effectiveness of improved surveillance on crime. Improved surveillance
does appear to have a noticeable and positive impact on reducing residents'
fear of crime, but its impact on the incidence of crime remains undemon-
strated. This does not mean that improvements in surveillance are ineffec-
tive, but it does underline the significance of the intervening variables
(social responses) and the methodological problems surrounding verifica-
tion of the surveillance principle.

With respect to implementation, it has been pointed out that there could
be considerable costs (financial and administrative) in the institution
of most of these strategies, particularly in existing housing developments.
In view of the uncertainty of the benefits of these strategies, retro-
fitting may not appear to be very cost-effective except in the most serious
situations. On the other hand, the costs involved for implementing these
strategies in new developments would not be anywhere near as formidable
since all of these strategies, except for improving lighting, depend on
more thoughtful and informed design rather than on the provision of
additional or better building elements. Therefore, despite the lack of
empirical substantiation, the compelling logic of the surveillance
strategies, supported by reports by some offenders about their relevance
and importance, might be seen as ample justification for their implementa-
tion, depending on the need.

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[1] It appears that most residential burglaries occur during the day
     according to both the statistics collected in the United States (Scarr
     1973a and U.S. Department of Justice 1981:25) and the views of the
     Metropolitan Toronto Police (interview April 1, 1981). However,
     Waller and Okihiro (1978b:42) found that victims reported a larger
     proportion of burglaries occurring at night than did police statistics.

5.5   CONTROLLING ACCESS AND ESCAPE

This section concentrates on design, as opposed to mechanical or electronic strategies for controlling access and escape. Many of these strategies while having the primary function of controlling access and escape, may also contribute to the development of social cohesion and territoriality.

There are three major types of strategies for controlling access and escape. The first are methods to discourage through traffic from entering general residential areas by using cul-de-sacs and other types of restrictive street configurations (e.g. 'L' and 'T' intersections and one-way streets) and by locating residences away from through traffic. The second involves the use of real or symbolic barriers to restrict unwanted traffic within the residential area by providing better differentiation of public and private space and by creating territorial zones of influence, and by clarifying the intended uses of space in and around residences. The last type involves improving the degree to which residents and security agencies can quickly provide assistance or apprehend offenders by improving identification of dwelling units, and by improving access for police/ security personnel.

Although these three types of strategies are often interdependent and similar with respect to objectives and rationale, each will be described and assessed separately. Assessments common to all three will then be presented.

Target Crimes

All of the strategies for controlling access and escape are principally aimed at preventing trespass and burglary, and to a lesser degree, vandalism, street robbery, theft, rape, and assaults.

i.   **Controlling Access to and Escape from the General Area**
With respect to the 'use of restricted street configurations' and 'locating residences away from through-traffic', the primary aim is to prevent outsiders and illegitimate users from freely entering the general area. This reduction of the "penetrability" (Brill 1979a) of an environment is expected to have the following effects:

- it may reduce the ease with which potnetial criminals familiarize themselves with an area to get to know likely targets and escape routes,

- it may facilitate the residents' ability to recognize strangers or those who do not 'fit in',

- it informs outsiders that they are entering a semi-public area -- an area in which their presence and activities are liable to be noticed and perhaps questioned (see Newman 1973a-c, and Rouse and Rubenstein 1978:14),

- it may contribute to the social and geographical integrity of a residential area thereby encouraging territorial interests and proprietary feelings about what goes on in the area, and

- it may contribute to the social cohesion of the neighbourhood, a sense of community.

Overall, controlling access through restricted street configurations is expected not only to make it more difficult for offenders to get in and out of an area, but also to increase their risk of detection and apprehension due to the fact that they will be noticeable as outsiders (see AIR 1980a:11-12).

Assessment

A number of studies have documented an association betwen accessibility to residential areas and crime. For example, Bevis and Nutter (1977) studied types of street intersections: a cross-intersection ('+') was considered most accessible, streets that formed 'T' or 'L' intersections were considered less accessible, and streets that were cul-de-sacs were considered to be least accessible. Controlling for such social variables as race, income, number of poor juveniles and so on, Bevis and Nutter found a higher frequency of residential burglaries in the most accessible blocks and census tracts (where one would expect heavy pedestrian and vehicular traffic) (AIR 1980a:35). Similarly, Brill (see U.S. Department of Housing and Urban Development 1977) found that in public housing developments, those apartments near parking lots, streets and recreational areas, where escape routes are more readily available, experienced higher crime rates than other apartments. The Brantinghams (1975b) also found that blocks on the border of a neighbourhood experienced significantly higher burglary rates than those in the interior. Other studies (e.g. Reppetto 1974 and Luedtke and Associates 1970) provide similar findings (see AIR 1980a:36).

However, the AIR document (loc. cit.) concluded that "none of these studies provides adequate evidence on the specific relationship it examined. But in sum, they point to a strong relationship between accessibility and exposure to crime." Perhaps the only study which attempted to evaluate the effect of restricted street configurations on crime was the Hartford experiment (see Hollander and Brown 1978). Although this experiment did report reduced rates in burglary and street robbery, it is impossible to determine whether this was a consequence of the street changes or of other components of the experiment.

In contrast to the arguments that favour restricted street confi-
gurations, Newman (see U.S. Department of Housing and Urban
Development 1973a:5) reports that residential developments consisting
of large super-blocks, devoid of interior streets, have been found
to suffer from higher crime rates than projects of comparable size
and density in which existing city streets have been allowed to
continue through the site. HUD claims that through streets bring
safety into the housing projects by:

- facilitating direct access to all buildings in the project by car
  or bus,

- bringing vehicular and pedestrian traffic into the project and
  thereby providing an important measure of safety that comes with
  the presence of people, and

- facilitating police patrol by providing easy access, and
  identifying building locations.

This contrasting view can be taken not as an indication of the
unsoundness of this strategy but as an illustration that the
effectiveness of any specific EDM strategy depends on a variety of
factors which should be assessed before deciding which strategies to
adopt. In this case, the size and type of residential development
concerned (i.e. super-blocks of highrise buildings) is particularly
relevant and it may well be that the crime rates referred to by HUD
were sufficiently high and of such a nature that they were suscepti-
ble to reduction due to the presence of through traffic. In other
situations, say a less concentrated and distinct lower-middle or
middle-income area, the presence of through traffic could have the
reverse effect. Thus, the decision to implement this strategy to
control access or the strategy aimed at increasing traffic to improve
surveillance (see 5.4 above) will have to take into consideration,
among other things, the physical and social characteristics of the
environment, what the crimes are, who is doing them, and the nature
of police and citizen response. It is also important to note that
implementation of this strategy must be sensitive to other design
objectives, particularly those relating to ensuring easy access for
emergency services vehicles.

ii. Using Real or Symbolic Barriers to Control Circulation within the Area
The second type of strategies for controlling access and escape involves
using real and symbolic barriers to clarify the intended use of an
area and to better differentiate public and private space in order
to create and define territorial zones of influence. It is argued
that if the space in and around residential settings is clearly
defined, then potential criminals will not be able to capitalize upon
the existence of 'no-man's land' to obtain access to targets: they
will not be able to blend into the general confusion (e.g. regarding
acceptance of responsibility) that exists in undefined public or semi-
public areas. In addition, it is proposed that space that is enclosed
or otherwise defined by real or symbolic barriers conveys a message
to would-be criminals, directly or indirectly, that this space is

under either residents' or mangement's control (increasing the risk of
detection) and further, that such definition may force criminals into
taking more circuitous escape routes, thereby, increasing their risk of
apprehension.

Beyond its direct role in preventing criminal access to targets, this
type of strategy is closely associated with those aimed at fostering a
stronger sense of territoriality and related protective behaviour among
residents (see section 5.6 following). For example, clearly defining
the gradation from public, semi-public, semi-private to private uses
in residential areas would permit both residents and outsiders to
develop a strong sense of who was entitled to do what, where. By using
real or symbolic barriers, space can be divided into four zones (see
Newman 1976:56):

- Public space -- an area that is open to anyone and serves a variety
  of functions, such as the roads and sidewalks.

- Semi-public space -- an area such as a lobby which is open to the
  general public but which has a limited number of uses.

- Semi-private space -- an area such as an apartment hallway that is
  restricted to a few persons from 'the public' and is mainly
  occupied and used by residents.

- Private space -- an area reserved for residents only, e.g. behind
  the closed doors of an apartment or in a back yard.

It is sometimes recommended that, where possible, large housing pro-
jects should be subdivided into small sections so that all areas of it
are related to particular buildings or clusters of buildings. No area
should be left unassigned or simply left 'public'. The aim here is to
create what have been called 'zones of influence' (i.e. an area sur-
rounding a building or preferably an area surrounded by a building)
which are perceived by residents to be outdoor extensions of dwellings,
and thereby benefit from ongoing use and surveillance by residents.
Residents using these areas should feel that they are under natural
surveillance by other residents; to an equivalent degree, a potential
criminal should feel that any suspicious behaviour will come under
immediate scrutiny (Sagalyn 1973:6). Finally, the creation and clear
definition of zones of influence is expected to increase residents'
feelings that they have a right to question outsiders.

There are many design elements which can be used as real and symbolic
barriers for controlling access and escape[1], including: fences, signs,
clearly marked pathways, landscaping (e.g. berms, shrubbery, trees,
flower gardens), doors, gates, and other elements which define
entrances and exits, and the strategic location of certain outdoor
facilities such as recreational areas (as well as hardware devices)
-- in short, "anything that announces the integrity and uniqueness of
an area" (Westinghouse Electric Corporation 1977:2-8).

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[1] See Brill (1979b) for a review of different types of barriers.

Assessment

There are two major concerns related to the use of real and symbolic barriers and the previous type of access and escape control strategies (using restricted street configurations and locating residences away from through traffic) discussed in this section. These concerns are that:

. they may be in conflict with other objectives and strategies, and

. a large part of their effectiveness depends upon the exercise of territoriality by residents.

With respect to the potential for conflict, as has been pointed out, these strategies may undermine ease of access by police and other security personnel (see the next subsection), as well as by personnel providing other essential services (e.g. fire protection, ambulance, garbage removal). In addition, barriers may diminish an environment's surveillance capability (whether through detection hardware, formal security surveillance or through 'eyes on the street') by providing opportunities for concealment or by restricting outdoor traffic. The following Figure 5.3 reproduces Brill's (1979b:4-5) very useful analysis of different site elements and their performance capability with regard to eliminating unassigned space, minimizing penetrability, and maximizing surveillance; this analysis clearly illustrates some of the design conflicts which can occur. The effectiveness of barriers during the night, particularly symbolic barriers, is also considered highly questionable. Lastly, when the placement and design of these barriers has not been undertaken in conjunction with consultation with residents, the residents themselves may view these barriers as inconveniences and ignore them, thereby undermining their efficacy for controlling access by others.

Residents' exercise of their sense of territoriality raises other problems. Territoriality is a complicated response having emotional and, in many cases, political dimensions. Whether or not such a feeling will emerge is not solely predicated on the physical creation of geographical zones of influence. Like residents' willingness to intervene in the event of suspicious or illegal behaviour, residents' willingness to exercise territoriality by controlling and monitoring activities, challenging intruders, etc. is a function of many factors relating to: who the residents are, their social and economic status, whether they rent or own their dwelling, how long they have lived in the area, whether or not they have children, their degree of alienation or integration, and so on. What this means is that it is unlikely that the design strategies described here will, by themselves, have a significant impact. The likelihood of achieving the desired results with these strategies is much greater if they are combined with other design and management strategies which address some of these latter issues.

It has been argued (see U.S. Department of Housing and Urban Development 1973a:6) that the success of symbolic (as opposed to real) barriers in restricting entry depends on four conditions:

". The capacity of the intruder to read the symbols,

. The capacity of inhabitants or their agents to maintain controls and reinforce the space definition as symbolically defined,

. The capacity of the defined space to require the intruder to make obvious his intentions, and

. The capacity of the inhabitants or their agents to challenge the presence of an intruder and to take subsequent action."

The HUD report claims that all of these conditions must be operative together for symbolic barriers to be truly effective. As we have indicated, the degree to which these conditions can be fulfilled is variable, and in some cases, it may be unrealistic to expect very much in these respects if the use of symbolic barriers is not supported by other strategies -- particularly management strategies -- aimed at encouraging residents and others to take responsibility for preventing crime.

iii. Improving Ease and Speed of Response to Crime

Improving the identification of dwelling units and ensuring prompt access by police and other security personnel has the obvious objective of increasing the ease and speed with which these agencies can respond to crime, and thus the risks surrounding escape by the criminal. As well, it is expected that fear of crime will be reduced if people know help is readily available.

There are a number of techniques involved in improving the identification of dwelling units. At the level of the individual unit, large, clear and properly-lit number signs are strongly recommended. (Note: It is not recommended that the unit identification include the resident's name as this allows potential burglars to check by telephone if anyone is home.) With respect to large groupings of residential units -- particularly townhouse developments which extend over a considerable amount of land -- it is suggested that strategically located orientation maps, indicating the site organization and unit-numbering system, would greatly facilitate police response.

Other means of improving the ease and speed of response to crime relate to the design strategies mentioned earlier aimed at improving surveillance. For example, improving lighting and developing street and path configurations which encourage traffic activity are considered to be likely to facilitate the speed and ease with which police and other security personnel can respond to criminal activity.

Figure 5.3 (SOURCE: William Brill and Associates (1979b) Planning for Housing

Site Elements Security Capabilities Matrix
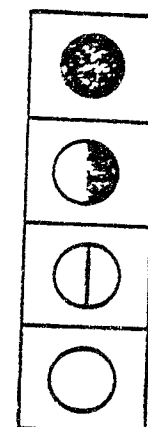
	Site Element	Eliminating Unassigned Space	Minimizing Penetrability	Maximizing Surveillance	Minimizing Design Conflicts
PLANT MATERIALS	Ground Covers	The qualities of a ground surface can indicate its intended use. Ground covers define yard, garden and lawn areas.	... subtle symbolic barriers when ... planted in a planting bed or p... d.	N.A.	When mass planted, they subtly define areas, but do not effectively separate conflicting uses or groups.
	Low Shrubs	Provide a residential character helpful in defining yard, garden and lawn areas and in developing shaded sitting areas.	... able of forming a symbolic barrier (dependent upon planting la...out).	Excellent as a means to define areas that require visual surveillance.	May provide adequate separation of use areas, however, mid-sized shrubs are more effective.
	Mid-sized Shrubs	Effective at making areas semi-private to private, depending upon planting layout.	... n symbolic barriers that may ... op into real barriers depending upon plants and layout.	May substantially block surveillance of adjacent areas, depending upon planting layout.	Excellent buffer/barrier to separate conflicting areas.
	Trees	Provide a residential character helpful in defining yard, garden and lawn areas and in developing shaded sitting areas.	... ending upon plant layout, can f... n symbolic barriers.	Most large trees will not hinder surveillance, though smaller flowering trees may.	Mass plantings of small flowering trees can effectively separate use areas by forming screen barriers.
CONSTRUCTED ELEMENTS	Low Walls	Delineate and separate sub-areas of a project site if 18"-24" in height. Can serve as sitting element contributing to use of site sub-areas.	... define the project perimeter. ... as symbolic barriers limit access to controllable points.	If of sitting element height, they encourage use and activity in adjacent areas, thereby, contributing to surveillance.	Provide good symbolic separation of use areas.
	High Walls	Limit access and help delineate and separate sub-areas of the project site. Form private spaces, i.e. yards and patio areas.	Effective impenetrable barrier.	Effectively block visual surveillance.	Physically separate conflicting use areas. Can buffer noisy unattractive areas.
	Low Fences	Define and separate sub-areas of the project site. Can create semi-private areas such as individual yards.	... bolic barriers that can be breached, but do minimize penetrability of the project site.	Do not hinder surveillance — if of metal picket or woven wire mesh fence types.	Symbolically separate uses, such as an active play area and an adjacent walkway.
	High Fences	Minimal effect. Limit access and help delineate and separate sub-areas but do not actually contribute to use of space.	... ilent physical barrier, stopping penetrability of the project site.	If of chain link or picket, construction, will only minimally interfere with surveillance.	Separate conflicting uses and activity areas.
	Gates	Assign space as entry and passage. (circulation)	... ctive means to control access while stopping penetrability.	As an access point, gates concentrate traffic, thereby increasing surveillance possibilities.	Do not contribute toward separating conflicting uses of areas.
	Bollards	Prevent vehicle access, freeing space for pedestrian use. They define space and may serve as sitting elements.	... ent vehicular access, but permit free access for pedestrians and cyclists.	Do not hinder surveillance.	Effectively separate auto and pedestrian traffic.
	Paving Materials and Textures	Particular materials and patterns can indicate use and extent of sub-areas, and contribute to residents sense of territoriality.	Form subtle symbolic barriers. Contrasting patterns and materials can ... e transition zones.	N.A.	Subtly define areas, but may not separate conflicts.
	Slopes and Berms	Can be used to define use areas and contribute to the development of play and sitting areas.	Form symbolic barriers that discourage penetration of the project site.	Should be sized, shaped and located so as not to block surveillance.	Can separate conflicting uses as well as buffer noisy or unattractive areas.
	Stairs and Ramps	Define passage and pedestrian routes. Supplies access from one level or use area to another.	... form symbolic barriers at the project perimeter or at an on-site use ... and at building entrances.	Due to change in grade, may limit surveillance from lower area.	May separate conflicts, while not disrupting pedestrian traffic. At certain locations could be extra wide for sitting.
MANUFACTURED ELEMENTS	Site Furniture	These elements are useful in developing a space for assigned uses, such as sitting areas, game table areas, etc.	Capable of limiting penetrability of site sub-areas and encouraging outdoor activity of residents.	These elements encourage outdoor activity and residential use, thereby increasing surveillance.	Should be grouped and located to identify with a particular group and function. Adequate facilities must be provided for other groups to avoid conflicts over use. (Applies to both site furniture and play equipment structures.)
	Play Equipment Structures	These elements are useful in developing a play area to serve an assigned user group.	May function as symbolic barriers minimizing penetrability, particularly actively used by residents.	Encourages increased surveillance of area if play elements are actively used.	
	Site Lighting	Extends the time period during which use areas can be actively used.	May limit, at least initially, penetrability of site areas.	Effective and safe levels of lighting greatly aid night surveillance and residents' sense of security.	N.A.

Valuation Key

Most Effective ↑ ↓ Least Effective

<u>Assessment</u>

Although there is considerable commonsense argument supporting the strategies aimed at improving the ease and speed of response to crime, there are two major concerns to be considered before they are implemented. First, there are some conflicts with other EDM strategies and the needs of the environment must therefore be carefully assessed before it can be determined whether controlling access by potential criminals or facilitating access by security personnel is the primary need. In addition, it is argued that clear identification of residences could facilitate the work of potential criminals as well as public and private security personnel.

<u>Overall Summary: Strategies for Controlling Access and Escape</u>

Unfortunately, there have been few, if any, empirical studies which have adequately evaluated the impact on crime or fear of crime of any of the above three types of design strategies for controlling access and escape.

One of the most obvious logical limitations of these strategies is that they are aimed at preventing crimes by outsiders. The extent to which crimes are committed by outsiders or local residents varies depending on the type of crime and the environment. Accordingly, the appropriateness of these strategies -- not to mention their effectiveness -- may be highly limited. To the extent that the crimes experienced by a residential area are committed by outsiders, the implementation of these strategies raises a further problem -- i.e. displacement (see Chapter 2, section 3.3.i earlier). Potential criminals, denied easy access to one setting, may simply shift their attention to another area.

There is also the problem that even with the best conditions and design for controlling access and escape, all that is required to undermine them is simply one person who, either due to indifference or negligence, fails to maintain these conditions. The entire security afforded by the access control strategies is then undermined. For example, just one person who leaves doors propped open or unlocked or who opens lobby entrances without first checking on the caller, will enable potential criminals to obtain access to the building.[1]

Lastly, it is noted that the implementation of these strategies could be extremely difficult. Competing demands on city planners and traffic control

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[1] In an interview with the Metropolitan Toronto Police, for example, we were informed that they themselves have very little trouble getting into apartment buildings: all they do is simply press all the apartment buzzers and inevitably somebody lets them in without checking (e.g. the residents were waiting for a friend or a pizza and simply assume that is what the buzzer is for). This is a trick commonly known to door-to-door salesmen and, supposedly, to potential burglars.

authorities, for example, may result in their not placing residential security very high on their list of priorities. Furthermore, residential endorsement of the strategies could be problematic: How should space be zoned? Who should get what? How should space be used? Will they resent these implicit restrictions on their behaviour?, etc. Further, there is considerable potential for conflict between crime prevention strategies aimed at controlling access and escape and other design objectives, for example, relating to fire exits. Once again, however, it is likely that the resources (organizational and financial) required for the implementation of these strategies will be greatly reduced if consideration is given to them during the initial design phase of the planning of a new development.

5.6 FOSTERING TERRITORIALITY AND SOCIAL COHESION

In the foregoing discussions of the different types of design strategies, it has been noted repeatedly that for those strategies to be effective it is not sufficient that suspicious or criminal behaviour be observed. The observer must also be motivated to respond with (or call for) assistance for the person or property being victimized. It has been argued that the decision to respond will depend on the presence of the following conditions:

- the extent to which the observer has developed a sense of his personal and proprietary rights and is accustomed to defending them,

- the extent to which the activity observed is understood to be occurring in an area within the sphere of influence of the observer,

- identification of the observed behaviour as being atypical in the area,

- identification on the part of the observer with either the victim or the property being vandalized or stolen, and

- the extent to which the observer feels he can effectively alter the course of events being observed.

(Newman 1972:78-79)

This argument points to the need to discuss the issues of territoriality and social cohesion, and design strategies to foster them. This section therefore begins with a general discussion of the two concepts. The section then identifies the major related design strategies, and presents an assessment of their effectiveness.

The logical arguments underlying the concept of territoriality are quite strong. However it should be noted at the outset that there has unfortunately been little empirical research to test whether these arguments do in fact correlate or explain actual behaviour. Thus, design strategies which aim to increase territoriality are not as directly focused on preventing crime as other EDM strategies such as target-hardening.

The notion of territoriality is closely aligned with access control, but goes beyond the physical dimension of access control to include a psychological and perhaps a political component. Essentially, it refers to residents' feelings about their own 'turf', feelings of ownership, and therefore concern for what occurs in that turf. Gardiner (1978a:19), for example, notes that territoriality involves three conditions:

"1) The resident feels a proprietary interest and responsibility over areas beyond his front door, a responsibility shared by his neighours.

2) The resident perceives when this territory is potentially threatened by the intrusion of strangers and is willing to act on that perception.

3) A potential offender perceives that he is intruding on the domain of others, will be noticed if he intrudes and, therefore, is more likely to be deterred from criminal behaviour." [1]

Newman (1973a:13) argues that the "pervasiveness of crime in cities may in large measure be due to the erosion of territorially defined space as an ally in the battle to maintain social order." He contends that the physical design of modern cities has undermined the residents' sense of social and spatial solidarity and their sense of responsibility for the safety and well-being of their living areas. For example, Newman argues that large anonymous residential structures, such as highrise developments, increase the social isolation of residents; the design of these buildings generally results in a situation in which the only space for which residents feel a proprietary interest is behind the doors of the apartments. All other spaces (e.g. corridors, elevators, lobbies, grounds) are frequently open public or semi-public space -- areas for which no one feels responsible. These areas, these 'no-man's lands', allow unstructured activities to take place by residents and non-residents alike and contribute to crime because there is no control of whose or what kinds of activities occupy these spaces. Police seldom patrol these areas and thus they are vulnerable to the perpetration of incivilities and penetration by potential offenders.

In addition, unstructured or lack of clearly defined uses of space around residential units permits competition and perhaps conflict over the use of these places. For example, the elderly, mothers and toddlers, and teenagers, all engage in different outdoor activities and therefore require suitably demarcated areas for the pursuit of these activities in order to avoid user conflict. Likewise, residents of different cultural or ethnic backgrounds commonly have different ways of using space and may feel offended or constrained by others who adopt a different usage. These conflicts over the use of space are considered to undermine the security of environments because they increase resident hostilities or drive residents indoors -- thereby minimizing a communal sense of solidarity and the natural protective mechanism stemming from selective concern about residential environments. As well, it is argued that such conflicts minimize the presence of casual observers who would otherwise be using and enjoying these outdoor spaces.

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[1] Gardiner (1978a:38) notes that "economic territoriality" is another key factor in neighbourhood security and is especially important in areas which are primarily commercial or non-residential. It functions in much the same way as social territoriality.

The degree of <u>social cohesion</u> among residents in a residential development or area is considered to affect crime in two respects: (a) by bolstering a consensual view of accepted community norms which are pro-social and anti-criminal (thereby minimizing criminal motivation among residents -- e.g. youths), and (b) by building up community ties so that residents are prepared to act on their neighbours' behalf and perhaps undertake collective community action against conditions which are conducive to crime The aim of many EDM measures is to create physical environments which are compatible with the development of community ties. The development of social cohesion is seen as a necessary adjunct to many of the other EDM measures (e.g. regarding informal surveillance and territoriality) and as a powerful deterrent to crime in its own right. But again, as with the issue of territoriality, there have been few empirical studies which document the actual relationship between social cohesion and crime.

From a theoretical perspective, there are two major schools of thought. One follows Durkheim's perspective and argues that crime brings communities together by the collective responses residents take to combat crime. The other view argues that crime destroys communities by increasing levels of fear which increase residents' distrust of each other -- thereby atomizing communities and thus creating even greater opportunities for crime in a never-ending cycle (see Conklin 1975).

It is likely that the truth of this phenomenon is that it is not an all or nothing sort of thing. First, it is probable that whether crime destroys or builds up community cohesion varies from situation to situation. Second, crime is only one of the many social problems which can destroy social cohesion (some others are racial tension and conflict, geographical and social integrity disturbed by the intrusion of unacceptably high levels of commercial or industrial interests, severe transiency, unemployment, etc.). Therefore, depending upon the impact these factors have had or are having on a neighbourhood, levels of crime can be seen as either symptomatic of deterioration that is already underway or, in some cases, as contributing to the deterioration. Third, the degree to which a neighbourhood is in the process of declining or in the process of building up, will also probably affect the extent to which crime can affect that neighbourhood. Fourth, the kind of crimes occurring in the neighbourhood will also be relevant to the extent of social cohesion that exists there (e.g. vandalism which is assumed to be committed by neighbours' children can be destructive to social cohesion, whereas assaults assumed to be committed by outsiders can bring residents together).

Some of the work that has come out of the Northwestern University studies as part of the "Reactions to Crime" project suggests an intermediate view. To the extent that the types of crime in an area induce individualistic responses to crime (e.g. staying indoors, limiting one's behaviour, fear of going certain places, avoidance of neighbours, buying handguns, etc.), crime can be seen to atomize neighbourhoods and thus undermine social

cohesion. To the extent that the responses to crime are collective, crime may be seen as contributing to the cohesiveness of a neighbourhood. The latter outcome, however, appears to largely depend on the neighbourhood already having community groups and organizations which decide to take on collective anti-crime programs as part of their activities.

The above discussion has summarized why fostering territoriality and social cohesion is believed to be critical to effective crime prevention in residential environments. As noted previously, many of the EDM design strategies already discussed have as one of their objectives the fostering of territoriality and/or social cohesion, and/or are critically dependent on the existence of feelings of territoriality and/or social cohesion for their effectiveness.

This section focuses on those design strategies in the EDM approach that attempt to directly affect the degrees of territoriality and social cohesion in a community. These strategies are:

. clustering of dwelling units

. decreasing height and size of developments

. distinguishing between resident and non-resident space[1]

. reducing incompatible or conflicting uses of space[1]

. reducing differentiation between specific environments and neighbouring areas.

Because of their similar rationales, objectives and interdependencies, certain of these strategies will be discussed as a group.

Target Crimes

All the target crimes are considered susceptible to prevention by these strategies. Some claim that personal crimes, e.g. assaults, domestic disputes and so on, are particularly amenable to prevention using these strategies, but the evidence is uncertain regarding the validity of this view.

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[1] Both of these strategies have also been discussed earlier (in Section 5.5.ii) in terms of their being strategies for controlling access and escape.

i.
Clustering Dwelling Units and Decreasing Height and Size of Developments

Essentially these strategies are aimed at fostering territoriality, reducing the anonymity that exists in large, dense residential developments and increasing positive interaction among neighbours. It is argued that if physical design features encouraged or influenced residents to interact on a frequent and harmonious basis, they would get to know one another and build up social ties which form a protection against crime (see Figure 5.4 for an example of a low-rise cluster development). In addition, it is felt that smaller residential complexes result in residents having more control over the spaces around their buildings; residents are therefore more likely to feel responsible for that space, in comparison to the situation that exists in large, anonymous complexes where no one appears responsible or interested. Other benefits said to be associated with these strategies include improved recognition of neighbours and strangers, which increases the risk of detection for illegitimate intruders, and the fact that it is easier to maintain and manage smaller complexes. For example, although the initial construction costs of large buildings are generally less on a per unit basis than the costs of smaller buildings, it seems to be the experience, at least in the United States, that ongoing management and maintenance costs in smaller buildings are lower due to the facts that there are fewer semi-public spaces vulnerable to vandalism, and that repair to plumbing and electrical systems are less expensive.[1] It is also considered to be easier to create a homogeneous (in the sense of compatible) resident population in smaller complexes. Moreover, relatively closely-knit residents may feel greater motivation towards developing crime prevention self-help programs and other types of security measures. Perhaps as a consequence of all of the above, fear of crime is thought to be reduced in smaller complexes. Finally, clustering and reducing the height and size of developments is considered to be important in integrating the development into the surrounding neighbourhood (assuming the surrounding neighbourhood is not entirely composed of high-rise buildings) (see Figure 5.5) and thereby preventing the development from being perceived by criminals as a distinct target area and encouraging social cohesion on the community-wide level.

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[1] See for example, Newman (1980:6ð); this point was also made in an interview with Harvey Peck, City of Chicago Housing Authority, March 4, 1981. However, it is not clear whether a similar argument regarding relative maintenance costs applies in Canadian environments.
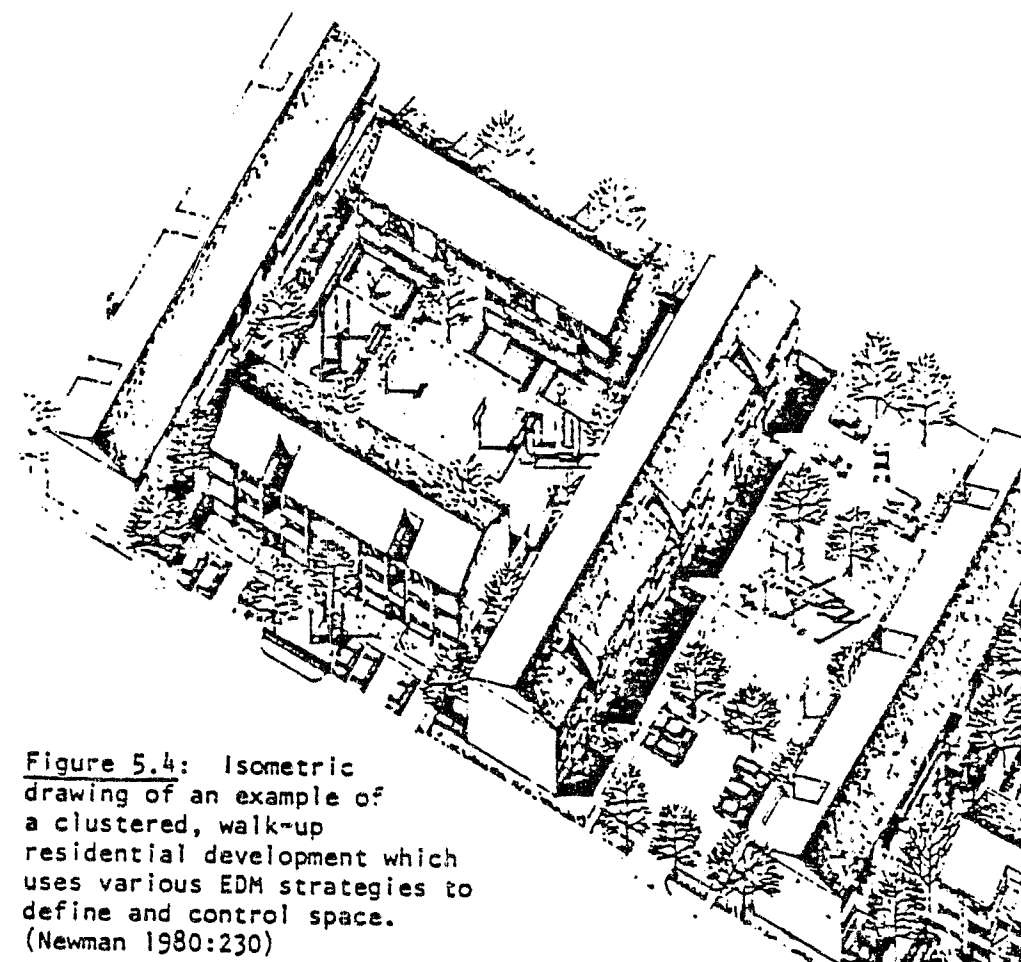
Figure 5.4: Isometric drawing of an example of a clustered, walk-up residential development which uses various EDM strategies to define and control space. (Newman 1980:230)

Assessment

Studies by Franck (1978), and Newman and Franck (1980) lend some support to these claims, but also produce some surprising findings. For example, Franck (cited in AIR 1980a:46-47) found that:

". The larger the number of apartments that form an identifiable group within the building, the stronger the sense of cohesion. There is a greater likelihood that a tenants' association will be formed and that tenants will work on problems together.

. The number of apartments per floor is negatively related to most aspects of 'community', including residents' use of space, attachment, and sense of cohesion.

. The number of apartments per floor is positively related to turnover rate, the perceived quality of maintenance, and perceived influence over management.

. The number of apartments per floor is not related to joint problem-solving, acquaintanceships, or level of kinship/friendship.

. The level of friendship/kinship has a significant positive effect on perceived safety, but

. the level of acquaintanceships has a significant negative effect on personal safety." (Emphasis in the original)

The design strategies regarding clustering and decreasing building height and size have been subjected to a number of criticisms. For example, it is argued that clustering could backfire and produce greater tensions or conflict among residents.[1] In view of this possibility, it is sometimes recommended that, in conjunction with this strategy, special screening of tenants be employed so that people with similar and compatible life-styles are grouped together (see next chapter, the section on 'Landlord Strategies'). In addition, clustering could cause inconvenience to servicemen (e.g. mail, garbage, etc.), impede service by the fire department, and be viewed as a nuisance by the tenants themselves. Similarly, reducing the height and size of buildings could increase rather than decrease tension among tenants -- i.e. anonymity has its advantages as well as disadvantages.

ii.   Distinguishing Between Resident and Non-resident Space and Reducing Conflicting Uses

The design strategy of distinguishing between resident and non-resident space is obviously related to some of the strategies discussed in the previous section which are intended to provide access and escape control. However, it is also proposed that clearly distinguishing resident and non-resident areas has an important role in fostering territoriality and social cohesion. Such distinctions are intended to identify the integrity of the residential unit, development or area for both outsiders and residents and thereby to strengthen the residents' sense of being in control of their area and make them more likely to intervene in the event of suspicious or illegal behaviour. This strategy is particularly important to the design of outdoor activity areas (e.g. play areas) which may attract non-residents who may be potentially troublesome if they do not perceive that those areas are under the control of residents.

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[1] For instance, although close or shared 'back yards' would increase the opportunities for friendly interchanges, they would also increase the opportunities for conflict. Obvious sources of such conflicts would include differing tastes in type and volume of music, and size, nature, and timing of parties.
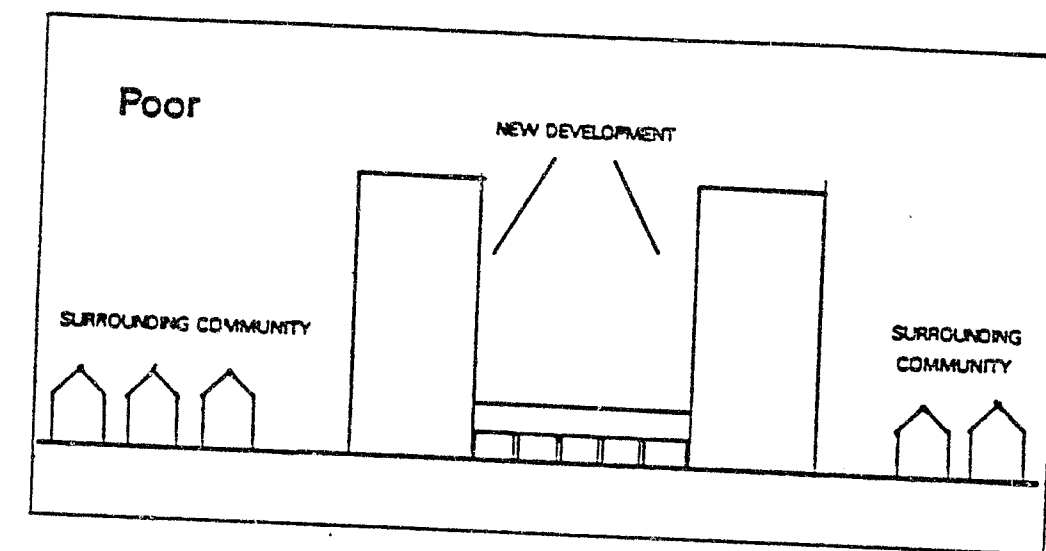
THE ARCHITECTURAL CHARACTER OF NEW DEVELOPMENTS SHOULD NOT DIFFER RADICALLY FROM THAT OF THE SURROUNDING COMMUNITY
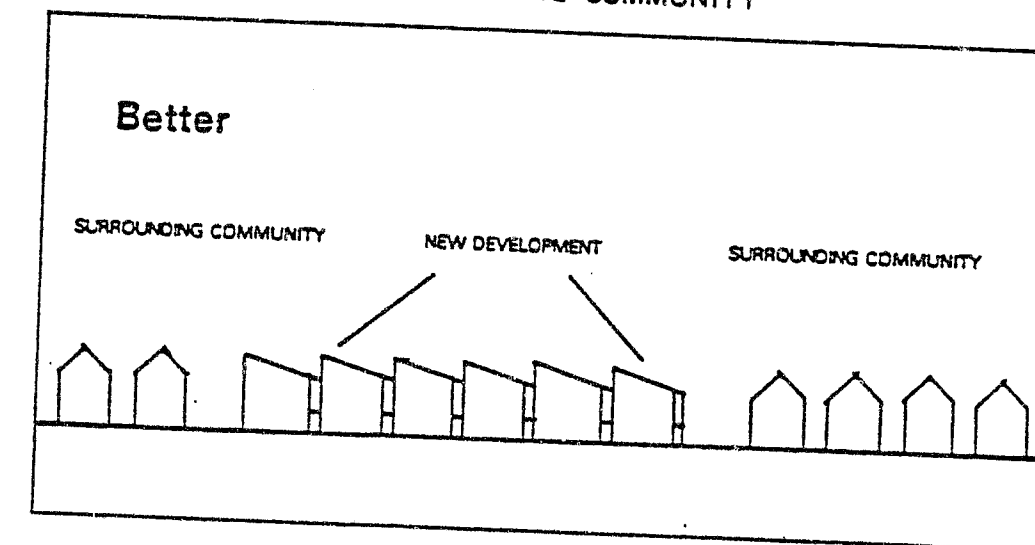
Figure 5.5:   Good and bad examples of integrating new residential developments into the surrounding community (Chicago, City of, Department of Planning 1979:24)

The design strategy of reducing incompatible or conflicting uses
of space is also of special concern in the design and location of
outdoor amenities and service areas. In this case, the primary
objective is to prevent conflicts among residents rather than between
residents and non-residents. For example, it is frequently noted
(see Brill 1979, Newman 1980) that such groups as toddlers, teenagers
and the elderly have varying needs with regard to recreational areas,
and design which is not sensitive to these disparities can produce
hostilities which disturb harmonious relations among residents,
thereby lessening the level of social cohesion in that environment.
Figure 5.6 provides one illustration of a residential development
which incorporates the above strategies and many of the other design
strategies discussed in this section (e.g. maximizing surveillance
opportunities, controlling circulation into and within the area,
etc.).

Assessment

As with many of the design strategies discussed so far, there is
very little empirical validation of the above strategies. However,
there is some evidence that there is a relationship between crime
and the extent to which residents feel in control of their environ-
ment. A study by Newman and Franck (1980) examined factors
influencing crime and instability in urban housing developments.
This study of burglary, personal crimes and fear of crime in 63 low-
and moderate-income housing sites (in three cities) used a number
of intervening variables to control for the relationship between
the incidence of these crimes and the size of the buildings (among
other factors). Three of these intervening variables -- control
of space, use of space, and social interaction -- were found to
have a significant role with respect to burglary, personal crime
and fear.

Control of space refers to the perception of residents that their
neighbours would intervene if suspicious or criminal behaviour
occurred outside their apartments. Use of space refers to the
nature and extent of use residents make of both private and shared
outdoor areas. Social interaction refers to the nature and extent
of social interactions with other tenants and the feelings of
'belonging'. It was found that accessibility was related to
burglary rates, low control of space was related to crime and fear
of crime, and building size was related to tenant interventions
(AIR 1980a:49). Other findings were unexpected (e.g. there was an
inverse relationship between assaults and building size) and the
AIR report claims they are an artifact of the methodology used by
Newman and Franck.[1] In any case, the state of the art regarding
the impact of these strategies is similar to that of other strategies.
There are some studies which document the relationship between
crime and the specific physical design 'faults', but few, if any,
which evaluate what effects improvements in these designs have had
on the incidence of crime.

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[1] See AIR (1980a:50-51) for further discussion of these points.
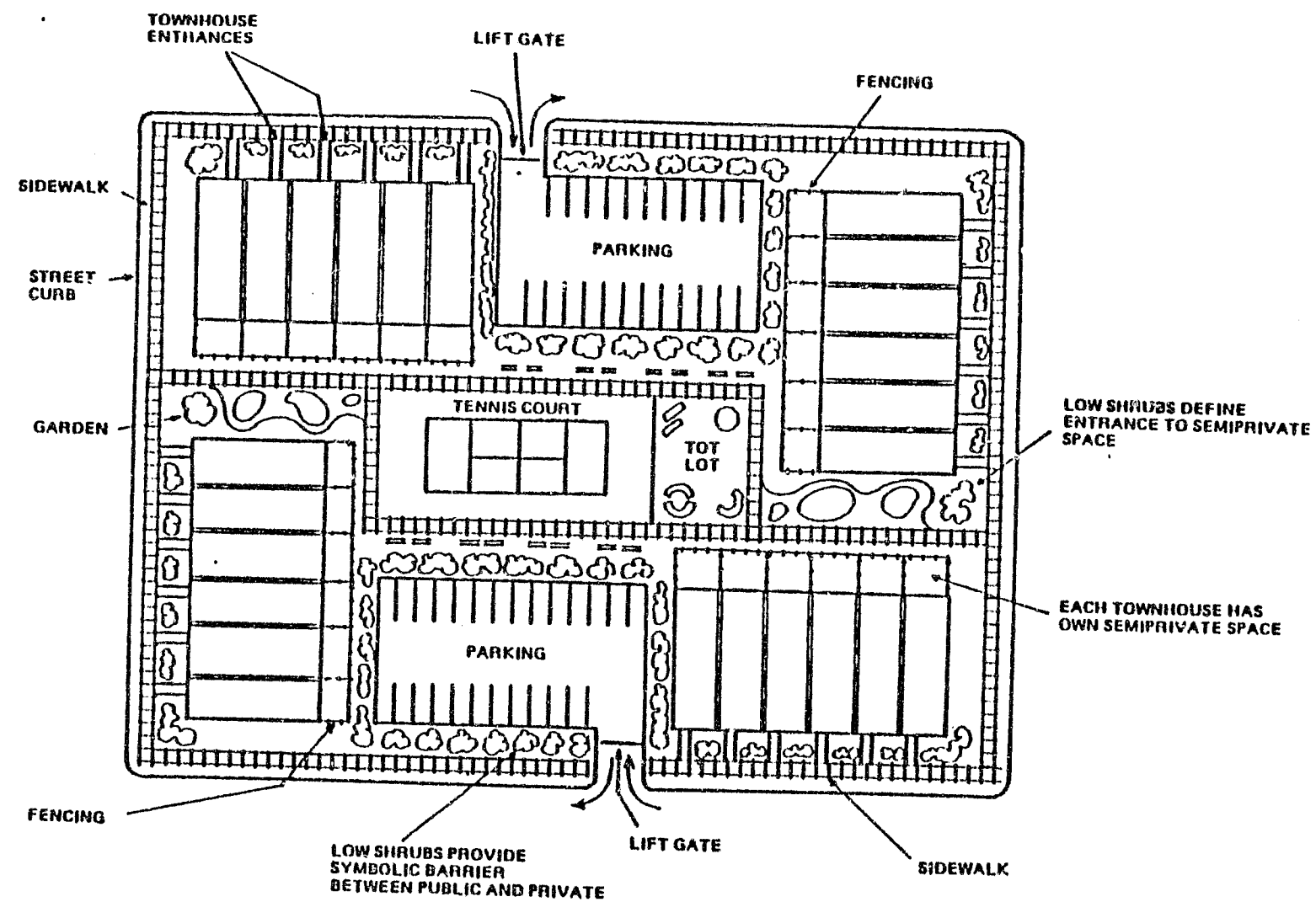
Figure 5.6: Site Plan Illustrating Activity Support
(Chicago, City of, Department of Planning 1979:32)

One particular concern regarding the strategy aimed at distinguish-
ing between resident and non-resident space is that over-emphasizing
this strategy can lead to conflicts with the next strategy to be
discussed, i.e. reducing differentiation between specific environments
and neighbouring areas. Finally, although design elements (e.g. fences
shrubs, etc.) can be added to existing environments where the
distinction of residents' space and user conflicts are a problem,
it is most likely that implementing these strategies would be easier
and less expensive if they were considered in the initial design
and construction of residential environments.

iii. Reducing Differentiation Between Specific and Neighbouring Environ-
ments
This last design strategy for fostering territoriality and social
cohesion reflects the increased emphasis being given to the crime
prevention value of community feeling which encompasses entire
neighbourhoods (as opposed to specific residential environments)
(see Lavrakas 1980). To encourage social cohesion among residents
of neighbourhoods, it is proposed that developments should be
designed so that they fit into the neighbourhood; this encourages
both residents of these developments and neighbouring residents to
feel that the neighbourhood as a whole has a certain integrity (and
is therefore their territory, under their control), and also prevents
potential criminals from perceiving these developments as distinct
targets, unsupported by the larger community. As illustrated in
Figure 5.5 previously, the architectural character of the develop-
ment will have an important impact on the extent to which a
development is integrated into the surrounding neighbourhood. Beyond
scale and style, however, design elements such as the site
organization and building orientations will significantly affect a
development's ability to fit in. Figures 5.7 and 5.8 following show,
respectively, examples of developments which are integrated into and
separated from the surrounding community.

Reducing differentiation between specific and neighbouring environ-
ments is considered particularly important when the specific
environment is public housing. It has been argued that if potentially
troublesome housing developments such as public housing projects
were designed and built so that they fit into neighbourhoods rather
than taking over neighbourhoods (as they often tend to do), then
the stigma and negative attributes commonly associated with these
projects would be dissipated and residents would have a more
positive residential environment with which they could identify and
take pride in. In our talks with Harvey Peck of the Chicago Housing
Authority (March 4, 1981), for example, we were informed that their
public housing projects used to be built where the greatest need
was (e.g. frequently slum areas populated by blacks). Now, the
Authority (and all other U.S. public housing authorities) is
required by Federal law to build its projects, on the basis of one
out of three, in higher-income neighbourhoods, using only three-
storey walk-up designs, with a view to integrating public housing
residents into the mainstream society.[1]

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[1] As is discussed in Chapter 10, this focus on integrating public
housing projects is also common to Canadian housing authorities.
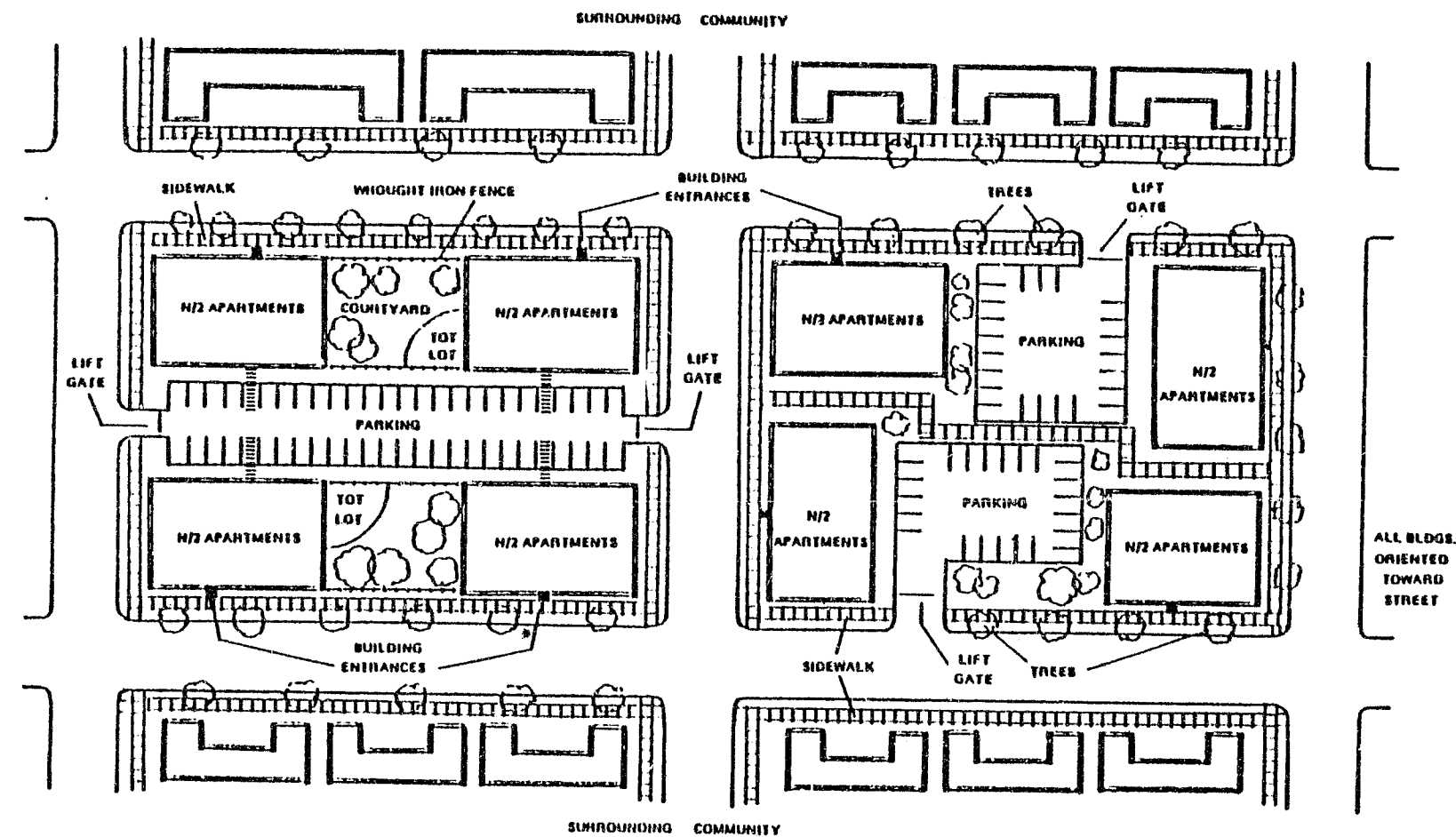
Figure 5.7: Development Integrated Into The Community
(Chicago, City of, Department of Planning 1979:29)
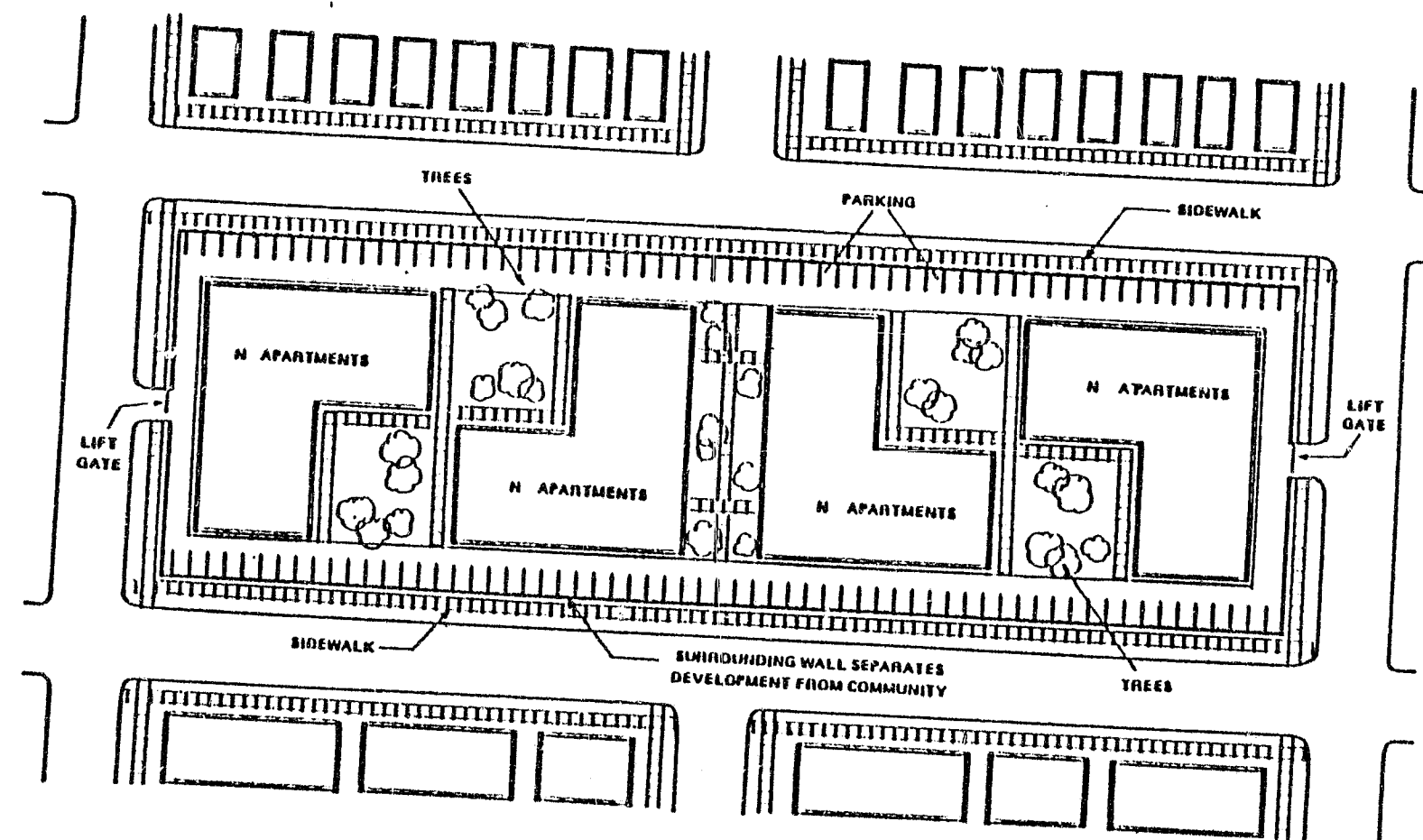
Figure 5.8: Development Separated From The Surrounding Community
(Chicago, City of, Department of Planning 1979:28)

Assessment

Despite the lack of formal evaluation of this strategy, the fact
that many public housing authorities now have development policies
which emphasize its importance, would appear to validate the
significance of this strategy in fostering territoriality and
social cohesion. As noted, however, design which reduces the extent
of differentiation between specific and neighbouring environments
must also be careful to distinguish between spaces intended for
use by residents of the specific environment and spaces which are
more public in nature.

Finally, although this strategy can be more easily implemented if
it is considered in the design of new developments, it should be
noted that the integration of existing environments into the
surrounding neighbourhood can be improved by changes to such elements
as the exterior wall finishes, fences and walls, and landscaping.

Overall Summary: Strategies for Fostering Territoriality and Social Cohesion

On a general level, there is some question as to whether physical modifi-
cations can have any significant impact on the social factors of territori-
ality and cohesion:

> "...many suggest that physical design is superficial
> and inconsequential, particularly with respect to
> creating viable communities (e.g. Becker 1974).[1] If
> social controls, so the argument goes, effectively
> promote conformity and socialization according to
> widely accepted norms and values then people can
> adapt successfully to varied environments. Conversely,
> if social controls are weak or breaking down physical
> redesign can do little."
>
> (Curtis & Kohn 1980:9)

Proponents of this position point to some of the most unlikely housing
developments in terms of design (e.g. Park Hill, Sheffield) and note that
despite the design flaws the residents exhibit high levels of social
cohesion and territorial interests. As we have suggested previously, it
is likely that territoriality has more to do with who the residents are
than with creating zones of influence. Similarly, social cohesion may
be more a function of residents' values and life-styles than of residential
design factors. The empirical evidence is, however, not yet in on this
matter, and both positions are therefore credible.

As with most of the design strategies discussed, there are the problems
surrounding implementation of the strategies which aim to foster territori-
ality and social cohesion. Retrofitting is expensive and could be
prohibitively so in many situations. Once again, if these strategies are
going to be taken into account, they should best be considered at the
initial design and planning stage.

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[1] Becker, F.D. (1974) "The effect of physical and social factors on
residents' sense of security in multifamily housing developments"
Journal of Architectural Research 4(1):18-24.

In summary, design strategies concerned with fostering social cohesion and territoriality represent perhaps the weakest link in the EDM battery of strategies. The emergence of these social responses appears to be so complex and so poorly understood that it is impossible to determine whether or not physical design factors have a bearing on these issues. On the other hand, it could be argued that there is nothing to lose by incorporating these considerations into new developments, providing that attention is also paid to potential conflicts with other design objectives and strategies (for example, regarding privacy, aesthetics, and fire safety).

5.7 SUMMARY

Taken as a group, the design strategies of the EDM approach appear to make sense, both in terms of their direct crime prevention objectives and their intent to improve the residential environment in ways that are hypothesized to reduce residents' vulnerability to crime (for example, by fostering territoriality and social cohesion). However, except in the case of the target-hardening strategies, there is little empirical evidence which categorically indicates that the design strategies will effectively prevent crime. Most of the arguments in favour of these strategies are based on comparative evidence, which suggests, for example, that communities with good social cohesion are less likely to be criminally victimized than those with poor cohesion. Given the complexity of the relationships between physical design and human behaviour, and the difficulty of measuring these relationships, efforts to evaluate various design strategies have only provided tentative conclusions regarding their likely effectiveness.

It is clear, however, that considering the incorporation of the design strategies to prevent crime during the early stages of the planning and design of a residential environment will greatly facilitate their implementation, both in terms of reducing the likely costs involved and in terms of reducing the likelihood of conflicts with other design objectives aimed at making that environment a secure and pleasant place to live.

One final point about the design strategies is that their potential effectiveness is greatly increased when they are supported by management strategies which encourage residents and other groups to be concerned with and involved in preventing crime. In effect, the extent to which surveillance opportunities are provided and access is controlled is almost irrelevant unless residents and others concerned with the safety of a residential environment are not motivated to act when they observe suspicious or potentially criminal activity. The next chapter discusses and assesses the management strategies which are aimed at developing that motivation.

Chapter 6

Management Strategies
of the EDM Approach

6.1 INTRODUCTION

In the term 'Environmental Design and Management (EDM)' approach to crime prevention, 'environment' clearly refers to both the physical and social environment. Indeed, many of the EDM 'design' strategies discussed in Chapter 5 attempt to alter the physical characteristics of an environment only as a means of altering the social and behavioural characteristics (of potential criminals, residents, and others). Further, theorists and practitioners in the EDM field now recognize that concomitant changes to the social characteristics of an environment are often a necessary condition for changes in the physical characteristics (through EDM design strategies) to have a preventive effect on crime. Although the reputations of the earlier versions of the EDM approach (e.g. "defensible space", "CPTED") were based on their attention to design strategies and the physical characteristics of an environment, many of today's proponents of EDM-related approaches would also argue the worth of strategies that are directed to 'managing' the environment in ways which facilitate crime prevention, i.e. strategies that attempt to prevent crime by altering the social and management characteristics of an environment directly.

Given the vast amount of literature available on crime prevention strategies that could be called 'Management Strategies', it is obvious that a fully comprehensive review of such strategies could not be undertaken here.[1] Instead, the following discussion of management strategies is selective, and focuses on those measures most commonly associated with the EDM literature and which appear to be most salient to the entire EDM approach.

The strategies discussed are presented in terms of the groups most likely to take the main responsibility for their initiation and/or implementation:

- resident strategies
- landlord strategies
- police strategies, and
- community strategies.[2]

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[1] In fact, given the number of factors that are believed to be associated with crime (some of which were identified in Chapter 2 earlier), a broad view of crime prevention would encompass nearly every strategy necessary to cure all the social and economic ills of society (e.g. unemployment, racism, drug and alcohol abuse, etc.).

[2] This list includes those key groups whose involvement is required for preventing crime through the ongoing management of the residential environment; other groups (such as architects, builders, planners, and various government agencies) are also important to the implementation of the EDM approach, but primarily with regard to the design strategies. Chapters 7 and 8 which follow, discuss the roles of these latter groups and the issues related to getting the relevant groups involved in implementing both design and management strategies.

6.2 RESIDENT MANAGEMENT STRATEGIES

According to one perspective, the actions that residents can undertake themselves constitute the most important and vital way of preventing crime. Just as Jane Jacobs (1961:31) claimed when she wrote that the public peace is kept primarily by "an intricate, almost unconscious network of volun- tary controls and standards among the people themselves, and enforced by the people themselves", it is argued that the grassroots control of crime is the only ultimately feasible and effective way to ensure security in residential neighbourhoods. Police cannot possibly provide sufficient 'coverage' to prevent crimes; and even the most securely designed environment is vulnerable to criminal victimization unless the people themselves are involved in the control of crime. This involvement entails, as we have pointed out earlier, two dimensions: the inculcation of anti- criminal values, motivation and behaviour; and the development of protective behaviour against crime (e.g. willingness to respond to suspicious or illegal behaviour and to look out for one's neighbours' welfare and property).

In addition, citizen responsibility for and participation in crime prevention is seen as an integral aspect of participatory democracy. As Curtis and Kohn (1980:20) have pointed out in their comments about anti- crime measures in public housing:

> "Past experience suggests that receiving 'help' from outsiders often perpetuates the sense of impotence and powerlessness that is a cause as well as a conse- quence of poverty. Independence is difficult when one person is constantly in the position of magnanimous donor and the other is in the position of perennial recipient."

Many of the management strategies discussed below are therefore aimed at preventing crime by fostering a stronger sense of citizen responsibility, a reduced sense of alienation and powerlessness, a heightened awareness of others with similar concerns, and a greater responsiveness to peer group pressures.

It should, however, be pointed out that although the following four types of strategies are grouped under the heading of 'resident strategies', some of the measures involved entail implementation or cooperation with a variety of agencies or municipal authorities (e.g. police, public or private sector landlords, social services etc.). The four types of Resident Strategies are as follows:

i.   Education Programs

ii.   Resident/Community Surveillance Programs

iii. Self-Help Programs

iv.   Resident or Tenant Associations.

These strategies are considered to be particularly important to the accomplishment of the EDM objective of improving the social organiza- tion of residents in order to reinforce their sense of community and their willingness to intervene in the event of suspicious or illegal behaviour.

i.   Education Programs

Many residential communities in Canada and the United States have organized educational programs and campaigns (e.g. newsletters, talks by experts) which inform citizens about crime risks and sensible precautions that can be taken (including design strategies such as target-hardening). Organizations such as service clubs, women's groups, schools, and church groups frequently invite guest speakers to talk to them about crime prevention programs and strategies. Sometimes relatively simple advice such as the importance of locking doors and windows can be 'brought home' to private citizens by informing them about the facts surrounding burglaries -- namely, that a large percentage of burglaries occur by burglars gaining entrance through open doors or windows (Harvey 1980:7).

Target Crimes
Education is considered valuable for preventing all the target crimes, with perhaps the exceptions of arson and murder.

Assessment
The advantages of education programs are that they acquaint the public with security risks and sensible precautions each individual may take to circumvent these risks. In addition, they may inspire further interest in crime prevention along the lines of collective community responses to crime. Either of these results may reduce the public's fear of crime as well as the incidence of crime.

However, it is sometimes speculated that education programs could backfire in that, rather than decreasing the fear of crime, they could have the unfortunate effect of increasing citizen feelings of vulnerability and produce greater fear of crime. The British experience with vandalism-prevention programs also indicates that education or public relations programs need to be subtly directed to changing public attitudes, and not just to increasing awareness, if they are to be effective in decreasing the incidence of the crime involved (Ward, C. 1973:245-253). In addition, it is sometimes claimed that informing the public about crime risks (particularly when the 'public' consists of youths) could result in educating would-be criminals about successful ways of committing crimes. Related to this issue is a lesson that has been learned by police departments. Police in Metropolitan Toronto, for example, no longer give out information about the amount or value of property stolen in crimes such as purse snatchings, robberies and so on, since they found that 'advertising' this information tended to result in a rash of similar crimes owing to would-be criminals' perceptions that these were profitable crimes.

The implementation of education programs can also be a problem since it requires the desire, energy, and time of some individual or group to organize the programs, the cooperation of police or other 'experts' to provide the information, and the willingness of the public to attend or otherwise pay attention to these programs. While the police in most municipalities are generally more than willing to provide educational services to the public, the public itself is commonly apathetic or lacks the wherewithal to overcome natural inertia.[1] The net result is that it is frequently difficult and time-consuming to organize and sustain interest in this kind of crime prevention strategy.

Summary
Education of residents is considered to be a necessary complement to all the other crime prevention strategies. Its actual role in crime prevention may, however, be minimal due to public inertia and associated implementation problems.

ii. ## Resident/Community Surveillance Programs
There are two kinds of resident and community surveillance strategies: proactive community patrols such as Teens on Patrol which is aimed at preventing vandalism (particularly to schools), and surveillance programs such as Neighbourhood Watch which simply requires that residents keep an eye on their neighbourhood in an organized manner (e.g. on the basis of assigned shifts).

In many situations, citizen patrols and block watch programs are seen as valuable adjuncts to or replacements for the kind of protection offered by police and/or private security personnel. Many communities have become involved in such programs in response to a local increase in crime and have chosen this approach because the residents cannot afford the services of private security agencies (or do not want these services) and/or because the residents do not consider public police protection to be adequate. In many communities where these types of programs have been instituted, there appears to be a strong motivation on the part of residents to control their own turf and protect their families, friends and homes.

Target Crimes
All target crimes are considered amenable to prevention by these programs.

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[1] See Chapter 10 for discussion of the Canadian experience regarding crime prevention education programs.

Assessment
Numerous positive arguments have been made for these programs. Compared to other formal types of patrol and surveillance strategies, they are inexpensive and they have the advantages that:

- residents' knowledge of their area and local 'trouble-makers' is frequently more extensive than that of police or other security personnel,

- residents are able to differentiate residents from strangers (an ability not always found among police or private security personnel),

- resident patrols are more difficult to detect than uniformed police patrols, for example, and can therefore capitalize on their 'invisibility', and

- they can monitor the semi-public and semi-private areas which are not normally patrolled by public police forces and which are prime locations for criminal activities (e.g. interior corridors, stairwells, elevators, lobbies and so on).

Other benefits include the fact that in the course of organizing and implementing these programs, community spirit and social cohesion can be fostered and the fear of crime diminished. It has been claimed that the presence of resident patrols has brought back services provided by delivery trucks, ice cream vendors, taxis, etc. which had previously refused to do business in the area.

A study by Yin and colleagues (1976) of over 200 resident patrols in 16 urban areas in the United States found that patrols were generally more successful in and around buildings than in more vaguely defined areas, i.e. when they focused on a specific and limited situation. The report by Curtis and Kohn (1980:25) notes that "....the prospect for success varies inversely with the size of the turf for which a group assumes responsibility. In this respect, the self-contained universe of a public housing development offers clear boundaries and a relatively homogeneous constituency." Finally, it is claimed that special police training is not required for this type of surveillance function and there is some indication that residents benefit from the increased awareness of crime prevention that is gained from serving on patrols (see Curtis and Kohn 1980:24).

Block watches (or, in the case of apartment buildings, floor watches) have many of the advantages cited above. Yin et al. (loc. cit.) report that watch programs have been especially effective against vandalism in some places, and often increase trust and communication between residents and police.

However, in spite of the many positive reports concerning resident surveillance programs, there have been some criticisms of this type of crime prevention strategy. With regard to patrols, it has been noted (see Curtis and Kohn 1980:25) that they may be short-lived, with residents at times losing interest (see also Conklin 1975:206-209), and they require the careful selection of members and careful monitoring of activities. In addition, the favoritism of one resident faction over another may produce tensions and hostilities. The Yin report comments that although patrol members occasionally took to harassing residents and exhibiting other negative behaviour (especially in periods of boredom), little evidence was found that contemporary patrols engage in much vigilante-like behaviour. While the American studies claim that patrols generally enjoy good support from police, it appears that some police departments view these kinds of patrols with greater skepticism and concern (see U.S. Department of Housing and Urban Development 1973a:51-52). The police fear that citizens may, in fact, engage in vigilante-like activities or simply take risks which they are not trained or authorized to take.

With regard to Block or neighbourhood Watch programs, Curtis and Kohn (1980:26) comment that;

"One limitation of such surveillance is that, for it to serve as a deterrent the offender must perceive that his risk of apprehension is relatively high. There is no unequivocal proof that this is so. Other limitations are that the strategy relies on residents reacting only to crimes that they are able to see; residents may lose interest or not be willing to report; surveillance is not always highly organized and therefore not always dependable; residents may open themselves to retribution by offenders; and resident surveillance often is not available during all hours -- especially at night, when it is critical."

Other conditions affecting the success of Block Watch programs are that they require a fairly stable resident population as well as a relatively high density -- i.e. "the value of the block watch is reduced in areas in which houses are isolated or set apart" (Wall et al. 1980a:31ff). It has also been found that Block Watch programs are more easily organized in single-family or duplex units than in high-density multi-family units (e.g. highrise apartments) (loc. cit.). Wall and his associates note further that although these programs should not exclude neighbourhoods with a heterogeneous population (in terms of age, race, sex, and socio-economic status), it has been found that homogeneous neighbourhoods are easier to organize due to a higher probability of uniform interests. They also observe that competition with other methods of crime control, such as expensive security devices used in high-income areas, may undermine the program's effectiveness and make residents reluctant to participate in neighbourhood organizing activities.

Summary

Resident surveillance programs appear to constitute an assortment of advantages and disadvantages. While it is recognized that they are no substitute for adequate police protection, in some cases they may be the only alternative to inadequate police protection (e.g. in some lower-income or public housing developments) (see U.S. Department of Housing and Urban Development 1973a:50-51). In many situations, especially in the United States, this type of strategy is seen by residents as a necessary crime control program and it would be difficult to persuade them against their use. With regard to Block Watch programs, Conklin (1975:209) has suggested that their value may lie in the increase in social cohesion they inspire rather than in their deterrence function (see also Wall et al. 1980) On the whole, Block Watch programs seem much less troublesome than resident patrols and while they may not contribute very greatly to crime prevention, they may have other social advantages which make them worth pursuing.

iii.   Self-Help Programs

There are two types of self-help programs aimed at crime prevention. The first type involves residents helping other residents through activities such as: escort services (e.g. escorting elderly or other vulnerable persons on their excursions to shops, banks, social events and so on), hot-line services to private security personnel, and apartment-watch programs in which neighbours promise to keep an eye on each others' apartments while their neighbours are away. The second type of self-help strategies involves restricting one's own behaviour in order to avoid exposure to riskier situations, for example, by not going out at night, by not walking in certain areas, and by not talking to strangers. A broad definition of this type of strategy would also include the buying of a gun or carrying some other kind of defensive weapon (Mace, darning needles, etc.).

The first type of strategy may increase surveillance, and both the first and second type may make it more difficult for potential criminals to 'get at' victims. In addition to these advantages, one of the most important benefits of this type of strategy is thought to be its reduction of fear of crime.

With respect to escort services, particular emphasis has been placed on getting male youths in lower-income or public housing developments involved in providing these services because a disproportionate amount of official crime is committed by this segment of the population in and around these types of areas. The theoretical perspective underlying this strategy is that youths' identity and allegiance can be shifted away from anti-social associates and values towards pro-social activities and associates by capitalizing upon their innate sense of community, e.g. their natural allegiance

to their own turf and their perhaps unconscious awareness of commonality among their neighbours. Through the leadership provided by a central leader or activator, plus voluntary participation, it is thought that youths' images of themselves may be turned around -- from under-class recipients of help to helpers, from takers to givers -- and in the process they may begin to contribute to the common good instead of exploiting it (see Curtis and Kohn 1980:27ff).

Target Crimes

These strategies are considered appropriate for the prevention of most of the target crimes, although their ability to prevent motor-vehicle theft, vandalism, trespass, arson and homicide is very limited (i.e. it is only the additional surveillance provided by escort services which might deter these crimes).

Assessment

Although, from a commonsense perspective, these strategies would be expected to have the advantages just noted, there is scant empirical research testing these expectations.

As with the other resident strategies, these kinds of programs may be difficult to organize and sustain. Also, they tend to be sporadic and scattered thereby leaving open the possibility of displacement. Some authors have argued that because escort services and apartment watch programs involve untrained civilians, they are vulnerable to abuse (e.g. over-aggressiveness or 'false alarms', etc.). Further, rather than reducing fear of crime they could increase it due to the implicit message that residents are living in 'enemy-occupied territory'.

Finally, regarding individual behaviour-restriction strategies, there is some argument whether these types of strategies should be considered at all for potential inclusion in an EDM crime prevention program, for certain environments, because of the following concerns. There are essentially two views regarding the behaviour-restriction responses to crime and their merits as crime prevention strategies. To the extent that they are individual-specific and tend to isolate the individual from his/her neighbours, they are considered to be dysfunctional to the community as a whole. That is, they atomize the neighbourhood by, in a sense, locking each resident into his/her own residence -- behaviour which may reflect (and certainly signals) fear and distrust of others. They also have the consequence of removing 'eyes on the street', thereby reducing the natural surveillance capability of a neighbourhood. On the other hand, these kinds of strategies may serve as a means whereby residents' sense of community is reinforced. For example, when a mother tells her child "Don't go there" or "Don't talk to so-and-so", she is, by specifying forbidden people and/or areas, defining what constitutes 'the community' for the child: "it is us and not them; it is here and not there". These 'avoidance' strategies are referred to as "ordering" devices by Lewis and Salem (1980:46-47) (see also Perigut 1979; Newman 1976; and Wilson and Burbridge 1978).

Whether or not avoidance strategies such as those described above serve to atomize neighbourhoods or build up a sense of neighbourhood varies from neighbourhood to neighbourhood. In those areas in which the neighbourhood is already in a serious state of decline or disintegration and where it is impossible to specify 'outsiders' or forbidden places because everyone is virtually an outsider and everywhere is dangerous territory, these kinds of responses to crime will probably contribute further to the neighbourhood's disintegration. This discussion of the function of avoidance strategies parallels the earlier discussion regarding social cohesion and the debate which surrounds the effect of crime upon the collectivity. In summary, some argue, à la Durkheim, that crime unites people in that they join in collective response to fight crime. Others argue, à la Conklin (1975), that crime fragments the collectivity because it initiates a vicious circle of fear, distrust, break-down of community bonds, therefore greater opportunity for crime, therefore more crime and more fear and so on. Podolefsky and DuBow (1980:211) argue that whether crime integrates or disintegrates depends upon the nature of the community and its ability to define outsiders as the perpetrators of crime and disrupters of the moral order.

Summary

Because self-help programs reside entirely within the limits of citizens' motivation and skills, they represent a largely uncertain aspect of crime prevention. Their frequency and quality are uncontrollable. Clearly, they have a better chance of success in areas which already exhibit a certain degree of solidarity among neighbours; in neighbourhoods which are experiencing decline and fragmentation they may be impossible to initiate and even dysfunctional.

iv. ## Resident or Tenant Associations

Resident or tenant associations serve a variety of functions which can contribute to the security of residential environments. First, they provide an opportunity for residents to get to know one another, form social bonds, form a joint proprietary concern for what goes on in their area, and join in concerted action against criminal victimization and other common ills. For example, some associations have undertaken clean-up activities and community home-improvement campaigns which tend to engender a sense of pride in their neighbourhood and thus contribute to residents' concern about what goes on in their environments. Second, they provide a forum for residents to air their fears about crime and their general living conditions and help establish a lobby with which to approach management (or other authority) about the security of their environment and its overall maintenance. In addition, resident associations may provide residents with a more formally recognized political voice whereby they may lobby city officials for better security. All of these functions are said to help to diminish residents' feelings of isolation and alienation and thereby promote stronger social cohesion.

They may also produce more tangible results such as the actual securing of more adequate crime protection from management or municipal authorities, and can be critical to implementation of the resident strategies previously discussed and other management strategies (for example, regarding the provision of recreation, facilities).

Curtis and Kohn (1980:22) point out that the rationale in support of tenant organization is consistent with two interrelated theoretical perspectives: "mass society" (Seeman 1972) and "civic culture" (Almond and Verba 1963)[1]. Basically, these theories argue that membership in community organization leads to a reduction of alienation:

" Such organizations are said to mediate between the individual and society, providing him with the social support and collective power necessary for the success- ful attainment of organizational and personal goals. Participants sense this power, identify with it, and thereby achieve a stronger sense of purpose, security, and self confidence. Once attained, such feelings are generalized to a greater sense of political efficacy and support for the political process."

(Curtis and Kohn Ibid.)

Resident associations may develop around a number of mandates or issues: they may be purely social; they may have the explicit aim of cleaning-up, repairing or 'beautifying' the area; or they may be formal tenants' associations having a largely political mandate.

Target Crimes

With the exception of arson and homicide, all target crimes are considered susceptible to prevention by means of efforts under- taken by resident or tenant associations -- either because of the specific activities they undertake (e.g. maintenance and repair, political lobbying around issues such as land-use, better police protection, etc.) or because of the social cohesion and community spirit they foster.

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[1]
Seeman, Melvin (1972) 'Alienation and engagement' in The Human Meaning of Social Change, A. Campbell and P.E. Converse (eds.), New York: Russell Sage Foundation; Almond, G. and Verba, S. (1963) The Civic Culture, Princeton, New Jersey: Princeton University Press.

Assessment

Curtis and Kohn (1980:23) discuss a couple of successful examples of resident associations which developed in American public housing projects. These organizations benefited from a series of Ford Foundation grants (totalling $500,000) which made it possible for the residents to undertake their activities. Most resident associations do not, however, have access to this type of support and although the potential of resident associations is considerable, they frequently suffer from a variety of set-backs. They are difficult to organize, requiring extensive time commitment and motivation on the part of residents. In some cases, they may run into active opposition from management. For example, in Canada and the United States, it is claimed that politically oriented tenants' associations are discouraged by public housing authorities (see Ontario, Standing Committee on the Administration of Justice 1981:39[1]; Perlgut 1979:20-21). Further, once organized and implemented they may bog down and eventually disband due to internal conflict and/or disillusionment (see Rouse and Rubenstein 1978:28-29). With respect to resident associations in American public housing projects, Curtis and Kohn (1980:23-24) comment that:

"Disillusionment with housing authority procedures or perceived lack of program efficacy due to implementation delays may increase dissatis- faction, cynicism, and feelings of powerlessness. It also is not clear from available studies whether participation per se fosters prosocial behavior. Most importantly, the literature shows that participation is not likely to reduce perceived alienation if residents initially feel alien- ated -- and housing projects are composed of traditionally disenfranchised populations. Only individuals who take an active role in decision making may feel less alienated. Other participants are likely to feel further alienated (Shingles, 1975; Regens and Hobson, 1978)."[2]

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[1]   cf Ibid., Dissenting Opinion "B":13

[2]   Shingles, R.D. (1975) "Community action and attitude change: a case of adult political socialization" Experimental Study of Politics 4 (December); 38-81; Regens, J.L. and Hobson, W.G. (1978) "Inmate self-government and attitude change: an assessment of participation effects" Evaluation Quarterly 2(3) (August): 455-479.

Summary
Resident or tenant associations are subject to all the usual implementation and organizational problems which surround any collective enterprise. When they work they may have very real benefits in terms of fostering social cohesion and actually securing improved protection against crime. On the other hand, failure or disillusionment could add to residents' feelings of vulnerability and/or further alienate a community.

Overall Summary: Resident Management Strategies

There is a growing body of opinion that the public must take a greater share of responsibility for the prevention of crime in their own neighbourhoods. However, from the foregoing it seems clear that in order for the public to contribute in a rational and effective way towards crime prevention, a great deal more public education and research on public reactions to crime and on the effectiveness of the different resident strategies, is needed. There are a number of theoretical and commonsense reasons for believing that resident strategies, when appropriately and successfully implemented, may afford residents a degree of security not otherwise available by other means (e.g. by relying on public authorities, police, management, etc.). However, those theoretical and commonsense arguments have not been properly tested empirically.

It is also obvious that the initiation and ongoing implementation of such programs will be fraught with difficulties. Public inertia, apathy or perhaps simply a lack of fear of crime because the 'crime problem' is not perceived to be very serious makes implementation of many of these strategies difficult to initiate and to sustain. In addition, resistance to these programs from police and housing management may also undermine their development and success. Finally, there is some evidence that, even when the public does become sufficiently mobilized to initiate some of these strategies, there is a strong likelihood that the strategies they choose to pursue are not the most appropriate given the crime problems they are experiencing (see Podolefsky and DuBow 1980:117ff).[1] Nonetheless, because of their compelling logic, resident strategies must at least be considered as potentially valuable components of a crime prevention program.

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[1] This point has been discussed above in relation to 'Fear of Crime' in Section 2.3.3.ii of Chapter 2.

6.3 LANDLORD MANAGEMENT STRATEGIES

The environmental approach to crime prevention suggests that, in many instances, the landlords (management) of multiple-housing developments could also take a more active and constructive role in ensuring that the security and general living conditions in their residential properties were more satisfactory.

Teitz (1975) has identified two major styles of landlord management. The first is one of rigorous and essentially external control, including careful screening of tenants, and enforcing prompt eviction for troublemakers and nonpayment of rent, charging tenants for their damage, limiting recreation and other amenities and utilizing an aggressive security patrol. It is claimed that these initiatives result in a quiet, well-maintained project with limited tenant responsibility and involvement. The second style of management reflects a conscious effort to create a sense of community: tenant organization, negotiations before eviction, and partial tenant responsibility for maintenance and other activities. This approach essentially relies on a system of internalized social control and may not produce as 'manageable' a project. Both styles are difficult and expensive to establish and to maintain. In most subsidized housing projects, management approaches are some combination of the two, depending on the individual styles and needs of managers and tenants (see Perlgut 1979:20).

Depending upon the type of housing involved, the management structure, the crime problem, and the types of residents, a variety of landlord management strategies have been proposed. The three major types to be discussed here include:

i.   Use of Private Security Personnel
ii.   Improved Building Image and Maintenance, and
iii. Improved Rental and Eviction Policies

i.   Private Security Personnel
      A number of writers have argued in favour of the use of private security personnel on the grounds that few, if any, public police departments can provide sufficient 'preventive patrolling': this costs too much and there are not enough funds or manpower available (see, for example, Gulinello 1973:17). More particularly, private security personnel can patrol semi-public and semi-private areas which public police forces may not (see Newman 1973c:21). Regular police patrols rarely go inside buildings, for example, and only if it is in response to a specific complaint or request for service.

      In addition, private security personnel are sometimes considered to be superior to citizen patrols and resident watch programs in that they can provide a 24-hour service; they are better trained to know what to respond to and how; and, they are expected to be more impartial than resident patrols, thereby avoiding the potential favoritism and conflicts among residents which can occur with resident patrols.

Target Crimes

The use of private security personnel is expected to be of value in preventing all of the target crimes, particularly when these occur in the semi-public areas of multiple-family buildings where police patrols are infrequent.

Assessment

Clearly, this portrayal of private security guards is an ideal depiction. Security guards may be hired on a round-the-clock basis, but they may not perform on such a basis. They may fall asleep, visit tenants and thus be 'off-duty', or they may simply fail to make their rounds or pay attention to their surveillance aids (e.g. CCTV's, etc.).[1]

In the argument for private security personnel over resident patrols, it is sometimes contended that civilians do not represent a very strong deterrence against crime because:

. they often interpret crimes as non-crimes,

. they are reluctant to intervene even if the event is 'unambiguously criminal',

. they often simply don't see crimes,

. for various reasons, including personal familiarity with the offenders, they may not call the police and

. witnesses are unreliable as identifiers of suspects.

(Harries 1980:103)

On the other hand, it is unfortunately true that many private security agencies do not provide any substantive training for their guards, with the result that their guards offer no guarantee of better intervention than does the average person. Many private security agencies point out that it is not worth their while to provide training for their guards because the turn-over rate is too high. Many guards are moonlighters or simply people looking for temporary, unskilled employment (Sagalyn 1973:59). Private security agencies generally do not attract dedicated and serious employees because their wages are too low and the agencies cannot afford to pay higher wages because the market is too competitive and their clients are not willing or cannot afford to have more expensive private security services.

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[1] For example, in our March 4, 1981 interview with Winston Moore, Security Manager for the Chicago Housing Authority, we were informed that one of the problems in the housing developments occupied by a high proportion of single-mothers was that they would invite the private security personnel into their apartments. It was also pointed out that the guards frequently do not watch their video screens -- 99.9% of the time the video aids are simply recording noneventful occurrences, inducing a soporific effect.

The reality of private security is therefore not always as favourable as it should be. Those who argue in favour of private security repeatedly point out that training is essential. Not only should guards be trained in terms of proper responses to criminal or suspicious behaviour (e.g. some basic police training), but they should also receive some sort of education regarding the nature and cultural norms of the residents of the buildings they service. They should be sensitive to their needs, capable of communicating with the residents and developing their trust (see Rouse and Rubenstein 1978:32). Similarly the cooperation and support of the residents themselves should be secured before instituting private security services (Leeds 1977:145). Furthermore, guards should be accountable to the residents and management and should not come to view themselves as a quasi-police force (see Newman 1973c:21-22). Many authors argue that they should not be armed but should see their role primarily in terms of surveillance (see Sagalyn 1973:59-61). Unless these conditions are met, it is feared that private security personnel will, in effect, prove to be a disruptive force rather than a protecting agency. They may be perceived as 'outsiders' and treated as such, which will undermine their effectiveness and potentially contribute to the disintegration of a housing complex.

Lastly, it has been pointed out that the effectiveness of private security personnel is greatly hampered in buildings which have poor surveillance and access control. Guards patrolling buildings with many entrances and exits, with long, dark labyrinthine corridors or underground garages may simply not be able to offer much in the way of improved surveillance and security (see, for example, Leeds 1977:145, and Sagalyn 1973:67).

Summary

In sum, private security may not be cost-effective, particularly in low-income, poorly designed, criminally-victimized housing developments. They appear to be most effective in those residential complexes which can afford to pay for quality service and which have been designed with a view to controlling access and improving surveillance.

Given the foregoing weaknesses and potential disadvantages of private security services, it is sometimes proposed that a compromise scheme should be used: private security should work in conjunction with resident patrols and block watch programs. This would reduce costs and, at the same time, benefit from residents' familiarity with and concern about their environment. Using similar reasoning, Newman (1973b:54-55) suggests that discrimination in the use of security doormen should be made between low-income and middle-income housing. Where the use of a security doorman is possible on a 24-hour, year-round basis, the buildings should be designed to have as many residential units as possible sharing the entry controlled by the doorman. Where the use of a doorman is not possible due to prohibitive costs, buildings should be designed to have as few units as possible share a common entry so that the natural protective mechanisms stemming from neighbours' recognition of one another may reach their full potential. Unfortunately, evaluations of either type of scheme are not available.

ii. Improved Building Image and Maintenance

It seems to be an inevitable fact of life that abuse, breakage and vandalism of property attracts more abuse, breakage and vandalism. An essential strategy against vandalism is therefore the immediate repair of broken or vandalized property. Unfortunately, either due to indifference or lack of money or because they are waiting for action by their insurance agents, the management of many residential properties are reluctant or slow to undertake such repairs, with the result that these places follow a rapidly downward spiral towards disrepair and shoddiness. Ironically, this results in greater maintenance and repair costs than if the damaged property were immediately repaired in the first place.

However, poor maintenance is only one element contributing to the general image of an area or development. It is generally not difficult to recognize public housing developments: a combination of drab, institutional-like design, groupings of similar structures in one concentrated area, a lack of aesthetic features such as balconies and high-quality materials (e.g. expensive brick, precast concrete, or stone facing), and extensive use (in some jurisdictions) of chain-link fencing, all clearly ear-mark public housing. While recognizing that public housing is not cheaply built housing (Newman 1972:104-105, for example, points out that the cost per square foot of public housing in the United States at times equals the cost per square foot of luxury highrise housing), it seems nevertheless true that public housing bears a visual stigma which, in and of itself, is felt to be detrimental to the proprietary interests of residents and an impediment to the development of pride and concern about one's own turf. When this is coupled with poorly maintained buildings and grounds, the scope for resident shame, feelings of neglect, and ultimately, indifference to their surroundings is greatly multiplied.[1] Residents feel defeated by their surroundings: "Their physical world is telling them they are inferior and bad just as effectively as do their human interactions" (Rainwater in Newman 1972:108).

Finally, there is also some evidence that incivilities (garbage, vandalism, broken fixtures and equipment, graffitti, etc.) are principal contributors to the fear of crime. (See the discussion above on 'Fear of Crime', Section 2.3.3.ii in Chapter 2.)[2]

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[1] Most importantly in terms of crime prevention, these feelings of indifference are often visibly manifest as cues to potential offenders from both inside and outside the area. (On the other hand, the more professional criminals might take these same cues to mean that there is little of value to steal in such environments. Whether these smaller 'pickings' might balance off the lower risks is unknown.)

[2] See also the case studies presented by Evans and Engstad (1979:12-13) regarding the effect of building maintenance on calls for police service.

Target Crimes

Improved building image and maintenance is most directly aimed at preventing vandalism; however, for the reasons noted above it is also expected to have an impact on the incidence of all the other target crimes except perhaps homicide, assault, and rape.

Assessment

A number of specific strategies have been proposed and implemented in order to improve maintenance and image. In some cases, it may be possible for management to undertake improvements to the maintenance and appearance of a project in conjunction with residents. For example, some projects have provided tenants with a project centre for the loan of repair and cleaning equipment. In other public housing projects, residents have organized plant growing contests (New York Housing Authority), window box programs (Philadelphia), spring clean-up campaigns, Christmas Doorway Decoration contests (Norfolk, Virginia), and student garden contests (Chicago) (see Lewis 1974). It is reported that these programs not only improved the appearance of these developments, but also increased positive interaction among residents, their pride in their surroundings, and were associated with reductions in vandalism. Municipal authorities could also contribute to proper upkeep by equitably enforcing work orders.

In some instances, residents would also be willing to pay a little bit extra per year so that a full-time building superintendent could be employed. Along these lines, Newman (1973c:23) has suggested that a concierge should be hired instead of a building superintendent. The advantages of a concierge are that because the concierge lives in the building(s) (which is not always the case with building superintendents), (s)he knows who the 'troublemakers' and where the trouble areas are. Further, the concierge can be given an area to be responsible for rather than a number of hours of work (9 to 5) to put in, and if (s)he could keep that area clean and vandal-free, (s)he would not have to account for her/his hours. Newman also asks why public housing authorities, for example, should pay fortunes on maintenance persons who do not live in the housing development and do not care about it when they could be hiring tenants as concierges and doormen.[1] He suggests that they could provide these tenant employees with incentives -- e.g. they could start off as a concierge or a guard and then become project managers or members of management staff.

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[1] However, as indicated in our visit to the Anti-Crime Project in Toledo, Ohio where some residents were getting employment training and income by doing maintenance and security work, there can be problems with the relevant labour unions who perceive such activity as an infringement on their domain.

Summary

Improved building image and maintenance would appear to make good sense from the overall viewpoint of improving the physical environment in which people live, even if its connection to crime prevention is not always clear. When people can take pride in their surroundings they are more likely to treat those surroundings well and communicate their pride and sense of territoriality to outsiders. Unfortunately, agencies or individuals responsible for building management do not always have the interest or patience to implement this strategy or to encourage residents to cooperate in its implementation. One of the major problems associated with this strategy is therefore the difficulty of convincing building management that, in the long term, it is more efficient and cost-effective to make sustained efforts to improve building image and maintenance than to let a building continue on the downward spiral of deterioration (and increased crime) or to institute more rigid controls of residents (e.g. by hiring security personnel) which may cause a negative reaction among residents.

iii. ## Improved Rental and Eviction Policies

The strategies suggested in this area address two distinct but related problems. On the one hand, there is the problem of getting rid of 'troublemakers' in a way that is seen to be fair and un-biased. There are a variety of very sensitive issues surrounding the eviction of tenants: grounds of eviction, veracity of complaints about tenants, proof, lengths and costs of legal proceedings, and so on. Landlords or management are usually severely constrained by law with respect to their grounds for evicting tenants and, by and large, these constraints are seen to be in the best interests of the public. Nevertheless, eviction is sometimes necessary and it is suggested that eviction proceedings would be perceived to be more equitable if tenants were clearly informed at the time of their taking up occupancy of the criteria for eviction. The aim is to ensure that tenants are aware of expected standards of behaviour and to minimize allegations of unfairness in the event of eviction proceedings. These suggestions apply particularly to public housing developments. It is not uncommon for tenants to object to complaints about them from other tenants on the grounds that these tenants are lying or hold a grudge against them. Frequently, it is very difficult for management to uncover the truth concerning tenant complaints about other tenants.

Another suggestion which has been put forward to ease this source of conflict, and to contribute to the perceived fairness of potential eviction proceedings, is to have public housing project residents elect representatives who are responsible for monitoring and reporting problems within their buildings and who can thereby get to know who the real 'troublemakers' are, if any (see Rouse and Rubenstein 1978:28). It is thought that, if these representatives were residents of the building and elected by fellow tenants, their reports would be more likely to be perceived as fair and unbiased -- that they stand a better chance of having the respect and support of their

fellow tenants. In addition, they could be in a better position to mediate disputes among tenants and thus avoid the involvement of management which is frequently unwelcomed by tenants (see Rosenthal 1975).

Rental policies represent the 'other side of the coin' in the sense that many future problems can be avoided by initial screening criteria for the rental of housing units. Suggestions about rental guidelines range from the proposal that the back-grounds of all tenants should be thoroughly checked, to the more radical proposal that tenants should be screened in terms of their lifestyles, age, family, structure, ethnicity and so on, with a view to grouping similar types of tenants in the same building or complex. Newman (1976, 1980) was one of the first to put forth this suggestion and based this policy on the grounds that it would help promote social cohesion and avoid hostilities among residents. Thus, for example, senior citizens would not be expected to share the same territory with families with teenagers[1]; Pakistanis would not be mixed in with West Indians, and so on. The aim here is not to create an apartheid situation, with all its attendant negative ramifications, but to group compatible types of people together. The benefits that the old derive from living near the young (and vice-versa), and that people (particularly children) derive from being exposed to people of divergent back-grounds and cultures could still be reaped if these different groups of people were housed in close proximity to each other (sharing the same neighbourhood, parks, schools, etc.). Thus, for example, seniors would not live in the same buildings as families with children, harrassed by noise and youthful boisterousness, competing for recreational space and so on. The goal is to preserve the integrity of each group's living situation while at the same time allowing for uncoerced and therefore perhaps more harmonious interaction among people.

Target Crimes

The strategy of improving rental and eviction policies is not directly aimed at preventing any particular target crime or group of target crimes. Rather, it is expected that sensitive implementation of this strategy will weed out potential offenders and will generate a more cohesive social environment where frictions among residents are reduced and where they are therefore more likely to act on their neighbours' behalf in the event they witness possible illegal behaviour, whether it is vandalism, burglary or assault.

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[1] Statistics indicate, for example, that the elderly are victimized more often in settings where there are youths present (Rouse and Rubenstein 1978:43).

Assessment

Clearly, the logistical and political problems pertaining to implementing improved rental and eviction policies could be enormous. On the other hand, a certain degree of this sort of thing is already happening and there may be realistic ways of promoting this kind of strategy without leaving it largely to accident and without violating civil liberties and any integration objective. For example, many public housing authorities in Canada and the United States now have policies aimed at providing separate accommodation for families and seniors and avoiding housing families in highrise buildings (unfortunately, however, since few of these housing authorities are undertaking any new construction, families often must continue to be accommodated in the existing highrise housing stock). The implementation of such policies in private sector housing is clearly more problematic, particularly in those areas where there is a low vacancy rate and where limitations on who could be housed where would exacerbate the problem of finding adequate accommodation.

We know of no proper empirical evaluation of the effectiveness of these types of strategies. However, of relevance would be the experience of the Lucas Metropolitan Housing Authority which administers the Toledo, Ohio, housing project, which is a participant in the U.S. Urban Initiatives Anti-Crime Program. One of the program areas of the Anti-Crime Program (discussed in section 3.3 in Chapter 3) allowed the housing authority to obtain funds to improve its management in ways that related to crime prevention. An important element in improving the authority's management, particularly with regard to establishing unbiased rental and eviction procedures, was the installation of a computer system. The authority has found that the computer system is very useful in a number of ways: it eliminates personal biases in rental procedures (both housing project managers and potential tenants must follow the computer's priority listing of vacancies/applicants and must justify refusals); it assists the authority in its implementation of tighter screening procedures (e.g. to develop balanced income mixes and to avoid problem tenants); and, it assists in eviction procedures by providing detailed tenant histories. It is important to note that the current tenants of public housing projects in Toledo and the area are involved in defining the screening and eviction procedures of the authority, and that the computer system is only one, albeit important, element in the authority's efforts to develop a stronger management image, both internally vis-à-vis tenants and externally vis-à-vis the local community. Because of its increasingly firm image with regard to the enforcement of clear rental and eviction policies, the authority believes that the tenants have a greater sense of stability and security (in that they know they are all treated equally and that troublemakers can be evicted quickly) and that the local community has more respect for the public housing authority as a responsible agency.[1]

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[1] Comments made in the February 2, 1981 interview with Mr. Zirl Smith, Deputy Director of the Lucas Metropolitan Housing Authority.

Summary

Instituting improved rental and eviction policies to avoid housing tenants with conflicting needs together or to prevent problem tenants from remaining indefinitely has obvious problems for both public and private sector landlords (although the latter often are able to implement such policies, particularly in accepting rental applicants, in an indirect manner; for example, by setting a deposit requirement, the landlord is automatically eliminating many 'less desirable' tenants). However, where there is a sufficiently serious crime problem related to the existence of problem tenants, there is a good argument for implementing this policy in order both to alleviate the crime problem and to reduce the fear of crime felt by other tenants, and to thereby develop a greater sense of social cohesion among the 'desirable' tenants.

6.4 POLICE MANAGEMENT STRATEGIES

It was noted earlier that this study has not attempted to identify and evaluate all possible methods of crime prevention. Instead, our selective approach has focused on strategies which attempt to modify the physical or social characteristics of the environment, and more specifically, on strategies associated with the EDM approach to crime prevention. This section does not, therefore, provide an extensive description of many of the crime prevention strategies traditionally employed by police departments. For example, no mention is made of the various techniques of preventive patrol (fixed posts or beats, random patrol, split deployment, saturation patrol, etc.). In our view, many of these strategies take the physical and social environment as given, and simply attempt to apply the most appropriate preventative technique available, given the policies, resources, etc. of the police agency involved. This being the case, those strategies do not fall within the mandate of the current study.

However, the exclusion of many police crime prevention techniques from this report in no way is meant to imply that we believe the police do not have a role to play in EDM crime prevention efforts. Quite the contrary, for reasons to be discussed in subsequent chapters, we feel the police will, and must, play a central and critical role in EDM efforts.

This section discusses five police strategies closely associated with the EDM approach, including:

    i.   Police Consultation and Liaison with Planning and Housing Authorities and Other Relevant Groups

    ii.   Police Public Relations Programs

    iii. Team or Neighbourhood Policing

    iv. Security Surveys and Inspection Programs

    v.   Operation Identification

Most of these strategies are not expected to prevent the EDM target crimes directly but are rather intended to support other EDM strategies. For example, security surveys and Operation Identification are directed to encouraging residents to undertake target-hardening and other precautions to protect their property, and police consultation and liaison with planners are aimed at ensuring that the necessary design strategies to prevent crime are incorporated in new residential developments. Team or neighbourhood policing is the only police management strategy which is intended to prevent the target crimes directly. Because of the wide impact of these strategies (except for security surveys and Operation Identification, the police management strategies are directed to preventing all of the target crimes), and because of the lack of empirical verification of their impact, the following discussions concentrate on describing the strategies and do not follow the same organization (i.e. target crimes, assessment, summary) used in the descriptions of other groups of EDM strategies.

i.   Consultation and Liaison

Police consultation and liaison in all aspects of the EDM approach is a requirement of sufficient importance to also be discussed in the later chapter on Implementation Issues (Chapter 8). Consultation and liaison actions undertaken by the police would include involvement with the wide range of groups potentially involved in EDM programs: for example, residents, builders, architects, developers, city planners, municipal, provincial and federal housing authorities, and provincial and federal criminal justice departments.

Police consultation and liaison is not really a strategy in the same sense as the other strategies discussed in this report. Instead, it should be seen as a condition which would greatly facilitate the rational and informed implementation of any of the other EDM strategies.

The arguments in favour of involving police in consultation with municipal planning and housing authorities are that it would allow these authorities to benefit from police experience and expertise, foster better relations between police and other municipal agencies, and help ensure police assistance and cooperation in the other types of EDM strategies. At the present time, police are rarely called upon to offer this kind of advice and assistance and often lament the fact that they are always called in after-the-fact, once security has been breached.

The potential problems surrounding police consultation reside in the facts that it introduces another time and money-consuming level of negotiations, and requires adequate motivation on the part of both the police and other municipal authorities. It also assumes that police understanding of these crime prevention strategies and of the needs and priorities of other authorities is adequate for constructive discussions. Finally, it requires that the traditional police bias towards law enforcement and investigative work shift in the direction of greater attention to crime prevention. None of these potential problems are insurmountable but they do entail considerable preparation and administrative resources.

ii.   Public Relations Programs

Evidence for the need for better police/community relations is found in the fact that it is not uncommon for citizens to resist reporting crimes to police because of their perceptions of police indifference or incompetence (see Perlgut 1979), or because they fear retaliation from offenders from which the police or housing authority will not be able to protect them (see Gandy and Cooke 1979). In addition, ignorance, fear, or resentment about their potential roles in court as victims, witnesses and/or complainants frequently deters citizens from calling the police.

On the other hand, police sometimes provide inadequate service to areas either because of resource constraints or due to their fear, distrust, or indifference regarding the residents of these areas (Curtis and Kohn 1980:21). What is needed, it is argued, is better public relations between the community and the police so that each group might explain itself and its needs to the other and attempt to work out misunderstandings and problems. Although many police forces are involved in such public relations programs, it is impossible to evaluate their effectiveness because, in essence, it is impossible to determine how severe the crime problem might be if these programs did not exist. With regard to the value of such programs in the EDM approach to crime prevention, it is believed that, unless the police and other groups understand their separate and independent roles, strengths and limitations, the relative effectiveness of any other EDM strategies will be diminished significantly.

iii. Team or Neighbourhood Policing

Neighbourhood or Team Policing is a method of decentralized policing which attempts to build up greater interaction between citizens and local police officers, and to create a greater knowledge of a patrol area among the police officers responsible for that area. In this policing method, a team of officers is assigned to a specific area and is responsible for occurrences within it. These officers are expected to work as a unit in close contact with the community to prevent crime and maintain order. Team policing differs from the traditional centralized method of policing in that within the latter, when a beat officer comes upon a crime (s)he simply fills out an occurrence report and then turns the case over for investigation to a detective (if juveniles are involved it is turned over to the juvenile units) (Whisenand 1977). In contrast, in team policing, the beat officer would maintain responsibility for any investigative follow-up on the occurrence.[1]

It is argued that this type of policing would not only improve officers' knowledge of an area and thereby facilitate their ability to fulfill both their law enforcement and crime prevention responsibilities, but it would also improve police/citizen relations. Citizens commonly complain that they never hear again from the officer who takes down the initial information, and attribute this to police indifference or incompetence.

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[1] For an excellent description of Team Policing and how it differs from traditional forms of policing, see Heywood (1979).

The advantages of team or neighbourhood policing reside in the fact that it permits the police to become familiar with a neighbourhood and its residents which, in turn, can improve police performance and promote better relations between police and the public, and simultaneously increase officer job satisfaction (Albright and Siegel 1979:3). Difficulties with this form of policing entail the fact that there is frequently resistance to this idea from middle management of police and, sometimes, from the beat officers themselves (see Whisenand 1977:83-84 and Sawyer 1975). From the management perspective, team policing is problematic, particularly for large cities, because they cannot afford the manpower required. In addition, it has also been claimed that role definition for team police officers is uncertain (Whisenand loc. cit. and Sagalyn 1973:68-71). Although team policing has met with only partial success (Whisenand loc. cit.) where it has been put into effect, it has been noted that negative judgements on its success may be attributed to unrealistic expectations of its impact and/or to the fact that team policing might not answer the needs of particular jurisdictions (Albright and Siegel 1979:3).

iv. Security Surveys and Inspection Programs

Along similar lines, it is felt that the provision of police inspections and security surveys, and educational programs about crime risks and precautions would help not only reduce opportunities for crimes, but would also contribute to better relations between police and the public (see Sagalyn 1973:68-71).

Security surveys and inspection programs are aimed at preventing property crimes. Many police forces supply victims of burglaries with a number they may call and a member of the police crime-prevention unit will visit their home or business and advise them about the security risks. When citizens do take advantage of this service, their response seems favourable. They are pleased to receive security advice from police rather than security merchandisers and salesmen because the police do not recommend specific merchandise or manufacturers, but merely describe types of products. The citizen does not feel pressured and has confidence in police impartiality.

However, an assessment of security surveys and inspection programs in the United States found that the problems associated with this strategy are similar to those pertaining to education programs: public apathy being a chief obstacle. In addition, although it is often pointed out that security improvements such as target-hardening are not very expensive, the public appears to be reluctant to improve their residential security because of the anticipated costs. Implementation and enforcement of improved residential security is therefore difficult. Also, many police departments do not have sufficient resources to implement the program throughout their jurisdictions and unless improvements in residential security occur on a fairly broad geographical basis, there is a likelihood

of displacement. DeVines (1973a:44), for example, reports that in
one study of residential inspections by police, it was found that
many people did, in fact, improve their security, but displacement
also occurred. Given the displacement problem, many authors have
argued that inspection programs should be supplemented by either
building code regulations or revised insurance practices or both
(these issues are discussed later in Chapter d).

v.   Operation Identification

Engraving personal and household items with personal identification
numbers (in more than one place) is viewed as an easy, inexpensive
and effective method of deterring many property crimes. Operation
Identification has the advantages of discouraging property crimes,
making it more difficult to dispose of stolen property, assisting in
criminal prosecutions, and facilitating the return of stolen property
to owners. A major problem with this strategy is, again, public
apathy. Heller et al. (1975), for example, report that only 10 out
of 65 projects examined by them showed an enrollment of more than
10% of the target area households.[1] In order to overcome public
apathy, considerable promotional and public education costs could
be incurred thereby diminishing the potential cost-effectiveness
of this strategy.

When citizens do participate in this program, their burglary rates
decrease (U.S. Department of Justice 1977:12), but there is also
some evidence of displacement (Heller et al. loc. cit.) The Heller
report also claimed that Operation Identification did not appear
to affect or reduce the opportunities to dispose of stolen property,
did not appear to appreciably increase either the recovery or return
of stolen property, and did not affect the apprehension or conviction
of burglars. They also noted that participants in the Operation
Identification program tended to employ additional security improve-
ments (e.g. target-hardening) with the result that it was not
possible to determine whether their decreased burglary rates were
due to Operation Identification or due to other strategies.

In summary, it is difficult to determine the benefits of this
strategy. While police generally endorse this strategy, empirical
studies have produced ambiguous findings.

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[1] An interesting anecdote emerged during our February 2, 1981 interview
with the Anti-Crime Program coordinators in Toledo, Ohio. They
claimed that the residents in their public housing development were
unwilling to use Operation Identification because many of their
household items were already stolen property.

6.5 COMMUNITY MANAGEMENT STRATEGIES

This last group of strategies directed to managing the environment
in ways that prevent crime are called 'communtiy management' strategies
because the key agents who would be involved in implementing these
strategies may vary, depending on the jurisdiction, but in general will
be representatives of the broader community in which a residential
environment is located. Although these 'community' agencies may be
from the private sector, they would more commonly be government agencies
-- municipal, regional, provincial or federal (or sometimes a combin-
ation of these).

The two types of strategies included in the community management category
are as follows:

i.   Improved Recreational Facilities and Programs,[1] and

ii. Improved Social Services and Crisis Intervention Services

i.   Improved Recreational Facilities and Programs

A common claim concerning the incidence of crimes which have a
high proportion of juvenile involvement is that they are a direct
result of juveniles having inadequate legitimate venues for their
particular energies and proclivities.

> "Social research is accumulating considerable
> evidence that a good deal of what we call
> juvenile delinquency may simply be the product
> of adventurous spirits placed in unadventurous
> surroundings."
>
> (Parr 1966:43)

This belief, buttressed by the proposal that problem juveniles
may lack the social skills and motivation necessary to fit into
a 'straight' environment, leads to the proposition that improved
recreational facilities and programs for juveniles would have a
beneficial effect on juvenile crime rates.

Generally, the argument in favour of these strategies entails the
view that these programs, apart from the contribution they may
make towards crime prevention, are of value to the community and
its juveniles and youths in their own right. They provide youths
and juveniles with valuable learning experiences (e.g. team sports,
cooperative play and work, etc.) as well as giving kids a chance
to have fun and use their leisure time in a relatively construct-
ive manner (see Blumin 1973:111).

It is felt that youth should be provided with programs and facili-
ties along three lines: (a) purely recreational facilities that
occupy juveniles' leisure time; (b) other programs such as skills-
training and employment programs, counselling and education programs,

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[1] This type of strategy could also be included in, and undertaken as part
of, the landlord management strategies.

and so on, which better prepare youths for employment, and (c) anti-crime programs which may entail the above two types of approaches and which, in addition, could involve youths in activities directly concerned with the control of crime, e.g. escort services, youth patrols and security check programs, etc. (see Locke 1969:74ff).[1] This section of the report focuses on the first type of program. (The second type is dealt with in the next section and the last type has been discussed in the previous section.)

It is clear that the need and viability of any one of these types of services will vary from neighbourhood to neighbourhood. The need for these kinds of programs seems particularly acute in lower-income areas, especially in some public housing developments having a high percentage of single-parent families and a high proportion of children, and is considered to contribute significantly to youth-related crime problems (Rouse and Rubenstein 1978:35, and National Advisory Commission on Criminal Justice Standards and Goals 1973:175-177). However, it should also be noted that the poorer neighbourhoods have the greatest need for these kinds of facilities and services in terms of proportion of juveniles and juvenile delinquency but are the most poorly provided for in this respect (see Blumin 1973:110-111).

Target Crimes

It is argued that if residential settings were adequately provided with these kinds of programs, crimes such as vandalism, auto theft, theft and burglary, would decrease (see National Advisory Commission on Criminal Justice Standards and Goals 1973:175). It is expected that other crimes to be affected would be those exhibiting a high proportion of juvenile involvement such as street robbery, trespass and, in marginal cases, arson.

Assessment

Once again, a review of the literature finds a number of theoretical and commonsense arguments in favour of this strategy, but few, if any, proper empirical evaluations of their actual effect.

This type of strategy has also been criticized on a number of grounds. First, one of the overwhelming problems associated with these kinds of strategies is developing programs which are of

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[1] See Rouse and Rubenstein (1978:35) for a review of the different kinds of programs.

interest to children and youths (see Rouse and Rubenstein 1978: 36-37). Commenting on gang delinquencies in the 1930's, Thrasher (1936:494) wrote:

> "The common assumption that the problem of delinquency will be solved by the multiplication of playgrounds and social centers in gang areas is entirely erroneous. The physical lay out of gangland provides a realm of adventure with which no playground can compete. The real problem is one of developing in these areas or introducing into them leaders who can organize play of boys, direct it into wholesome channels and give it social significance. Ganging is merely one symptom of deepening community disorganization."

The fact that gang activity is still attractive to youths makes the salience of Thrasher's view as important today as it was forty years ago. Apart from gangs, the fun that youths and juveniles in general obtain from their own activities is often far greater than what they think they can obtain from community centres, youth clubs, sports, and so on. It is also noted that many juvenile programs and services which are provided are available during only limited hours of the day and week, thus allowing for many periods of time in which youths must amuse or occupy themselves according to their own whims and proclivities, using whatever comes to hand. Wilson (1977:797-798) has commented:

> "Regard merely for the design of buildings.... is not adequate on its own. Nor does the provision of play facilities which are sadly inadequate on most estates, on its own, discourage children from playing and causing damage elsewhere. The Design Bulletin on children's play points out that only a fifth of a child's time is spent in playgrounds, therefore estates should be designed with the other four-fifths of the child's time in mind."

Curtis and Kohn (1980:18) report that improved facilities may even have adverse effects:

> "One ironic finding of communities with expanded and upgraded outdoor elements is that vandalism and personal injuries increase (Kohn, Franck and Fox, 1975). While this may seem contradictory, the increase should be expected -- given the larger absolute number of environmental props that might be damaged, and with the high percentage of children, the results of normal exploratory behavior." sic [1]

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[1] Kohn, I.R., K. Franck and A.S. Fox (1975) 'Defensible space modifications in row house communities' Research Report to the National Science Foundation, Institute for Community Design Analysis, New York

In some instances, this vandalism may reflect an even stronger motivation. For example, among alienated sections of the population (e.g. those found in some public housing developments) certain properties and recreational equipment may be vandalized due to the fact that they are targets of resentment.

The British experience with providing recreational facilities and programs to decrease crime, particularly vandalism, suggests that the implementation of this EDM strategy must be carefully thought out and developed in consultation with residents (whose perceptions of what they need may vary drastically from the ideas of the community agency involved). For example, an urban farm developed at one housing estate was successful in deterring vandalism because it gave youths something to do that they felt was interesting and was theirs:

> "On the farm responsibility is deliberately delegated to self-managing groups; the organisers also emphasized the practicality and stimulation to the imagination that the farm provides as contributions to its success."
> (The Design Council 1979:28)

The British have also found that a particular problem with providing appropriate recreational facilities and programs derives from the fact that responsibility for these is often divided among many different authorities. In one documented case they have had success in resolving this problem by having the police crime prevention support unit act as the coordinative agency (The Design Council 1979:28). Overall, the British experience regarding this strategy is best summarized in the following statement:

> "The contribution that leisure facilities can make to the prevention of vandalism is not simply as a diversion, a way of reducing boredom; it has been found in any case that play spaces are of little use in helping to reduce vandalism if they co-exist with equally diverting areas to play in, such as underground garages and lifts. Their contribution lies rather in the attitudes of care, of self-importance, and of being depended upon which they can foster if organized in the right way. Projects which have had some success in reducing vandalism seem to be those with a creative element and which give a sense of possession and purpose to those taking part."
> (Ibid.) (Emphasis added).

Summary
There are both advantages and disadvantages related to the provision of programs and facilities aimed at channeling youthful energies into more constructive modes of behaviour. Most communities view these programs as necessary -- not simply because of their impact on delinquency, but because they are considered to be essential to the favourable development of children and teenagers. However, they must be implemented in a way that is sensitive to the needs and resources of the community; otherwise they may become an ongoing drain on scarce resources and may not be of any real use or benefit to the population to which they are directed.

ii. Improved Social Services and Crisis Intervention Services

Closely related to the previous type of strategies (i.e. improved recreational services) are strategies to improve social services and crisis intervention programs in criminally-victimized areas. These latter types of programs are advocated, first, on the belief that the 'causes' of crime are deeply rooted in the social, psychological and economic problems faced by individuals and by communities at large. Second, it is felt that, in the low-income densely populated areas most commonly associated with high crime rates, it is not density per se that causes crime, but rather the fact that in dense, high-crime areas, the social services available to ameliorate these problems are relatively scarce on a per resident basis.[1] Third, the resulting more intense competition for social services might further undermine the social cohesion of a neighbourhood, and further alienate its residents and contribute to their feelings of neglect. Fourth, as Brill (1979d:11) argues, "low-income households live on the edge of crises" and since they often do not have access to the social services which could alleviate their problems, the resulting stress can be destructive in terms of both militating against constructive behaviour and generating criminal responses (e.g. when an income cheque does not arrive on time and the household does not know of, or have access to some source of short-term assistance, the only recourse may be to resort to illegal means of obtaining the necessary funds to pay the rent or buy the groceries).

Increasing the availability and responsiveness of social and technical skills-training and crises intervention and assistance services, is thought to have a role in preventing crime in several ways. First, services focused on the specific problem of drug and alcohol abuse can directly affect crime since, as noted by Brill (1979d:10) it is commonly accepted that "high levels of abuse strain interpersonal relationships and frequently result in destructive and violent behavior", not to mention the commission of theft,

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[1] It has also been argued earlier that, because of their relative lack of political importance, these low-income, dense, high-crime areas may also have relatively scarce social services on a per area basis as well (see Teitz 1975:5-6; Perlgut 1979:13-14).

burglary and other crimes in order to obtain funds to support an addiction. Second, it is proposed that such services would assist the recipients of such services to become better integrated into conventional society and would reduce their feelings of despair and neglect. This, in turn, it is argued, would help and motivate them to participate in and endorse society's anti-criminal norms, both in terms of themselves and their children, and would also increase the social cohesion of their environment. In addition, services which provide assistance in the realm of child-care as well as education and employment, may help the recipients to obtain and hold jobs not otherwise available to them and this may reduce their economic motivation towards crime. (Many of these services are obviously aimed at helping low-income single-mothers who, in many respects, are least able to cope for themselves and their children in contemporary society, and are considered to be particularly vulnerable to criminal victimization.)

Specific strategies in this group include: drug and alcohol treatment centres, education and employment services, battered wives services, rape crisis centres, daycare, baby-sitting services, nurseries, and English as a Second Language (ESL) training -- all services which are often greatly needed in criminally-victimized areas. Other programs which are not specifically provided by social services but which are aimed at filling in the gaps that exist in many neighbourhoods for the care and custody of children of working parents (such as Block Parents) could also be included in this group of strategies.

A number of proponents of the environmental design and management approach have suggested employing residents of public housing developments to perform maintenance and surveillance jobs or to act as social service aides (see Rouse and Rubenstein 1978:39). This is, in fact, one of the program areas of the U.S. Anti-Crime Program in which funds are provided to bring social service professionals into housing projects and to train selected residents in identifying social problems and to then refer residents with problems to the appropriate source of assistance. It is believed that this approach not only helps the residents who are so employed, but allows housing authorities to benefit from residents' familiarity and concern about their home environments.

Target Crimes
All the target crimes are considered to be indirectly affected by the provision of these services because they address some of the root causes and motivations behind criminal behaviour and because they increase the social cohesion of the residents.

Assessment
Once again, there are no rigorous evaluations determining whether or not the above benefits of such programs are in fact realized. There have been, however, some generally favourable experiences with such programs. One such experience is that reported by the Metropolitan Toronto Police Force concerning Block Parent programs. In those areas in Toronto which were saturated with this program and exhibited Block Parent signs in their windows, the burglary rate decreased. The police thought that perhaps the reason for this resided in the fact that these signs, in effect, told would-be burglars that this is a 'neighbourhood that cared; there are a bunch of nosy neighbours in this area', thereby discouraging them from attempting the housebreaks (see interview with Bob Copeland, Metropolitan Toronto Police Crime Prevention Unit, April 1, 1981).

On the other hand, these types of strategies do have disadvantages. One is that such programs and services are expensive. They are also not controlled by residents and it is often difficult to persuade government agencies, with their limited budgets, to provide adequate and suitable services. As well, residents themselves are often unwilling to use these services -- many feel they have already been overly 'social-worked' with few positive results. Finally, in some American public housing developments, the residents reported that given a choice between improved social services and improved security (e.g. improved access control and target-hardening), they would prefer the latter (Rouse and Rubenstein 1978:34).

Summary
Like programs and facilities for youth, adequate social services are generally considered valuable irrespective of their impact on crime. Whether or not they could actually reduce crime rates, if properly implemented, is unknown. Although the resources required to develop these services, not to mention the difficulties associated with developing suitable (i.e. effective) programs and attracting participation, can be considerable, experience suggests that the long-term costs of not providing these services (e.g. in terms of social unrest, destructive behaviour, and generally poor development of potentially valuable human resources) can be even greater.

Overall Summary: Management Strategies

Documented evidence on the crime-prevention impact of the management strategies is even more difficult to find than is such evidence regarding the design strategies. However, the commonsense logic underlying these strategies is very strong and, as noted previously, there is a growing conviction that, in crime prevention terms, managing the environment effectively is just as important as designing it correctly. At the scale of individual residents, if their attitudes and motivations do not lead them to report crimes or otherwise intervene in the event of (potentially) criminal occurrences, the impact of design is considerably lessened, if not negated. At a broader scale, the management strategies emphasize that it is not buildings or other elements of the physical environment that bring about crime, it is people and it is only through the actions of other people that a crime prevention program can be truly effective. The management strategies also focus on the fact that responsibility for developing knowledge and attitudes regarding how to prevent crime can not be delegated to the police alone, but must be shared by everyone who is affected by crime -- from the individual resident to the community at large.

Clearly, there are many problems in implementing the management strategies. Their effective application can require substantial human and/or financial resources, sensitivity to the opportunities and constraints presented by the specific environment involved and by its surrounding community, and perhaps most importantly, a strong commitment, among all the relevant actors, to work together for the purpose of preventing crime. Further, many of these strategies are difficult to maintain once the immediate problem of concern has been alleviated (until, of course, another problem appears). Finally, the 'soft' nature of these strategies makes evaluation of their impact very difficult, which exacerbates the problem of maintaining an ongoing commitment among the individuals and agencies involved.

The best argument in favour of the management strategies comes from the fact that experience in various jurisdictions where residential crime is a concern has clearly indicated that 'designing out' crime can only have a limited impact if it is not supported and complemented by efforts to involve the residents and the appropriate agencies concerned with managing the environment.

6.6 SUMMARY: KEY FEATURES OF THE EDM APPROACH

The purposes of this and the preceding chapter have been, first, to describe the main features of the EDM approach and second, to present the available theoretical, commonsense and empirical assessments of individual EDM strategies. Chapter 7, following, will expand further on the second objective. That chapter will identify the common threads implicit in the foregoing assessments of the individual EDM strategies and thereby develop an overall assessment of the EDM approach to crime prevention.

Before considering that overall assessment, we would first like to summarize the key features that characterize the EDM approach. The key assumptions underlying the EDM approach are:

. Crime is a function of the characteristics of the four elements of a criminal event: offenders; persons or objects subject to potential victimization; physical locations; and, social environments.

. The potential therefore exists that crime (and fear of crime) can be influenced by modifying the characteristics of each of the above four elements.

. Of particular importance (to the generation of crime) are character-istics of each of the four elements which act as cues signalling to the potential offender whether or not the total situation represents a safe or unsafe (vulnerable/invulnerable) opportunity for committing a criminal act.

. These cues can be modified through two types of strategies: design strategies (which attempt to alter either or both the physical and social characteristics of the four elements), and management strategies (which attempt to alter the social, and in some cases, the physical characteristics of the four elements).

. In describing how design and management strategies affect the presence of safe and unsafe cues, particular reliance is placed on the concepts of: target-hardening, increasing surveillance, fostering territoriality, and fostering social cohesion.

. Since the physical and social characteristics of different environments are likely to differ markedly, the particular prevention strategies that would be appropriate will also probably differ markedly from environment to environment. With certain relatively minor exceptions (i.e. some target-hardening strategies), proposing a cookbook of specific rules applicable to all environments is thus not only illogi-cal within the EDM approach, but could be dysfunctional.

. Given both the many factors influencing the criminal event and the limited impact of specific crime prevention strategies, most EDM crime prevention programs will advocate that not one, but a range of EDM strategies will be included in the program. The design strategies, in

particular, will often require the concomitant presence of management strategies.[1]

- Given the wide range of factors that could be manipulated to prevent crime, the different potential degrees of control that different groups could exert over different factors, and the range of groups affected by crime, responsibility for different aspects of an EDM crime prevention program would probably best be allocated among a range of groups (including): individual residents, resident associations, police, private security, landlords, developers, builders, architects, city planners and other municipal, provincial and federal housing, criminal justice and social service agencies.

Finally, it has been noted (Westinghouse Electric Corporation 1977:1.16-23) that many of the EDM measures could have benefits beyond that of simply preventing or reducing crimes. For example, these measures could:

"- Assist in the promotion of physical, social and economic revitalization.

- Foster better relationships and cooperation among citizen groups, law enforcement officials, city officials, and business organizations.

- Provide guidelines and standards to improve the security of new development or redevelopment.

- Reduce social and economic costs to the user of the urban environment.

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[1] Many EDM proponents would go even further. Although we have discussed each of the individual EDM strategies separately above, in practice they overlap considerably. In fact, it is considered vital that strategies should overlap and complement one another. Curtis and Kohn (1980:7), for example, point out that:

"Territorial reinforcement may be thought of as the umbrella concept, embodying all the other principles. It is not practical to think of these strategies as independent strategies, because, for example, if access control strategies are to succeed, potential offenders must perceive that intrusion will elicit protective territorial responses. Similarly, natural [or informal] surveillance operates to increase the likelihood that intrusion will be observed by individuals who care but are not officially responsible for regulating the use and treatment of spaces. If people observe inappropriate behaviour but do nothing about it, then the most elegant natural surveillance strategies are useless."

- Provide leverage for state [provincial] and federal assistance to urban improvement programs.

- Generate an interdisciplinary and unified approach for resolving certain urban problems.

- Create a sense of confidence and cohesion within a specified urban environment."

The above points summarize the EDM approach. However, because of its importance to understanding the EDM approach, we will elaborate briefly on the relative importance of the physical design strategies.

In summarizing his presentation of defensible space, Newman (1972:204) noted that an "essential ingredient of our proposal is territorial definition coupled with improvements to the capacity of territorial occupants to survey their newly defined realm." Newman argues that the creation of territoriality and surveillance opportunities allows citizens to achieve control of their environment for the activities they wish to pursue within it -- i.e. it makes citizens instrumental in curtailing others from destroying their habitat, whether the others are criminal or a reactionary authority. A fundamental proposition of defensible space is that through the manipulation of building and spatial configurations, one can create areas for which people will adopt concern: that it is possible, through the provision of facilities in certain juxtapositions, to release potential constructive behavioural attitudes and generate positive social relationships (Newman Ibid.:206). Newman points out that he is not claiming that architectural design can have a direct causal effect on social interactions, but that architecture operates more in the realm of influence than control (see also Ash et al. 1975:1). It does not and cannot manipulate people towards feelings of friendship, mutual trust and sharing of responsibilities, but rather allows mutually beneficial attitudes to surface (Newman Ibid.:207). This perspective is reflected again in the comments by Curtis and Kohn (1980:9):

"An intermediate position, one that both recognizes the physical environment as only one part of the picture and takes into account the cost of adapting to ill-suited settings (Dubois, 1965), is that environmental design can facilitate human behaviour (Ittleson, 1978). This concept stresses the importance of environments being congruent with existing or desired community value systems. In this regard environmental design can be viewed as providing psychological or symbolic cues which are supportive of particular social control mechanisms. In principle, the only way to successfully design and implement design strategies is to develop a comprehensive understanding of the affected individual's psychological and social responses to environmental changes."[1]

Again, the above points are what is assumed and/or advocated by proponents of the EDM approach. On the other hand, the preceding chapters have cited arguments that are far from totally supportive of the EDM approach. It is to these latter arguments that we now turn.

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[1] Dubois, R. (1965) Men Adapting, New Haven, Connecticut: Yale University Press; Ittleson, W.H. (1978) 'Crime prevention in the context of environmental psychology' Report prepared under contract to Westinghouse National Issues Center, Arlington, Virginia.

Chapter 7

Overall Assessment
of the EDM Approach

7.1 INTRODUCTION

The previous two chapters have included assessments of the individual strategies that comprise the EDM approach. However, the EDM approach is not just a set of strategies which can be indiscriminately applied but a comprehensive, coordinated approach to crime prevention which uses different groupings of strategies depending on the nature of the environment where it is being applied. Thus, the EDM approach must also be assessed in its totality and not just in terms of its individual strategies. The purpose of this chapter is to provide that overall assessment.

Of necessity, this chapter's ability to present a comprehensive assessment of the EDM approach is constrained by the fact that the state of the art regarding EDM and its individual strategies is such that there have been very few empirical evaluations of its implementation. Those few demonstration projects which have been undertaken have been mostly American, quite expensive and have produced ambiguous findings (see Engstad 1975a:3&11). Furthermore, beyond the lack of empirical evidence needed to assess the EDM approach on an a posteriori basis, there are difficulties in undertaking an assessment on an a priori basis because of the complex nature of both the crime phenomenon and the EDM approach to intervention. In their discussion of offender treatment interventions, Sechrest and Redner (1979) note the surprising lack of a priori evaluation which they (arguably) say is typical of most anti-crime endeavours. To paraphrase one of their points, they claim that:

> "At the outset, then, in evaluation of the potential strength of an [intervention] , one can determine whether [it] is well-grounded in theory which provides links between the type of intervention which is proposed, the types of offenders to which it is applied, and the anticipated outcomes. Were more [interventions] subjected to such scrutiny, it seems likely that many of them would never be tested, or at least not tested on such a large scale and so seriously."
>   (Ibid.:36)

Accepting these problems, this chapter provides a critical examination of the EDM approach from two points of view -- the theoretical and the practical -- with the overall intent of determining to what degree the EDM approach makes sense.

7.2   THEORETICAL ASSESSMENT OF THE EDM APPROACH

From a theoretical point of view, the EDM approach to crime prevention can be assessed according to three general areas of concern: (1) the underlying theories and premises of EDM; (2) the nature of the specific strategies; and (3) implementation issues. This section examines only the first two of these points; the implementation of the EDM approach and the relevant critical judgments are of sufficient importance to be addressed separately in the next chapter of the report.

7.2.1 Underlying Theories and Premises

This section discusses the three elements of the underlying theories and premises of the EDM approach which are the most relevant to a critical assessment of the approach. These issues of concern relate to:

. the opportunity theory of criminal behaviour

. the dynamics of neighbourhoods (and romanticizing the past), and

. macro versus micro theories of crime.

i.   The Opportunity Theory of Crime
The effectiveness of many of the EDM strategies proposed, most particularly the design strategies, depends on the degree to which decreasing the opportunities for crime[1] results in a decrease in crime (or fear of crime). However, from a criminological perspective there is some doubt about whether or not and to what degree, crimes are opportunistic. Clearly, many crimes are not crimes of opportunity but rather reflect a high degree of motivation and planning. On the other hand, many crimes, particularly those involving youthful offenders, do appear to be somewhat spur-of-the-moment incidents.

Unfortunately, there are very few theoretical models which address crimes of opportunity. In fact, traditional theories of juvenile delinquency (e.g. Cohen, Merton, Cloward and Ohlin, etc.) argue in the opposite direction: for example, that juvenile delinquency is the product of very compelling social and material causes.[2] Even conflict theory posits a motivation or predisposition, if you will,

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[1] That is to say, decreasing the opportunities for crime -- either in actuality or with respect to would-be offenders' perceptions of the 'safeness' or 'unsafeness' of these opportunities -- is expected to result in a decrease in crimes.

[2] For example, Merton (1957) argues that crime results from a lack of access to legal opportunities (e.g. employment) and Cloward and Ohlin (1960) argue that it results from easier access to illegal than to legal opportunities.

grounded in sub-cultural norms, towards crime (or what is officially labelled 'crime'). Apart from considerations concerning the probable or potential motivation towards crime, there is very little theoretical discussion relating to the actual perpetration of crimes: why this crime and not another, why this victim/target, why this m.o., why this area, etc. Theories of juvenile delinquency, for example, are conspicuous in respect to the fact that there is very little distinction made between types of juvenile crime: juvenile delinquency is ... juvenile delinquency. Ecological and victimization studies are now making inroads with respect to developing new insights about the nature and distribution of crime but are not, at this time, capable of providing a theoretical analysis of the opportunity issue.

Ecological psychology is similarly deficient in this respect. While it seems plausible that behaviour is influenced by environmental cues, there seems to be room for a great deal of variation in terms of what kinds of cues influence what kinds of people, and under what kinds of circumstances. Some studies (e.g. Phelan 1977, Reppetto 1974) report that offenders do pay attention to the environmental cues regarding probable risk before perpetrating crimes; other studies (e.g. Goodman et al. 1966) report that they do not. Rouse and Rubenstein (1978:71-72), for example, note that:

"...there is no scientific evidence conclusively demonstrating that potential offenders perceive defensible space as has been suggested. Thus, a critical question remains -- namely, whether offenders are aware of and react to increases in surveillance opportunities, access control strategies, circulation patterns, and the other physical changes that are said to help create defensible space."

Until greater theoretical and empirical understanding of this phenomenon is achieved, the theoretical basis for many of the environmental strategies will remain problematic.

ii.   The Dynamics of Neighbourhoods
It is one thing to understand how criminals react to different situations. It is quite another thing to understand how those situations can be modified in a particular environment (e.g. how crime prevention strategies will work). To do so, one must also have an understanding of the dynamics of environments or neighbourhoods (particularly criminally-victimized neighbourhoods). While there appears to be a general agreement that environmental design and management can affect crime directly by reducing opportunities, and indirectly through its effect on social organization, the nature of the linkages implied, especially regarding the indirect effects of EDM, needs substantial clarification and elaboration (Engstad 1975a:9).

To recognize this point is, of course, only the first (and easiest) step. Sorting out the myriad inter-relationships defining the dynamics of any neighbourhood would, for reasons identified earlier, daunt even the most intrepid and well-funded researchers. Figure 7.1, for example, provides one conceptualization of only those linkages considered most critical to the EDM approach, and that figure does not even attempt to address the dynamics involved in recognizing the need for implementing the EDM strategies in an environment.

On the other hand, if we are to proceed with the EDM approach, some model of neighbourhood dynamics will need to be adopted. Given the difficulties involved, we might have to be content with only making our assumptions about those dynamics explicit. This process might at least allow us to pinpoint how and why different approaches are advocated.

For example, some proponents of elements of the EDM approach have been criticized for a perceived tendency to romanticize the past. Jane Jacobs and, to some extent, Oscar Newman have been censured for portraying by-gone days and past urban environments as the ideal (in crime prevention terms) because those environments supposedly exhibit the kind of security which stems from the natural protective mechanisms which prevail when citizens are allowed to exercise their natural concern and care for their residential environments. To a certain degree, this may have been true. However, it could be argued that today the dynamics of specific environments have changed considerably in terms of increased social and geographical mobility, more single-parent families, increasing normative relativity and a greater potential for inter-personal conflict and conflict with the law (Engstad 1975a:6). If the neighbourhood dynamics have changed so much, it may be impossible to capture again the same kind of peacefulness of bygone days. Nevertheless, taking the optimistic view, it can also be argued that we do not really know what new kind of community relationships are evolving. Nor will we know how to utilize community relationships or dynamics to develop a sense of security based on current realities until we try interventions like the EDM approach.

iii. Macro versus Micro Approaches to Crime Prevention

One of the most potentially damning arguments against the EDM approach concerns its ultimate impact on crime: "in the context of macrosocial phenomena such as discrimination in housing and unemployment and the concomitantly disproportionate allocation of poverty...to minorities, the issue of micro-environmental manipulations to effect behaviour modification seems trivial and irrelevant" (Harries 1980:102). As Coates (1973b:4-8) has commented:

"...by and large the new action for the future is not going to be with physical technology, i.e. gadgets and devices, better locks and doors, or better shaped

Figure 7.1   Selected Linkages Relevant to the EDM Approach to Crime Prevention
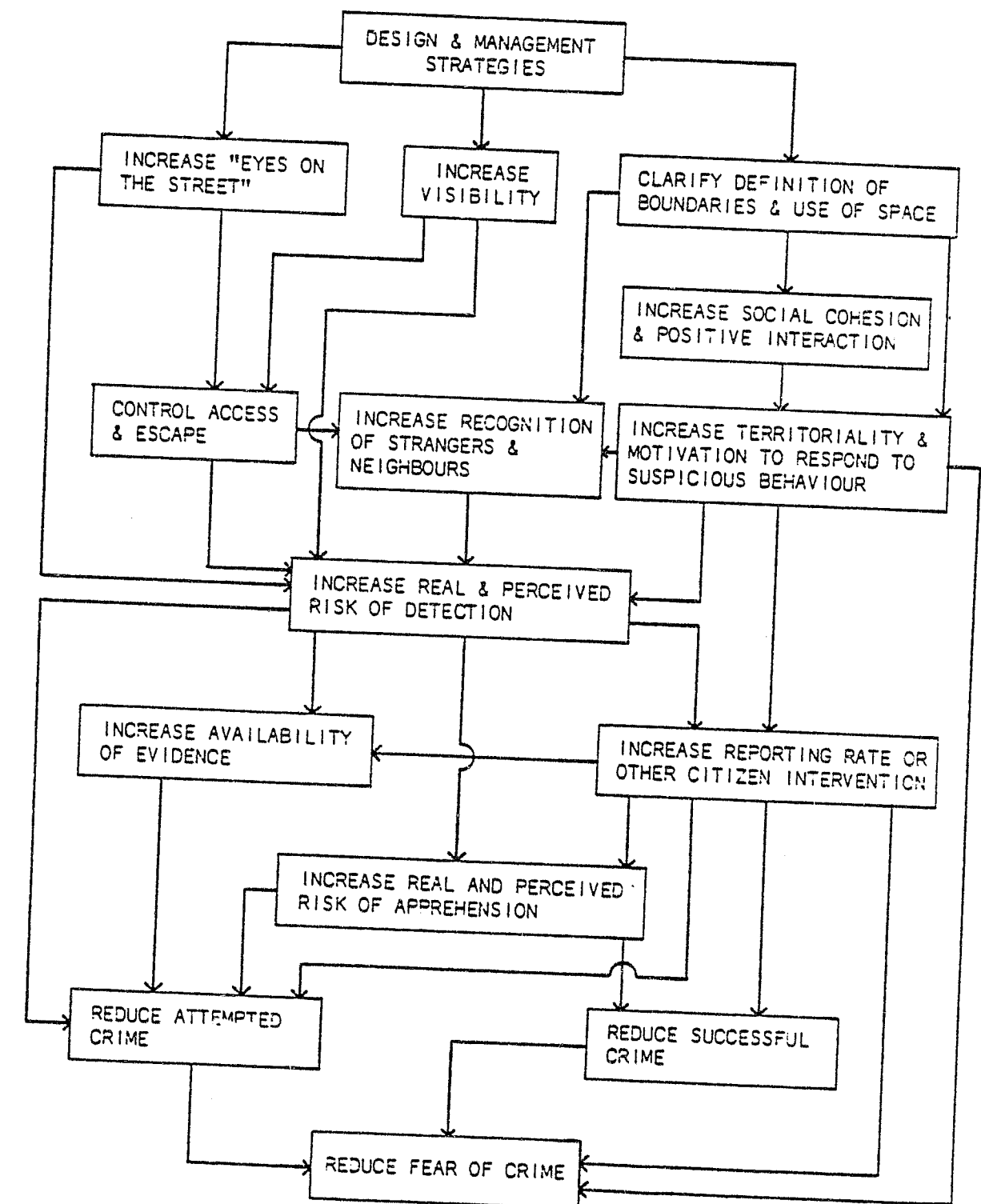
hallways in buildings. Rather, the real action for
the future, and for most problems affecting U.S. society,
is going to be in the area of social invention and
institutional change. These are the areas which are
most pregnant for new societal development with regard
to security...We need to look at much more deep-seated
structural changes in society if we are going to have
any major impact in a reasonable time span on the causes
and problems of crime."

Coates suggests that, instead of manipulating environmental design
features, crime should be attracted directly through institutional
change. Assuming that some crime is the result of 'need', he asks
why not instead use programs that confront this need: for example,
making junk cars available to teenagers, reducing the difference in
cost between bargain-centre televisions' legitimate price and the price
of stolen televisions, or perhaps providing adequate sex education to
forestall rape.

A number of authors, building on similar observations and judgments
regarding difficulties in implementing EDM strategies (see below),
have proposed other alternative solutions. For example, observing that
many of the problems which EDM is supposed to ameliorate in most
criminally-victimized areas are the result of concentrating high
densities of low-income, multi-problem people in the same geographical
area in the first place, certain authors propose that another approach
would be to stop concentrating the poor and socially deprived -- i.e.
the criminally vulnerable and the criminally motivated -- together.
In his comments about the high crime rates found in American public
housing developments and their surroundings, Brill (1973:32) suggests
that:

"In the case of public housing, the policies that are part
of the problem are those that pack multi-problem
families in institutions like public housing in the first
place... The real solution to the problems of public
housing, including security, lies in changes in those
policies that stratify residents according to a narrow
economic strata. This means changes in the subsidy
system."

Blumin (1973:119) questions why the country continues programs and
policies which appear to cause so many problems. She claims:

"The answer is that the programs work, but for the wrong
people -- estate speculators, big and small businessmen,
bureaucrats -- everyone, that is, except the poor. And
government policy which constrains the economically
marginal to live among others who also have limited
resources produces the very situation which helps to
maintain the current system -- the poor exploit and
manipulate each other for the scarce goods that may be
available, while generally accepting the society's
cultural definition that they are failures not
entitled to a larger proportion of the nation's income."

Blumin argues that, assuming that there will be no full-scale redis-
tribution of income in the United States in the near future, government
should get completely out of public housing, either by giving the poor
cash housing allowances or by augmenting present subsidized housing pro-
grams. Either policy would have multiple benefits: (1) freedom of choice,
which promotes a commitment to and interest in one's surroundings; (2)
minimal stigmatization of the poor; and (3) an increase in the dispersal
and assimilation of the poor into the rest of society.

Blumin reports that of 170 families participating in a cash allowance
housing program in Kansas City, nearly 90% claimed that direct housing
allowances were better than public housing (Ibid.). Newman (n.d.:114ff)
also argues that "the mixing of low-income families in middle-class
developments, in numbers that maintain stability, may have become a
national necessity" but claims as well that environmental design principles
will still be a necessary component of such a policy. The high densities
of people exhibiting divergent sub-cultures, values and lifestyles which
characterize most contemporary North American cities will require, Newman
argues, implementation of environmental design principles in order to
combat the social disorganization which frequently occurs when hetero-
geneous types of people live in close proximity, regardless of their social-
economic status (Newman 1980).

Harvey Peck (Deputy Director of Management, Chicago Housing Authority,
interviewed March 5, 1981) has proposed a slightly different approach along
these lines which appears less problematic politically. He suggests
opening up public housing to all citizens under the conditions that those
who can afford to do so should pay full rent and others pay reduced rent
as they do under the present system.[1] He argues that many public housing
developments are highly desirable properties and it is likely that many
middle-class citizens would be happy to live in these developments. This
approach would have the advantage of integrating different income levels
(with less disturbing political reactions, as citizens would make their
own choice), and thereby allow the lower-class segments of society to
benefit from the social and political advantages of middle-class residents.
The Lucas Metropolitan Housing Authority, responsible for public housing
in Toledo, Ohio is currently implementing this policy by allowing tenants
to continue to rent subsidized units even when their income has increased,
and by accepting rental applications from individuals and families who are
not necessarily classified as low-income earners. It is following this
policy for two reasons: to provide a more balanced income mix in its
projects and thereby improve their stability; and to generate more revenue,
since these higher-income tenants pay the maximum rent possible (which is
still much lower than private sector rental charges).

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[1] While this policy may lead to more stable and less crime-prone public
housing environments, it does not address the problem of where those
low-income people will be housed (particularly in tight housing
markets) who can no longer be housed in public housing because of this
income integration objective.

Unfortunately, most of the alternative proposals to solving the crime problem described above appear to many to be just as unrealistic as a purely EDM approach to crime prevention. For example, it is doubtful whether the income-integration policy discussed could be adopted because of the probability that the more advantaged citizens would object to sharing their residential environments with the types of individuals who are represented among the marginal and socially deprived strata of society (whom the more advantaged population consider not to have earned the material and other benefits accruing from a middle-class neighbourhood) (see Engstad 1975a:13).[1] Therefore, it is more likely that the poor will continue to live in concentrated proximity with each other, thus perpetuating the confluence of criminogenic circumstances with the criminally motivated.

7.2.2 The Nature of the Specific Strategies

The review of the individual EDM strategies (in Chapters 5 and 6 previously) contained numerous common negative assessments. Apart from the concerns regarding implementation problems (see Chapter 8 following), many of these criticisms related to the fact that many of the strategies are very limited in scope (i.e. are intended to prevent only one or a few types of crime), and that there is a likelihood of the strategies backfiring and increasing the opportunities for crime or increasing the fear of crime.

This section will examine the following three additional common criticisms as being particularly important to an overall assessment of the EDM approach:

. conflicts among strategies

. symptoms versus causes

. displacement, and

. the nature of target crimes.

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[1] Another objection to this approach resides in the fact that there is evidence that what is critical in the perpetration of juvenile delinquency is not the social class of the individual juvenile per se but the contrast between his/her social class and that of the surrounding population. In other words, lower-class children living in higher-income neighbourhoods are more likely to become delinquent than their counterparts in a homogeneous social class neighbourhood (Johnson et al.1979).

i. ## Conflicts Among Strategies

Areas for potential conflict arise among many of the EDM strategies (e.g. improving police access and controlling access by outsiders; fostering territoriality through landscaping, fencing, etc. and reducing opportunities for concealment, etc.). In addition to the potential for these internal conflicts in the EDM approach, some of the design strategies may conflict with the needs of other important design objectives; for example regarding fire protection (see Blanchard 1973 and Reppetto 1974:83). Further, Faust and Allen (1972:74) note the possibility that urban design strategies for crime prevention purposes could conflict with other behavioural objectives and social values and that, in the application of such strategies, extreme care must be taken to delineate the public and special interests that might be affected. For example, they note that:

"...in the re-design of a metropolitan low-cost housing area..., it becomes critical from a public point of view to anticipate exactly how the proposed changes will affect not only the residents and persons who might consider perpetrating offences against them but also such other groups as mail carriers, trash collectors, delivery men, etc..."

This potential for conflicting design objectives is a very real issue that must be considered in developing and implementing an EDM program. The complexity and importance of this issue is, as mentioned, one of the major reasons that it is impossible to propose a hard-and-fast set of guidelines for implementing the EDM approach. In some instances, there may be no simple answer to the resolution of conflicting design objectives. In such cases, objectives will have to be assigned priorities, and trade-offs will have to be made (for example, between the need for security and the desire for privacy). However, it should be noted that this problem is far from unique to the EDM approach, or for that matter, even to crime prevention efforts in general. The problem applies to efforts to produce design guidelines in any area (e.g. health, fire, safety, recreation, transportation).

ii. ## Symptoms as Causes

Another criticism of the environmental design approach, particularly with respect to its physical opportunity-reduction elements, is that it deals with symptons rather then causes -- and, as a consequence, may ultimately backfire and facilitate and increase criminal victimization. Nieburg (1974:42), for example, states:

"The defensible space thesis deals only with symptoms and not causes. Creating ramparts, battlements, parapets, and walls in high-crime areas may deter criminal attacks in a specific area, but it leaves

untouched the real social causes of criminal behaviour
and may, in fact, disperse bad actors into secret nooks
and crannies elsewhere. The level of attack upon
peaceful citizenry may actually be increased.
Dispersion of the criminal elements would enhance the
advantage of surprise and spread the virus into the
flesh and bloodstream of the whole city."

This criticism is obviously related to the earlier criticism regarding
macro versus micro approaches to crime prevention -- but concentrates
on a possible serious negative result of relying inappropriately on
the latter. This negative assessment of design strategies to prevent
crime is, in our view, of little relevance. Since, as noted in the
discussion on macro versus micro approaches, it is unlikely that
society will be able to cure the causes of crime in the foreseeable
future, it only makes sense to try to address the symptoms as effect-
ively as possible and to reduce the likelihood that these symptoms
will become sufficiently serious to virtually destroy the particular
community concerned (which could then even become a focus or generator
of more crime that would begin to affect other communities). Further,
it could be argued that the idea that it is better to keep crime con-
centrated and isolated in specific environments (i.e. usually the low-
income and otherwise deprived areas of a city) so that its impact on
other areas is minimized, reflects an elitist point of view which is
difficult to defend on moral or political grounds.

iii.   Displacement
The problem of displacement is closely related to the comments above.
As noted in Chapter 2, the issue of displacement is raised as a
concern with regard to crime prevention in general and not just in
relationship to the EDM approach. Again, this issue would appear to
lack sufficient negative weight to counter the arguments for the EDM
approach, although it clearly must be considered as a potential
problem when an EDM program and the specific strategies to be implem-
ented are being defined for a particular environment. However, until
more is known about the occurrence of displacement (e.g. which types
of crimes, offenders, etc. are most likely to be involved in displace-
ment), it is not even possible to say which strategies will be most
problematic in this regard.

iv.   Nature of Target Crimes
Finally, some critics argue that the nature and frequency of the types
of crimes which are supposed to be prevented by the EDM approach (i.e.
burglary, robbery, theft, auto theft, arson, trespass, vandalism, rape,
assault and homicide) do not warrant the considerable expenditure of
money and planning resources which might be required to significantly
affect their levels through the EDM approach. Murder, for example, is
too infrequent and vandalism is, comparatively, too unimportant. In
addition, it is claimed that many of the property crimes (e.g.
burglary, robbery and theft) would not be affected by the EDM approach
because the links between those crimes and the EDM strategies are so
weak that it might require massive expenditures on the EDM approach
before there would be a discernible impact. This argument would apply
if, rather than being predominantly a function of opportunity, these
crimes were largely premeditated. British Columbia, for example,
reports that a large proportion of all crimes in that province are
drug-related, which suggests that the overall crime rate might not be
affected by the EDM approach because the addict-offender would not be
greatly deterred by these kinds of measures; in this example, it is
more likely that EDM would simply cause displacement.

However, in defence of EDM two major points should be emphasized:

1. These strategies are not considered to be applicable on a univers-
    al basis. Their suitability and effectiveness will vary from
    situation to situation and each setting must be examined individ-
    ually in terms of the merits and disadvantages of each of the
    strategies.

2. These strategies are intended to reinforce and complement one
    another. Very few of the strategies are expected to have a very
    significant impact on their own; practically all of the strategies
    depend upon the presence of other strategies in order to be truly
    effective.

The aim is to carefully and imaginatively select and combine strateg-
ies so that overall congruence is achieved, conflict among strategies
is avoided, and a synergistic effect is thereby produced.

To do this, far greater knowledge of the conditions under which
specific EDM strategies are maximally effective is required. This
entails, among other things, that distinctions must be made between
types of strategies and types or sub-types of crimes. Similar dis-
tinctions must be made among types of residential environments. To
date, the EDM-related literature has too often ignored those dis-
tinctions and thereby failed to do itself justice in the sense that
many of these strategies are beneficial only when they are
appropriately applied (see Mawby 1977 and Engstad 1975a:8-9). For
EDM to be a truly convincing and effective approach to crime pre-
vention, much more research is required but, as Reppetto (1976b:286)
points out, research studies are often as costly, complicated,

lengthy and controversial as actually building new projects. He
suggests instead that a simpler alternative would be for the
Universal Crime Reporting Program to routinely record the physical
environments of various types of crimes and to collect similar
types of information through victimization surveys. Others might
argue that the resources (technology and manpower) required for
even these types of data collection are beyond the capabilities of
most jurisdictions.

7.3 PRACTICAL ASSESSMENT OF THE EDM APPROACH

Assessing the EDM approach from a practical point of view is, as noted
previously, constrained by the inadequacies of the empirical data currently
available. Therefore, in this examination of whether the EDM approach makes
practical sense, empirical validation is treated as only one of four areas
of consideration which are important to a practical assessment of this
approach to crime prevention. These areas of concern are as follows:

1. Empirical Validation Regarding Effectiveness

2. Cost-Effectiveness

3. Feasibility

4. Need

The discussion of the feasibility of the EDM approach addresses some of the
problems relating to the implementation of the approach. However, as noted
in the introduction to the section on theoretical assessments, it should be
kept in mind that the next chapter provides further detail on implementation
issues because of their importance for a comprehensive understanding of the
EDM approach.

7.3.1 Empirical Validation Regarding Effectiveness

Throughout the foregoing review of the EDM strategies, we have repeatedly
noted the lack of evaluation studies aimed at examining whether or not
improvements along the lines suggested by the specific strategies have had
an effect on crime. While there have been many studies which demonstrate
a relationship between crime and a situation which these strategies are
intended to improve, there have been very few attempts to implement and
evaluate these 'improvements'. It is one thing to show that a relationship
exists between x (crime) and y (say, lack of access control or lack of
target-hardening), and quite another matter to show that improvements in y
also result in improvements related to x (see AIR 1980a:40-41).

Failure to show that improvements in y also improve x need not mean that
the propositions entailed by y are incorrect. The methodological problems
surrounding any evaluation of crime prevention strategies in real-life
situations are enormous and primarily consist of maintaining the proper
controls. As has been pointed out, the effectiveness of an intervention
depends on a variety of factors, all of which vary independently of one
another. One of these factors is the nature of the intervention itself,
but in addition, effectiveness also depends upon:

. the nature and characteristics of the recipients of the intervention (i.e.
  an intervention may be successful with one type of criminal and/or victim
  but not another) (see Engstad 1975a:4),

. the characteristics and skills of those delivering the intervention (e.g.
  police may be highly motivated and skilled in one situation but less so
  in another; the situation may be similar for citizens, management, or
  social agencies),

- the process of implementation (this refers to adequate resources, as well as a consensus about the exact nature of the intervention -- i.e., is the intervention the same as what was intended?), and

- the nature and impact of the context (geographical, social and political) surrounding the implementation of the intervention (e.g. general land-use surrounding the intervention site, social demographic variables of adjacent populations, historical development, and so on) (see Engstad 1975a:7).

Any one of these considerations could affect the success of an intervention and it is extremely difficult to control for and measure the impact of these factors in real-life evaluation studies.

What this means is that, apart from the dearth of evaluation studies of the EDM strategies, it is extremely difficult to examine these strategies even when demonstration projects are implemented. In addition, the resources required for mounting an experimental study usually result in the fact that more than one strategy is tested. This, in turn, has the consequence that it is difficult to determine which strategy is having an effect, if any, and the nature of its impact. In short, at this point it is impossible to determine, on an empirical basis, the merits or disadvantages of the EDM perspective -- there simply are not sufficient properly conducted empirical evaluations available.

While many potential disadvantages of the EDM strategies have been presented in the previous chapters' review of the strategies, we do not know whether or not these perceived limitations and criticisms would in fact occur and thereby render the EDM approach ineffective. With regard to the few evaluation studies which do report positive findings for the strategies they examined, there is the further problem that these studies have been short-term evaluations, and the positive findings may simply be the result of a short-term response by citizens and police to the unusual attention to crime, rather than a consequence of the physical design and social management changes. What is required are more long-term evaluations but, it is noted, these kinds of evaluations will undoubtedly multiply the problem of adequate controls (Hollander and Brown 1978:70).

Thus it is impossible to assess the value of the EDM approach from the empirical evidence currently available. Furthermore, it is extremely unlikely that obtaining such evidence will ever be possible because of the complexity of the phenomena and of the environments being investigated. The lack of empirical validation must therefore be viewed as having neither positive nor negative implications for this assessment of the EDM approach.

However, it is important to note that many of the strategies are perceived to be beneficial irrespective of their impact on crime (e.g. the strategies aimed at improved building image and maintenance, fostering social cohesion, designing residential buildings to human scale, reducing anonymity, and so on). In some instances, particularly in new developments, these kinds of design features could be relatively easily incorporated and it may be argued that their positive attributes, whether in terms of preventing crime or simply improving the quality of life in these developments, make them well worth implementing.

7.3.2 Cost-Effectiveness

The EDM approach is not a competing approach to crime prevention requiring that governments choose between this approach or another, or requiring additional funds. Rather, a critical feature of the EDM approach is that already existing crime prevention methods are used but implemented with particular attention given to their suitability in a given residential setting. The EDM approach attempts to combine crime prevention measures (e.g. some policing, target-hardening and access control strategies) in the most appropriate manner possible. Some of the more ambitious design strategies, on the other hand, may constitute significant departures from traditional practices but, we note once again that, when these features are incorporated into new housing developments their costs may be no more than what would be required to build 'insecure' housing developments (see Gardiner 1978a:58). Accordingly, from a policy and operations point of view, it is not always nor simply a case of deciding whether to invest resources in the EDM approach or in some other forms of crime prevention, but rather a question of taking account of the potential benefits of EDM in each residential environment and of selecting those strategies which appear to be most suitable and cost-effective.

Assuming that it were known which strategies were effective, the major question to be asked is how much to spend on what kind of security measure. It is obvious, for instance, that the cost of any security strategy should not exceed the expected reduction in cost of crimes resulting from the preventative effects of the strategy.[1] One can, in theory at least, do better than this -- since the point where the cost of the strategy equals the value of the crime prevented is only a break-even point. Using

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[1] For example, assume a residence is faced with an annual crime risk of .20 (i.e. each year the residence has one chance in 5 of being 'hit') and, if hit, will, on average, suffer a loss valued at $325 per crime (the dollar value equivalent of any property loss, personal injury, indirect nuisance costs and any other 'psychic' costs). In this case, no security measures costing more than $65 per year (i.e. .2 x $325) would be justified on cost/benefit grounds (Sagalyn 1973:1).

economic marginal utility analysis it is possible again theoretically, to identify the optimal level of expenditure on a security strategy, i.e. the level of expenditure that results in the largest (positive) difference between the value of crime prevented and the expenditures on the strategy.[1] Certain authors (e.g. Sagalyn 1973:11-12) seem to advocate using neo-classical economic marginal analysis and the calculation of the necessary marginal costs and marginal benefits to identify this optimum level of expenditure.[2] It should, however, be pointed out that given the mathematical, theoretical and practical data collection problems in estimating those utilities, one would probably find it just as useful to consider a few rough rules of thumb that capture the essence of the argument:

. If an extra expenditure on security is likely to yield a reduction in crime worth more than that expenditure, then make the extra expenditure.[3]

. If a number of security strategies are available, then a fixed budget available for security should be allocated among the different security strategies in a manner that results in the last dollar spent on each strategy yielding the same value of crime prevented.

. After an initial level of expenditure on security, one could frequently expect further increments in expenditures to yield lower marginal benefits of crime prevented per increment. Similarly, again after some point, the marginal costs of those increments would be expected to rise. There is, therefore, the strong possibility that increments in crime prevention strategies at higher levels of total expenditure would likely yield smaller net returns (i.e. marginal benefits less marginal cost) than at moderate levels of expenditure.

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[1] For those interested, this optimum occurs when expenditures on a security strategy are increased to the point where the marginal value of crime prevented by a one unit increase in the strategy is equal to the marginal cost of that last added unit of the strategy. See Hann (1972) for a more detailed discussion of the neo-classical economic rules for governing the choice of such optima.

[2] Sagalyn (1973:11) suggests that expenditures on a security measure should be increased to the point where the marginal utility of the increased expenditures is maximized. However, contrary to what he suggests, the point of maximum marginal utility is neither the point of maximum total benefit or the point of maximum benefit less costs. Making the usual second-order assumptions about the behaviour of the benefit and cost curves, the former occurs where marginal utility equals '0', and the latter occurs where marginal utility equals marginal cost (a point where marginal utility is usually less than its highest value and a point of greater expenditure).

[3] Assuming of course that you cannot get a better return by spending that extra dollar on something else (e.g. safer tires on the car or weather-stripping).

This latter point is analogous to the one made in the AIR document (1980a:66) regarding the utility of augmenting crime prevention strategies beyond a certain point. The AIR authors point out that:

> "Changes that harden existing, conventional safe-guards should not be expected to result in a significant drop in crime, in our opinion. Two factors would tend to prevent this.
>
> The first is that the relationships clearly are not linear. The change from flimsy locks to adequate locks or from darkness to illumination is intrinsically more potent than a change from adequate locks to extra strong locks, or from illumination to brightness. Improvements above a certain (unknown) threshold are likely to achieve little." (Emphasis in the original)

A major point which emerges from this kind of analysis is that because the utility of a given security measure is context-dependent, no general guidelines may be prescribed concerning the choice of security strategies, which will necessarily vary from one residence or residential area to another (Sagalyn loc. cit.). One of the major differences in contexts with respect to costs is the difference between new and existing housing developments. As we have indicated in Chapter 4, the (marginal) costs involved in retrofitting may be considerably more in old than in new developments[1]; they may, in fact, be prohibitive. As Fairley and Liechenstein (1971:80) observe: "One of the lessons offered by cost-benefit analysis of this study and other studies of housing security systems is ....: The failure to harmonize aesthetics with security at each stage of architectural design results in much higher, if not prohibitive, costs of installation and extra equipment for effective building security." On the other hand, some strategies may be considered financially feasible in existing residential environments. The U.S. Department of Housing and Urban Development (1973a:5), for example, argues that:

> "... a series of small-scale physical design techniques can be used to create defensible space and consequently to reduce crime in existing residential areas. These techniques consist of subdividing a project (or building) to limit access and improve neighbor recognition, symbolically defining an area as coming under the sphere of influence of a particular group of inhabitants and improving the surveillance capacity of the inhabitants to reinforce the previous two measures."

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[1] Thus, the difference between marginal benefits and marginal costs, the 'net gain', will be lower.

Newman (n.d.:111) cautions, however, that "once the process of community disintegration has gotten underway it is almost impossible to reverse", which implies that none of the EDM strategies would be cost-effective in these types of environments.

Many of the foregoing comments regarding the cost-effectiveness of the EDM strategies address only the direct costs of crime which form one part of the cost-benefit equation. There are, however, indirect costs which should also be kept in mind. For example, the cost of apprehending, holding, prosecuting and sentencing an offender frequently are so far in excess of the actual value of the property stolen (in the case of property crimes) as to make the equation, in terms of economic considerations, ridiculous and/or irrelevant. It has been estimated that in the United States, each property offender would have to steal in excess of $60,000 a year in order for the costs incurred by the criminal justice system in handling these offenders to be commensurate with the value of the property stolen (see Criminological Research Associates 1974).[1] Clearly, many property crimes, particularly residential property crimes, involve nowhere near this amount (they are probably less than 1/100 of this amount). Other indirect costs of crime relate to such economic features as the market-value of homes in the community and the health of the community. Frisbie and his associates have estimated that the vandalism rate within one of the most highly victimized areas of Minneapolis statistically explained the average value of owner-occupied homes. They claimed that:

> "Homes in areas of the city with the highest burglary
> and vandalism rates suffer an estimated depression in
> value of $4,400 and $2,100 respectively, per home when
> compared to those at the citywide average."
>
> (in Gardiner 1978a:59)

In the same report, it was estimated that the total loss of property tax revenue from owner-occupied housing units associated with incidences of vandalism was approximately $7 million and for burglary $10 million for the year under study, or about $17 million. A 10% reduction in these two offences alone would therefore correspond to an increase in city property tax revenues of about $1.7 million (Gardiner loc. cit.). A similar analysis by Naroff, Hellman and Skinner (1980) in Boston estimates that a reduction in overall crime by as little as 5% could yield an increase in tax revenue of from $7 million to $30 million. What this means is that if one includes indirect costs in with the direct costs

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[1] Waller and Okihiro (1978b:181) "guess-timate" that the costs of police, lawyers and courts could amount to approximately $1,000 per case, whereas in many cases the value of the property stolen in burglaries is less than $100 (in Toronto).

of crime it is probably not too surprising to claim that the EDM strategies, if effective, are also almost invariably cost-effective as well.[1]

It should also be noted that all of the above arguments only consider the quantifiable costs and benefits associated with crime. However, one of the reasons cost-benefit or cost-effectiveness analysis has fallen out of grace as the technique for making rational decisions is its inability to handle, in a meaningful way, unquantifiable costs and benefits. Since many believe that, for all but the most trivial decisions in the public sphere, the unquantifiable costs and benefits are not only more important but dominate those that are quantifiable, this shortcoming of cost-benefit analysis is particularly debilitating. To amply illustrate this point in the crime prevention sphere, one only has to list the most obvious of the unquantifiable impacts of crime: sometimes long-term physical and emotional pain, fear and suffering of victims and of their friends, relatives and dependants; increased fear and breakdown of trust and mutual support in communities; and decreased freedom to enjoy the benefits of communal living such as the theatre, movies, and parks, or simply the informal companionship of one's neighbours. Although it is far from fashionable to mention these intangible costs, to verify further their relative importance one has only to remember (or ask a victim of) the experience of a residential robbery, a relatively minor crime in terms of quantifiable loss. Just how important relatively was the value of the goods lost, in comparison to the other unquantifiable costs felt?

In summary, all of the above observations provide helpful insights into the potential effectiveness and costs of the EDM approach in different types of environments. But the unfortunate truth of the matter at the present time is that we are in no way able to even begin calculating the utility of EDM strategies in different types of environments because we lack any reliable assessments of the strategies' effectiveness. The net result is that instead of reaching conclusions regarding EDM's potential utility on the basis of informed research and analysis, we are forced, as Fairley and Liechenstein (1971:37) have pointed out, to "blend authoritative opinions, experiential judgments and other sub-jective evaluations with the facts derived from the analytically tractable portions of the security problem."

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[1] One should, however, keep in mind that these potential savings are based on crime situations in U.S. cities. Since the crime situations in Canadian cities (or other areas of analogous size) imply a considerably lower crime rate, the same percentage reduction in crime would translate into a much lower dollar saving. However, the costs of implementing the EDM strategies in Canadian environments would not be that significantly lower than in the comparable American environments.

7.3.3 Feasibility

As indicated in Chapters 5 and 6, opinions of and reactions to the EDM approach vary considerably. Some types of strategies are more prone to resistance from residents than others (e.g. strategies involving curtailment of landscaping features, use of detection hardware or certain access control strategies). Similarly, government agencies and housing authorities view some strategies more favourably than others. For example, as with the HUD example discussed in Chapter 3, government agencies are likely to favour design strategies over management strategies because on the whole the former appear to be both more tangible and less complex in nature and require a one-time expenditure, whereas the management strategies require a more long-term commitment to providing operating funds.

Calculating the feasibility of the EDM approach in new developments is particularly problematic because, without the presence of residents and associated members of the neighbourhood, it is difficult to gauge whether the design strategies will be utilized for the intended purpose and how management strategies will be received. For example, Pesce (1977:17) comments that: "...crime prevention through environmental design involves more than physical changes in a community; the changes must be backed by citizens' organizations, public service groups, law enforcement agencies, and local, state, and, in some cases, federal governments."

In existing residential areas, one must elicit and take into consideration the reactions of those already living and working there. Reppetto (1976b:284-285) presents perhaps one of the most dramatic analyses of the kinds of problems entailed by making changes (primarily design changes) in existing (and, in some instances, new) residential developments. He cites four major kinds of objections:

"1) Costs. Manipulation of the physical environment involves construction costs to remodel or build various facilities. The continuing escalation of construction costs is well-known and requires no elaboration.

2) Delays. Concurrent with the cost of construction are the considerable time delays occasioned by the construction cycle. Time schedules for the tasks of planning, securing approval, and actually constructing or remodelling a structure are counted in years.

3) Dislocation. Physical projects frequently involve the removal of individuals and businesses or at least a significant alteration in their life patterns.

4) Sunk costs. Finally, physical changes when instituted are difficult to alter if proven wrong."

It should not be surprising, therefore, to find considerable community skepticism and resistance to the EDM approach (see Hollander and Brown 1978:18ff for a discussion of the problems encountered by the Hartford Neighbourhood Crime Prevention Program). These kinds of problems may require solutions which entail considerable promotion, liaison and planning -- all of which may increase the indirect costs of implementing the EDM approach. Thus, any calculation of the cost-effectiveness of EDM must take into account two kinds of indirect costs -- those of crime and those of implementing EDM.

In short, while the EDM approach has, on the face of it, considerable "grass-roots" appeal and is frequently greeted with optimism as a theoretical approach to crime prevention, it may nevertheless come up against numerous objections and considerable resistance when it comes to actual implementation in a particular residential environment.

7.3.4 Need

The arguments for and against the need for crime prevention in general are varied and numerous, as has been noted previously in both Chapter 2 and this chapter. With regard to the EDM approach to crime prevention, the issue of need (whether real or perceived) is particularly important because the approach emphasizes the importance of involving a wide range of groups and individuals (see Chapter 8 following for a detailed discussion of this point): obviously, it would be impossible to ensure this involvement if the necessary participants do not feel there is a need for this approach.

Beyond this obvious point that the EDM approach can only be effectively implemented where there is a clear and acknowledged need, there is a broader concern relating to the issue of need -- whether there is a need for the supposedly demanding and complex approach represented by EDM. It must be agreed that the EDM approach is, in fact, demanding in the sense that it requires careful thought and planning, and considerable commitment of both human and physical resources. Further, it is also complex because it attempts to analyse a set of complicated phenomena -- crime and the environment in which it occurs -- in order to select what may be an equally complicated program of strategies to correct the problems identified.

These characteristics of EDM can give rise to criticism of the approach. However, the problems associated with crime are not simple. Crime is not simply the result of poverty, unemployment, broken-families, highrise, densely populated residential environments, or lack of social cohesion. Examples to the contrary are easily produced -- particularly if one goes beyond official statistics and their correlates and uses self-report or victimization data. Thus, the demanding and complex nature of the EDM approach can actually be considered one of its strongest points. The EDM approach clearly accepts the intricacy of the problem it is attempting to resolve and acknowledges that the most effective response is unlikely to be simple or unilateral.

The problems associated with crime, noted above, give further indication of the need for the EDM approach and where it may most appropriately be focused. Although these problems are not consistent predictors of crime, a few issues do appear to be clear. While poverty per se may not be any more conducive to crime than wealth, it seems fairly evident that lots of poor people, with lots of problems, concentrated in the same geographical areas, with inadequate social, recreational and employment facilities and opportunities, tend to give rise to higher rates of crime. Wealthier people and areas appear to be better able to control and contain their crime problems than poorer people. This is a very real social problem and presents a justifiable focus for crime prevention measures. While it may be argued that the incidence of crime, on careful analysis, is not any greater in low-income, multi-problem areas than in areas populated by higher-income residents, the incidence of at least some types of crime appears to be greater and this, in itself, is a serious cause for concern. It makes people fearful and erodes their sense of well-being and security, it diminishes the quality of life in these areas, people do not like to live there, commercial enterprises do not like to locate there, and social and public services (e.g. schools, police) are also reluctant to service these areas. In short, concentrations of the poor and socially deprived produce further neglect and add to the problems these people already experience. This is where crime prevention is greatly needed and where the EDM approach is particularly appropriate because of its ability to address the wide range of problems which generate or facilitate crime in those environments.[1]

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[1] From a practical and political point of view, however, it is not at all certain that these areas will receive the assistance they need. It is a fairly commonplace observation that it is generally the better-off neighbourhoods and segments of the population who can afford, and have the political leverage, to demand and receive protection against crime.

7.4 SUMMARY ASSESSMENT

This chapter has attempted to assess the EDM approach to crime prevention from both the theoretical and practical points of view. It has clearly indicated that, while there are many positive and negative arguments for the EDM approach, few of these can be said to be firmly based on either theoretical or empirical grounds. This is not surprising because of both the relative newness of the approach and the complexity of the variables with which it is concerned. EDM is a many-faceted approach: it addresses a variety of crimes and uses a broad range of occasionally innovative strategies -- some architectural and others social and managerial. The bases for many of the arguments for and against the approach require further research and analysis before they can be accepted as empirically verified certainties. Nevertheless, several points can be summarized with regard to the arguments supporting and criticising the EDM approach.

First, it is important to note that although the environmental approach is at the present time a set of largely unproven assumptions and hypotheses, it is not unique in this regard. Other crime prevention strategies -- e.g. in the area of policing procedures and correctional methods -- are equally unproven and are only beginning to find approaches which are effective. If the EDM approach was ignored on these grounds, consistency would dictate the abandonment of most, if not all, other crime prevention approaches.

Next, with regard to the view that the macro-issues affecting crime rates are such that EDM strategies are rendered trivial and irrelevant, there are two answers. First, EDM does not exclude strategies aimed at rectifying many of the social inequalities that are considered to be causes of crime. Apart from manipulation of the physical environment, EDM also proposes social management strategies such as youth employment programs and other political community-action programs which are intended to remedy some of the social ills which plague high-crime areas. Second, it has been argued that since it is unlikely that major improvements with respect to the redistribution of income are unlikely in the foreseeable future, "any possibilities offering a chance of crime minimization by legal and humane means must be explored" (Harries 1980:103).

In view of the dearth of concrete information about the actual causes of crime, it is impossible to predict whether the EDM approach will or will not work in the way it is intended. It may be that certain EDM objectives, e.g. improvements regarding social organization, informal surveillance and residents' feeling of territoriality, will prove to be either impractical and/or ineffective in directly preventing crime. In contrast, however, some of the strategies -- e.g. those concerned with increasing the likelihood of apprehension in the event of a crime being committed -- may work, not because they attack the causes of crime but because they indirectly deter potential criminals due to their fear of apprehension.

Certain crimes may prove to be more susceptible to EDM strategies than others. Even within particular types of crime, e.g. robbery, there may be variations in the nature of this crime and the circumstances of its commission which make certain robberies amenable to EDM strategies while leaving others immune (see Mawby 1977). More research is required to develop a typology of crimes and criminals before this issue can be determined. Whether certain crimes are too unimportant or infrequent to warrant EDM interventions is not an issue that can be decided by fiat. Citizens' concern with and fear of crime may compel interventions of this sort regardless of its ubiquity or seriousness.

With regard to the issues of effectiveness, cost-effectiveness, feasibility and need, the EDM approach is subject to all of the ambiguous judgments that can be made about any program directed to social or behavioural improvements. The issue of need is perhaps the most important of these issues, since when the perceived need is serious enough, it is most likely that the EDM approach will be effectively thought-out and applied and that the necessary resources will be committed. In this regard, the issues surrounding the implementation of the EDM approach are particularly important and are therefore discussed in detail in the next chapter.

Finally, proponents of this approach argue that it is not a question of deciding whether it is better to invest scarce resources in EDM or some other crime prevention strategies. EDM is seen to be an alternative to other building and management forms which have proven to be problems for the security problems they inherently create. The EDM approach is not intended to compete for the scarce resources of governments but to use funds which will have to be spent in any case in the most constructive way possible. Whether the EDM approach will prove effective is impossible to state at this point. What EDM does have in its favour is a grass-roots appeal which may prove to be "the best possible indicator of its ultimate validity" (National Institute of Crime Prevention 1978: 1-12).

Balancing the evidence, there does seem to be a role for the EDM approach in future crime prevention efforts. However, until we learn more about how it works and its effectiveness, that role will not be as broad and extensive as earlier proponents of the approach may have hoped. Instead, future EDM efforts should be undertaken, as should most crime prevention efforts, in full recognition of their tentative and experimental nature. Needless to say, this implies a need for ongoing monitoring and evaluation of both the process and results of those experiments.

It is within this context that one should view even the limited immediate future role of the EDM approach predicted in 1976 by Reppetto (1976b:286):

"1. As a guide to designers, officials, and citizens at various stages of the planning process, particularly for new construction or urban renewal. It is already evident that the design community is reconsidering the super-block, high-rise public housing, and undifferentiated open spaces.

2. As a guide to the deployment of police and other anti-crime forces. At present, police resource allocation formulas take little cognizance of environmental hazards, and street-level policing is often based on vague impressions of hazards such as the belief that alleys are dangerous, and so on."

Overall, at this stage in the evolution of the EDM approach it can only be said that the approach appears to make sense. Its use of both conventional and novel crime prevention strategies, its emphasis on tailoring the selection of strategies to the needs and resources of an environment, and its sharing of responsibility for preventing crime are the critical elements supporting this judgment. In comparison to these, the elements of the approach which generated criticism, appear to be less significant -- areas of concern, indeed, but relatively minor problems which need to be considered (and researched further) in developing and applying the EDM approach in specific environments.

8.1 INTRODUCTION

In the previous chapters' discussions of the nature of the EDM strategies and of the arguments for and against the EDM approach, the importance of the issues surrounding implementation of the approach has been frequently noted. This chapter therefore provides a detailed examination of how to implement the EDM approach and of the significant issues which can affect the effectiveness of that implementation.

The following discussion on implementing the EDM approach concentrates on four key elements:

1. Participants

2. Funding

3. Procedures, and

4. Special Techniques

The examinations of these critical components of implementing the EDM approach are followed by a summary assessment of the issues which can affect the proper implementation of the approach.

Chapter 8

Implementation Issues
Regarding the EDM Approach

8.2 PARTICIPANTS

Regardless of which EDM strategies are being considered for application, one point which is repeatedly emphasized in both the American and British literature concerning the implementation of EDM, is the need to solicit the opinions and involvement of all relevant 'actors' who may be affected by the EDM strategies. Fairley and Liechenstein (1971:81), for example, comment that with regard to implementing the design strategies:

> "...the cooperative, continuing interaction of many
> agencies -- police, fire, health, transportation,
> and sanitation departments, the public building
> authorities, security and protective agencies,
> architectural firms, and the proprietors -- should
> be sought during the preliminary planning, building-
> permit, construction certification, and utilization
> stages to formulate performance objectives and
> evaluative criteria, to resolve systematically any
> questionable design trade-offs, and to ensure the
> supervised correct functioning of the safety system
> once its useful life has begun. The mutual influences
> of these agencies should not be limited to matters
> of new construction, but should also occur in
> considerations of reconstruction or renovation,
> irrespective of extensive reconfiguration, since
> even the elimination of one entry-way can signifi-
> cantly reduce recurring annual security expenditures.
> Finally, such interorganizational planning efforts
> should not be restricted to the design problems of
> single buildings or configurations of buildings but
> should also address the problems of interface with
> contiguous neighborhoods, e.g., the manner in which
> the architectural arrangement will dampen or amplify
> the established patterns of beneficial sidewalk and
> street activity."

In the summary of implementation issues involved in the CPTED demonstration project, authors of the report listed a number of steps and 'lessons learned' during this project (Westinghouse Electric Corporation 1977: 1-9). They note that it was important to involve local residents, neighbourhood and community organizations, law enforcement officials, elected officials, and a wide variety of public agencies in the planning and implementation process. This was considered important with regards to both the ultimate success of CPTED and the overall concept of CPTED. Two interesting points which they make are, first, that it is also important to the success of the project that premature hopes and expectations not be aroused and, second, that months of no visible activity are counter productive (Ibid.)

Not only is it important to ensure that all relevant actors have an opportunity to provide an input into any plans to implement the EDM approach, but it is essential that they be allowed to do so early in the planning stages, in order to take full advantage of their opinions and in order to avoid unnecessary confusion and misunderstandings at later stages when such disruptions could potentially be considerably more costly both in terms of money and the level of cooperativeness or good-will directed towards the program. Fairley and Liechenstein (1971:87-88) point out that:

> "The general neglect of security in housing and retail
> structures is supported by the untimely or weak inter-
> action between those agencies which can both influence
> and profit from improved security. The detective bureaus
> of police departments, for example, have the detailed
> crime data and experience to identify vulnerabilities
> in preliminary building plans and thereby to lessen the
> future opportunities for crime. Complementary expertise
> on system and component performance exists among the
> central station companies and alarm device manufacturers
> who clearly profit from the sale of their services and
> equipment. Yet, because voluntary or compulsory security
> codes and standards for maintenance do not generally
> exist, because competition among proprietors has not
> generally extended to the feature of security, and because
> the essential role of the architect in security planning
> has not been widely recognized, landlords do not request
> that architects design for security, nor do building-
> permit officials insist on it.
>
> These problems are compounded by the landlord's frequent
> disinterest in security matters, by his view of security
> as something to be reconciled after construction, or by
> his equating of security with guards (the cost of which
> perpetuates his neglect of security on economic grounds).
> Even with good intentions and early planning for security
> on the part of the architect and his client, when con-
> struction budgets begin to overrun, adequate security measures
> are often first to be abandoned or relaxed. If the
> arguments of the police and security experts were available
> during such design tradeoffs, the recurring expenditures
> for security personnel induced by the design changes could
> be weighed against the specious savings in construction
> cost."   (Emphasis added)

Another consideration which must be kept in mind when deciding who to involve in implementing the EDM approach is what their respective roles should be, for example: whether residents may submit or veto plans; whether other agencies may submit or veto plans; and, who should make what kinds of contributions at what stages (see Rouse and Rubenstein 1978:60-66). Early decisions on these matters may help to forestall the kind of discouragement that may set in if, as the authors of the CPTED report point out, there is no visible activity for long periods of time. Participants' contributions should be identified and scheduled so that their interest and assistance does not "burn-out" prematurely (see also Waller and Okiniro 1978b:174).

The involvement of the various kinds of potential participants is important not only for the development of the best EDM program in any particular setting but also for an understanding of how the strategies are likely to work. Curtis and Kohn (1980:11-12) for example, note that;

> "Today, the wisdom of involving the client
> population in the design process is widely
> accepted, but there are numerous problems
> faced by housing authorities in obtaining
> meaningful input from project residents.
> Many authorities avoid these problems by
> asking a small, nonrepresentative resident
> body to approve an environmental modification
> package that has typically been produced by
> an outsider. There is little difference between
> this fall back approach to community participa-
> tion and tacit endorsement of architectural
> determinism. Unfortunately, not knowing before-
> hand what the client population thinks and feels
> about specific environmental attributes makes it
> difficult to explain why particular strategies
> work or do not work."

Curtis and Kohn (Ibid.:12-15) go on to examine what might happen if residents are not involved. They point out that it has yet to be effectively demonstrated that academic theory and the opinions of out-side professionals create changes which are more effective in reducing crime and fear than solutions which evolve from the street-level understanding of residents who deal with the problem every day. In addition, including residents in the planning process gives them a stake in the EDM programs and there is some evidence to suggest that if such a stake is removed, residents will sabotage the program. Curtis and Kohn believe that practical trade-offs -- i.e. between tenuous ideas proposed and deeply felt by residents and ostensibly more 'sophisticated' textbook environmental designs imposed by experts on a population assumed ignorant -- have not been sufficiently discussed in the formal literature on environmental design. Ultimately, they propose that the most realistic strategy is to lay out all the options, let the residents refine and modify them, and then have the residents choose those which they then agree to support wholeheartedly.

But Curtis and Kohn note that this sort of implementation strategy is not without the problems that often arise when group consensus is required. First, the conceptual underpinnings of crime prevention through environ-mental design are vague and subject to individual interpretations. In addition, residents as individuals tend to have different security priorities and preferred ways of solving their security problems depending on their perceptions of the causes of crime or of the risks to which they are exposed. Lastly, one cannot point to empirical evidence which supports any of the strategies to a very convincing degree with the consequence that residents tend to accept unquestioningly the security value of new locks and lighting (although the evaluation literature raises some doubts about their overall effectiveness), and to treat with skepticism natural surveillance and community-strengthening strategies. In short, although it is argued that residents must be involved in the planning process, it is recognized that their involvement will potentially require considerable negotiations in order to reach a consensus.

Consensus is required not only among the residents but among the other participants in the EDM program as well. Misner (1973:45-46) has observed that citizen involvement is frequently viewed by the police as "meddle-some" and a direct threat to police authority. Misner cites five conditions which affect official receptivity to the idea of citizen involvement:

> "1. Prior relationships between community groups and
>   government agencies; if history is one of mutual
>   hostility and suspicion, then it may be difficult
>   to develop a workable program.
>
> 2. Some agreement on goals from the outset.
>
> 3. Joint effort to identify areas of friction and
>   agreement to work mutually to solve friction.
>
> 4. Willingness on the part of government agencies to
>   re-delegate some responsibilities as well as some
>   understanding on the part of the public regarding
>   official sensitivities and pride.
>
> 5. Willingness on the part of citizens to accept these
>   responsibilities." (Ibid.)

One further problem concerning involvement is that which arises when one is confronted with a largely indifferent citizenry. The British experience in this regard is particularly valuable because of its emphasis on management strategies, the implementation of which is almost totally dependent on getting people involved. As noted by The Design Council (1979:26): "The difficulties of achieving local participation and involvement should not be underestimated. It requires more than a few public meetings and the distribution of pamphlets."

In low-income, high-crime areas, there may be particular problems in getting residents involved because they are not only apathetic but also hostile to the idea of working with agencies such as the housing authority and police. In one comprehensive and successful example of implementing EDM-related strategies in Britain (the Cunningham Road, Widnes scheme), the organizers went to extraordinary lengths to develop tenant involvement, and attribute the success of the crime prevention scheme to the facts that: they were able to generate residents' interest; and the housing authority (the Council) supported the efforts to involve residents and responded positively to residents' concerns and opinions. The specific methods used to get residents involved in the EDM planning and implementation process are described in detail in The Design Coucil (1979:30-42); this discussion makes it quite clear that the methods used were very demanding in terms of the energy, time and patience required from everyone involved. However, it also emphasizes that the benefits in terms of preventing crime have justified those demands and that there have been perhaps even more important results from this program because:

> "It has underlined, among other things: the possibility
> of improving the lot of council tenants without
> necessarily massive capital spending; the importance,
> and difficulty, of dialogue between residents and the
> Council; the importance of estate morale, and the ways
> in which this is affected by communications between
> tenants and Council; and the latent possibilities for
> self-help among tenants themselves." (ibid.:41)

Other benefits which have come about as a result of the way this EDM program was implemented have included better relations among tenants, a greater sense of consequence and responsibility among tenants (a residents' association was established during the course of the EDM program), and improved attitudes between tenants and the police. One particular caution raised by researchers associated with this emphasis on resident involvement is that organizers of an EDM program should be careful not only to "consult a single tenant body, usually the tenants' association, because this is administratively convenient...it is unwise to assume that one small group of tenants is representative, or that all tenants' concerns are necessarily centred on the same things" (The Design Council 1979:26).

In cases where citizens are not sufficiently concerned about crime to want to participate in the planning, let alone the implementation, of EDM strategies, those agencies or individuals who are promoting these strategies may need to reconsider whether the crime problem is serious enough to justify proceeding with an EDM program. Promotion and educational programs could help to offset this apathy but these entail their own administrative and financial burdens; the net result could be that it simply does not seem worthwhile to attempt to get citizens involved. As we have indicated, this eventuality, while it may appear inevitable in some instances, would be undesirable and would make many of the strategies virtually useless.

Regarding the particular role to be played by the police, police consultation with urban planners and other public authorities involved in housing development and management is considered to represent a promising method of capitalizing on police expertise concerning security and crime issues. To date, this expertise has largely been ignored by planners, architects, housing managers and others. As noted in Chapter 5 although police consultation/liaison is discussed as a management strategy it is also an important condition to the rational and informed implementation of any of the environmental design and management strategies.

While other agencies have been slow to realize the expertise that the police can provide, it is also true that " The environmental design approach has been avoided by police officers because of confusion as to the intent. It was thought to be just another tool to improve the socio-economic standards of an area, and that it would be predominantly used in geared income public housing projects " (Sullivan n.d.:2).

As discussed in Chapter 5 previously, there are potential problems surrounding police consultation, primarily with regards to bureaucratic concerns, the need for changes in police attitudes toward crime prevention, and the need for improving the knowledge base of the police with regard to the design and management of residential environments. What is also required is for police departments to abandon what could be called their 'wholesale' promotion of 'packaged' crime prevention programs in favour of more discriminating use of these programs. As Engstad and Evans (1979:16) point out:

> "Programs such as 'operation identification', 'neighbourhood
> watch', and others are no doubt effective in varying
> degrees in preventing crime, improving police-community
> relations, promoting a sense of 'community' and mobilizing
> a wide range of community resources to control crime. On
> the other hand, these packaged programs are frequently
> assumed to be effective and are introduced without having
> first determined the magnitude or seriousness of the
> crime problem to which the 'prescription' is addressed...
> Unless the programs to be implemented derive from a
> rigorous evaluation of community crime problems, a
> fundamental reexamination of the locus of responsibility
> for specific crime problems, and a broadly directed
> search for alternative solutions, they can be faddish,
> wasteful, ineffective, and at worst, militate against
> police administrators developing increasingly effective
> crime control strategies by giving the appearance, to
> themselves and to the community, that effective crime
> control programs are already in place."

Despite these potential problems and the fact that they entail preparation and the commitment of administrative resources on the part of the police, evidence suggests that these problems can be overcome where there is a broad concern about the incidence of EDM target crimes.

With regards to the agencies involved in the housing design and provision process, there may be even greater problems in getting these groups committed to and involved in implementing an EDM program, since, unlike the police, these agencies are likely to believe that they are only peripherally, if at all, responsible for crime prevention. It has been suggested (see Gardiner 1978) that the best argument to be used in encouraging the involvement of these agencies would be based on financial concerns. When a municipality or other level of government can be shown that its tax revenues are less than they might be (because property values are depressed in high-crime areas), and that ignoring design concerns in new housing developments can lead to excessive long-term policing and other servicing expenditures, it is more likely to be convinced that it would be worthwhile to make a commitment of some resources to implementing the EDM approach through its appropriate departments.

Still in the public sector, a similar argument for the importance of the EDM approach can be made to public housing authorities since crime, particularly vandalism, can place continuing demands on operating funds for maintenance or security guards. However, in most areas of North America there is relatively little new construction of public housing going on. This means that the management strategies assume particular importance since implementing most of the design strategies in existing housing can be prohibitively expensive. There are two major problems with convincing public housing authorities of the value of the management strategies. First, these can involve an ongoing commitment to providing operating funds, and, in a time of increasing funding restraints, obtaining such a commitment can be very difficult. Second, the management strategies require considerable flexibility and openness on the part of the public housing authority. As a British housing authority administrator notes, this requirement is a problem because:

> "It is in the nature of bureaucracy to crunch everything into a shape or form with which it is used to dealing. Consequently bureaucracy has difficulty in dealing with the input from residents which very often won't conform to the norm. At best it is like sand in the well oiled works, at worst it can give the system acute indigestion. It is axiomatic that systems are developed for the benefit of the authority and its officers but not necessarily for the tenant. One of the results of the project has been to make us look carefully at our systems from the client's point of view so that response is more sympathetic to the client, even if this had to be achieved at the expense of traditional management practices.
>
> Lessons learned from the project have led to changes in the structure of the housing organization and these lessons are now being implemented throughout the Council's housing policy and practice. Both tenants and authority are finding the process rather painful -- but in the end I am convinced that the exercise is not only worth while, but necessary." (Emphasis added)

(The Design Council 1979:41-42)

Finally, there is the even greater problem of involving private sector agencies and individuals such as architects, planners, housing developers and managers in the implementation of the EDM approach. Although many of the housing design decisions made by architects and planners may be indirectly related to the EDM strategies (e.g. regarding the provision of adequate windows or the siting of a residential development), these decisions are usually determined by the need to meet other design objectives.

Crime prevention is rarely an acknowledged design objective[1] and is therefore not considered in all elements of the planning and design of housing as the EDM approach proposes. The problem in getting architects and planners committed to the EDM approach is basically, then, to convince them that the need justifies incorporating yet another design objective in their work. Similarly, housing developers and managers, who also have many other objectives to consider in their activities -- one of the prime objectives being to make a profit -- would need to be shown that both the initial implementation of EDM strategies in new housing and the ongoing use of the management strategies in existing housing would make sense.[2] Obviously, the perception of need is critical here: if EDM elements (in particular, those related to target-hardening which would involve additional capital outlay) are seen as marketable items, the private sector housing developer or manager is more likely to ensure those elements are incorporated.

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[1] One striking example to the contrary is the Department of Planning of the City of Chicago which has produced a comprehensive set of guidelines for residential developments which incorporates both design and management strategies for preventing crime (see City of Chicago:1979?)

[2] See Fairley and Liechenstein (1971:87-88) for a discussion of this problem.

8.3 FUNDING

Gardiner (1978a), Newman (1980), and British proponents of the EDM approach (The Design Council 1979:39) argue that it may not be necessary to find or create new funding sources for many of the EDM strategies. They claim that already existing allocations and sources may be used; the only difference would be that instead of being used to develop "insecure" projects, programs, housing developments and parks, these funds could be used to develop housing which incorporates the EDM principles. Examples of existing funding programs in which the EDM design strategies could be applied include:

"   current or planned public housing projects, housing
    for the elderly, or neighborhood restoration projects;

.   city redevelopment and restoration projects that
    combine both public and private investment;

.   new private development projects, ranging from new
    towns in-town to subdivisions and planned unit
    developments;

.   ongoing planning and zoning projects for a city;

.   ongoing or new city developmental projects for
    parks and playgrounds, street improvements, mass
    transit, schools and public facilities."

                                    (Gardiner Ibid.:57)

Gardiner argues that because the construction and development costs will have been covered, the direct cost of the EDM approach will be limited mainly to analysis, planning, design and evaluation. He also points out that by integrating EDM into existing development projects a wider range of design impacts may be realized since potentially all of the elements of a given environment will be under consideration for new design or redesign. Gardiner contrasts this situation to a separately funded EDM project where a limited funding capability may result in changes of only one or two environmental aspects. He concludes by noting that the "possibility for achieving the desired reinforcing of synergistic effect that is so important to making environments safe without resorting to urban fortresses is also improved by integration into projects which make use of existing ... funding programs" (Ibid).

There is also considerable potential for funding the management strategies of the EDM approach through existing programs. The currently available sources would include the program and operating budgets of almost every federal, provincial, municipal and private sector agency concerned with housing management and the provision of police and other social services.

As with the funding of the design strategies, the management strategies of the EDM approach would be expected to be most effectively applied if they were incorporated in existing programs (for example, regarding recreational programs, community development, etc.). Given the problems with recent cutbacks or increased constraints with regard to the program and operating budgets of the types of agencies noted above, the incorporation of EDM principles into the various relevant programs might even be useful in providing these agencies with further arguments to justify the need for, and value of these programs.

Where additional funding for EDM implementation would be needed from federal, provincial, and perhaps municipal governments would be in the aforementioned areas of analysis (i.e. site analysis or 'diagnostic' research), planning design and evaluation. Rouse and Rubenstein (1978:62) emphasize the importance of adequate funding for these phases of implementing the EDM approach and note that many well-intentioned programs have failed to reach their full potential because of insufficient funding for these endeavours. Of particular importance are the initial analysis phase and the evaluation phase, since the former may determine the ultimate success of any EDM program, even before implementation begins, and the latter will permit something to be gained even in the event of failure -- i.e. at least program planners will be able to learn why it failed and what not to do next time.

Considering the extent of funding which may be required to properly implement EDM, it is possible that the relevant agencies may not consider the crime problem serious enough to warrant the necessary redirection of funds or new expenditures. However, as noted above, once one considers the indirect costs of crime, this assessment may deserve consideration.

As Gardiner (1978a:57) points out:

"Recent research into the relationship between crime
and the urban growth and decay process suggests
that reduction of property values and the loss of
municipal property taxes due to crime may be even
greater than the direct costs of crime. The
implication is that by reducing crime over large
areas of the city, real estate values, and there-
fore city tax revenues, will increase -- thereby
providing the economic foundation for development.
However, more investigation and research are
needed relating economic revitalization of our
neighborhoods and cities to crime prevention
through design and reorganization of the environ-
ment. There is evidence to support the contention
that crime in the streets will be controlled only
when there is sufficient economic commitment and
rationale for changing the conditions that
encourage crime."

8.4 PROCEDURES

A number of writers who have been involved in or have examined attempts to implement the environmental approach to crime prevention in the United States and Britain have identified a list of procedures which seem advisable to ensure that these programs have a good likelihood of realizing their full potential. Although writers identify these procedural stages by different terms, essentially they consist of the following steps:

1. Problem definition or needs assessment. Frequently two stages are entailed here: (1) a preliminary needs assessment, including discussions with residents if the project is concerned with existing housing, and (2) an in-depth site analysis.

2. Initial organization. Essentially what is involved at this point is contacting the relevant participants and authorities (some of whom will already have been involved in the first stage).

3. Assessment of resources available.

4. Initial planning and design.

5. Assessment of resources required and, if necessary, promotion.

6. Management, for example regarding the allocation of responsibilities for proposed actions, including their scheduling, coordination and monitoring. This stage may also entail revisions, elimination, and/or additions to the original plans depending on how things are 'shaping up'.

7. Implementation.

8. Evaluation, including both process evaluation and final evaluation. (See, for example, Kaplan, H.M. [1978].)

It is clear that there is some overlap between these stages and the order in which they are presented above may not be definitive; some stages may be undertaken concurrently or in a slightly modified order. Also, the progression from one stage to the next is often not automatic but is dependent on decisions reached in preceding stages. Each of these steps is discussed separately below.

8.4.1 Problem Definition or Needs Assessment

As noted above, the first step frequently entails two stages:

i. Preliminary Needs Assessment -- This may consist of a formal or informal collection of information arising from community organizations, tenant organizations, private residents, city officials, housing management, police and so on, about the crime problem in a particular area in order to assess whether there is a perceived crime problem and to obtain a general estimate of its nature.

ii. In-depth Site Analysis -- What is required here is an in-depth field study of the proposed site for the EDM program. The research should include:

- an account of the crime problem (its nature, frequency, location etc.)

- a description of the site which focuses on those elements important to an understanding of the crime problem as well as to an understanding of how particular EDM strategies are likely to be received in the area, i.e. their suitability.

Two reports published by the U.S. Department of Housing and Urban Development (1979a and b), for example, list a variety of factors which should be examined in the site analysis, including:

- the history of crime in the area

- the relevant characteristics of offenders and victims

- estimated future trends of crime in the area

- the relevant characteristics of the areas surrounding the program site

- the social forces at work in the larger community which impact on security

- the characteristics of the area's residents which might contribute to the encouragement or deterrence of crime

- the degree and nature of residents' fear of crime

- the specific physical characteristics of the area which might be significant to the encouragement or deterrence of crime

- the nature and quality of police services

- the nature and quality of other protective services within the area or within residential buildings in the area

- the general housing management policies and practices affecting security

- the potential of resident organizations for assisting with a security program

- the extent to which housing managements have an in-house technical capability to resist crime

- the need for additional technical assistance and identification of how it could be obtained

- the options for additional hardware and software measures

- the residents' views on various security measures

- the relationship between security needs and the availability of resources (e.g. financial)

. other funding sources

. the identification of what social services are needed

. the implications of the various existing laws and
regulations for security.

It is clear that as much information as possible should be collected on
these issues before a prospective list of crime prevention strategies is
considered. Rouse and Rubenstein (1978:49ff) raise a couple of cautionary
points regarding such an analysis:

"Keep in mind the potential bias of official police
statistics... Roncek makes a number of
suggestions that may help in this regard :
e.g. use 'offences known to police' data, collect
crime data on a block basis (as opposed to census
tracts for example).[1]

Be careful of the presumptions and values of middle-
class practitioners and researchers."

The Rouse and Rubenstein report goes on to describe a number of techniques
which may prove helpful in site analysis, e.g. mapping techniques, sample
surveys, behavioural observation, key person analysis, and the critical
incident technique.[2]

Along similar lines, William Brill and Associates (1979) have developed
what they call a "Residential Vulnerability Analysis" consisting of three
parts:

a)   Household Safety and Security Survey -- This survey is administered
     to a sample of the resident population. The survey provides data on
     actual victimization and measures residents' fear of crime and the
     extent to which residents are altering their behaviour because of
     their concern about crime. It tells exactly where victimization is
     taking place and which areas are viewed most fearfully and shows
     where improvements should be targeted.

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[1]   See also Gillis and Hagan (1979) for a discussion of this point.

[2]   The reader is referred to Rouse and Rubenstein (1978:49ff) for a
      description of these techniques.

b)   Site Security Analysis -- This part of the field research identifies
     the negative design and development features of the site. Six features
     are examined:

     . Penetrability --   how the site can be entered, how entry points
                           are structured and controlled.

     . Territoriality -- the presence of design features such as poorly
                           designed front and rear yards that discourage
                           residents from taking control of the site and
                           identifying with it.

     . Opportunities for surveillance -- the extent to which the site
                           provides opportunities for people using the
                           site to be observed in a formal manner by police
                           and more casually and informally by residents.

     . Unassigned space -- the existence of space that no one protects
                           and which can easily be claimed by intruders.

     . Design conflicts -- the presence of situations in which user
                           groups are forced to compete over the use of
                           the same facility or space.

     . Neighbourhood influences -- how the location of the site and
                           features in the surrounding area affect the
                           security in the area.

c)   Assessment of the Social Environment -- This part of the research
     examines the cohesiveness and organizational strength of a residential
     environment's social structure. It determines the extent to which
     residents have formed supportive relationships useful in resisting
     criminal intrusions or in controlling disruptive behaviour of other
     residents. It also examines how effectively police and other security-
     related services are delivered.

Brill and his colleagues point out that the "Residential Vulnerability
Analysis" is useful both for diagnostic and evaluation purposes. Detailed
suggestions about how to collect and analyse this information are provided
in the Brill reports (1979a,b,c, and d).[1]

Other writers have suggested a number of other factors which should be
reported in the site analysis. For example, in a report prepared for the
United States Department of Justice (Sagalyn 1973), it is proposed that in
order to reduce the probability that a residence will be the target of a
crime over a specified period of time (i.e. a residence's "crime risk"),
attention should be focused, depending on the specific situation, on either
the degree of "crime pressure" or the degree of "crime vulnerability"
applicable to the residence, or both. The "crime pressure" of a residence
refers to the probability that any randomly selected residence in an area
will be the target of a crime during a specific period. It is the ratio
of the number of anticipated crimes to the number of targets or
opportunities for it. For residential burglaries, for example, it would
be the number of anticipated burglaries in an area during a given period
of time divided by the number of residences in that area (see Boggs 1966;
and Sagalyn 1973:x). The "crime vulnerability" of a residence refers to the

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[1]   See also Gardiner (1978a) for a similar discussion of how to analyze
      a site.

probability that the particular residence will be the target of any randomly selected crime. To determine the vulnerability of a residence, one must have information about its crime attractiveness and that of other residences in the area, which requires information about the perceptions and motivations of offenders based either on specific empirical studies or generalized notions about offenders (e.g. from police).

The calculation of residences' "crime risks" would be valuable in several respects. First, it would provide another descriptive measure of the relative amount of crime occurring in an area, i.e. one indication of how serious the crime problem is. Second, it would provide an indication of the degree of need for crime prevention programs for specific types of crimes. It would be a way of documenting the precise nature of the crime prevention strategies required, if any. Third, it would assist in setting priorities with respect to the implementation of crime prevention programs. Finally, dissemination of this information could be a valuable educational (or promotional) device in that it would acquaint citizens with the crime risks of their area.

Other types of measures for the site analysis include, if possible, documentation of the offender rate of an area (i.e. the ratio of types of offenders residing in an area). This would vary depending on the crime type under consideration since the denominator for the offender rate would differ for types of crimes. For example, a reasonable denominator for the offender rate for vandalism would probably exclude children under certain ages and adults over a certain age. Similar types of adjustment would probably be required for auto thieves, rapists, and so on.

In summary, the site analysis should attempt to document all the information that is required in order to assist the construction of a list of strategies for that area. The more precise the analysis is at the initial phase, the greater the likelihood that an effective and appropriate set of strategies will be developed and that false starts will be avoided. This kind of information is also essential for convincing the relevant agencies of the need for crime prevention (or, in some cases, the information obtained may result in a decision not to implement or continue a crime prevention program -- also a valuable contribution to decision-makers).

In this respect, the authors of the CPTED report (Westinghouse Electric Corporation 1977:1.12-1.13) note that the site selection for a CPTED project is a key consideration. Important factors with respect to site selection are:

" . The target site should have a sufficient level of crime and fear to justify a CPTED effort.

. The types of crime problems found within the target site should be those that can be alleviated by CPTED. Criteria that can be used to evaluate alternative sites for a CPTED project include: type of crime; severity of crime; fear levels; local attitudes and perceptions; loss from criminal activity; population at risk; value at risk; and impact on the quality of life.

. There should be readily available crime and environment data. Generally, the delineation of crime/environment problems will involve analysis of the relationship between various aspects of crime problems and physical, social, and economic variables. Unless this data base is available, or there is the potential for developing such a base, the ability to properly analyze crime/environment relationships will be minimized. If there is an inadequate data base, the CPTED planner should recognize this condition and either include a data inventory element with work programs or utilize alternative analysis techniques to define crime/environment problems.

. The selected site should have strong support and interest from community decisionmakers. In addition, various public or private organizations and agencies should be committed to improvements in the site area.

. Supportive programs should be underway or planned for the target site. These programs can provide funding assistance and expand the scope of CPTED strategies."

In addition, they point out that, in their view, CPTED is most successful when it is focused on "opportunity areas" (i.e. an environment or target site that has supportive programs underway, has programs planned or scheduled, or for various reasons, is a focal point of community interest). The advantages of doing this include:

" . Funding support is possible.

. The possibility of an adequate data base is enhanced.

. Strategies can be incorporated into improvements already scheduled.

. The area already is a focal point of community interest and attention.

. The possibility of incorporating the CPTED concept into ongoing programs is increased."
(Ibid.)

8.4.2 Initial Organization

In practice, this stage in implementing the EDM program may begin even before the preliminary assessment of need and may continue and expand to include additional agencies and organizations during the entire course of the implementation procedures. The authors of the CPTED report (Westinghouse Electric Corporation 1977:1.7), for example, explain that their very first step was to make presentations to local officials describing the concepts involved and the likely benefits and costs of the CPTED demonstration project. After the input of these officials was obtained and their approvals to proceed were secured, detailed studies to define the problem were undertaken (e.g. studies of crime, victimization and fear, and of the environmental characteristics potentially related to crime and fear; and, identification of possible implementation funding sources). The CPTED

authors point out that a principle adhered to by the demonstration planners was to involve the local site populaton to the maximum extent possible throughout the process. Without their involvement, participation, and knowledge, the project would have failed during the early planning phases.

It is obvious that the initial organization represents a highly critical stage in the implementation process. At this point, the likely participants as well as key decision-makers are contacted and acquainted with the need for and prospects of the EDM approach to crime prevention. The authors of the CPTED report note that "unless key decision-makers are firmly committed to the project and prepared to make the necessary policy decisions, the CPTED planners and implementors may find it impossible to influence the various agencies, departments, organizations and individuals to commit the requisite human and financial resources in a timely manner" (Ibid.:1.10-1.11).

It is also at this point that the organizers of the EDM program may become acquainted with local priorities and objectives. The CPTED authors (Ibid.: 1.15) note that if the objective of the local jurisdiction is to reduce auto thefts from parking garages, for example, a comprehensive planning and implementation effort will not be required. Conversely, if a community wishes to achieve a number of objectives or benefits and is uncertain about the precise nature of the crime/environment problem, initiation of a more comprehensive planning and implementation effort can be proposed. All those who write about the implementation of EDM-related crime prevention programs emphasize that it is essential that the objectives be agreed upon as early as possible.

8.4.3 Assessment of Resources Available

As we have indicated in the section on 'Funding', many ongoing or planned government programs may be approached as potential funding sources. In addition, however, it is likely that additional resources will have to be obtained from federal, provincial or municipal governments in order to ensure that all stages of the implementation process (including evaluation) are sufficiently funded (see Westinghouse Electric Corporation 1977:1.11).

8.4.4 Initial Planning and Design

On the basis of the site analysis, and taking into account the priorities and objectives of local jurisdictions, at this stage the EDM planners can develop a concrete EDM crime prevention program, specifying more precisely what kinds of strategies will be involved, how they are expected to affect the crime in the area chosen, and who or what agencies are responsible (see Westinghouse Electric Corporation 1977:1.8; and Engstad and Evans 1979:19). Gardiner (1978a:47) states that these preliminary plans should document the ramifications and implications of each of the measures being considered with a view to assessing their ultimate feasibility. The major feasibility criteria proposed by Gardiner (Ibid.) are:

". the severity of the crime problems,

. the anticipated cost...,

. the potential for city government acceptance,

. potential for citizen acceptance,

. ease of integration within city departmental plans and programs,

. ease of integration within private development plans and projects."

Gardiner (Ibid.:48) points out that the feasibility assessment should also accomplish "two ancillary objectives: reaction and recommendations from interested organizations and thus refinement of the solutions being considered; assessment of solutions best suited for immediate or short-term implementation as compared to these [sic] more logical and long-term projects." A point which should be remembered here is the need for, and benefits accuring from controlling for the impacts of individual strategies (see Yin 1979:121-127). Although, as suggested previously, it is unlikely that the complexity of an EDM program and the considerable planning and implementation resources required will permit controlled implementation of each of the EDM strategies, the value of this kind of control should be kept in mind and worked into the program, if at all possible, as it will greatly facilitate evaluation.

Other conditions which should be kept in mind at this stage are the potential for conflict among strategies and other objectives, and the absolute necessity of selecting strategies which support and complement one another (see Gardiner 1978a:48 and Rouse and Rubenstein 1978:54ff).

8.4.5 Assessment of Resources Required and Promotion (if necessary)

At this stage in the implementation of the EDM program, the organizers should now be in a position to estimate more precisely the costs of the proposed program. This estimation may necessitate program cutbacks or could entail further promotion in order to attract additional funding. Promotion can fulfil two objectives; it may rouse public interest and thereby increase public pressure for funding, and it may also pave the way for actual implementation by acquainting citizens and agencies with the issues and solutions involved. It has been argued (see Gardiner 1978a:81) that the most effective way to ensure adequate public interest in crime prevention and to attract sufficient support (e.g. financing) from governments, is to inform the public of the direct and, more importantly, the indirect costs of crime, particularly regarding property crime which represents the greatest proportion of crime (excluding traffic offences).

For example, citizens could be informed that:

. every time (s)he buys something from a store a certain proportion
of that item's price reflects costs incurred from shoplifting and
burglaries,

. the household insurance premium (s)he pays reflects the rate of
crime in her/his area,

. the property value of her/his home, if (s)he is a homeowner, reflects
the rate of crime in her/his area, and

. a certain proportion of her/his taxes goes towards maintaining the
criminal justice system which is primarily concerned with dealing
with offenders after the commission of a criminal act.

Ideally, this kind of promotion would have the greatest impact if actual
figures were provided. In addition, police information about crime in
particular areas could further arouse public interest in the proposed
crime prevention program.

8.4.6 Management

At this stage of the implementation process the EDM program is finalized
as far as possible. As indicated above, responsibilities have been
allocated, schedules set, and coordination and monitoring procedures
established. It is recognized, however, that a certain amount of change
is inevitable, particularly in large projects. The CPTED authors comment
that"...since these changing management and participation roles can
create difficulty in the timing of and commitment to a CPTED project,
CPTED planners should be aware of potential difficulties and structure
their activities so that possible problems are minimized" (Westinghouse
Electric Corporation 1977:1.15-1.16).

Engstad and Evans (1979:22), commenting about the negotiation and enforce-
ment of a crime prevention agreement, observe that "it is most unlikely
that the group or corporate body to whom responsiblity is being shifted
will immediately acknowledge that their property or operations are gener-
ating a substantial strain on police resources, accept that they have a
duty, up to the level of their competence, for the control of specific
crimes, and take appropriate actions." They claim that the failure of
many well-intentioned and theoretically sound community-based crime control
efforts can be attributed to the absence of some means of ensuring that
members of the community involved accepted and effectively discharged
their responsibilities (loc. cit.). They suggest that there are a variety
of tactics whereby those responsible may be persuaded or otherwise compelled
to discharge their responsibilities, for example, using the site analysis
as a method of convincing those involved of the problems and their roles
in solving the problems, 'moral suasion', and the use of municipal by-laws,

licencing provisions, permits, regulations and related legal instruments
if necessary.

Gardiner (1978a:49) suggests that the final "Plan and Program" should
consist of a series of components:

". a district scale plan which identifies specific
elements of the environment to be changed and
diagrammatically illustrates these changes;

. an overlay of the district plan illustrating the
staging of projects over a given period of time;

. a set of solution directives and design guidelines
to be used in the design of each element;

. a master plan for the target neighborhood or new
development which diagrammatically illustrates
the environmental security changes to be
incorporated;

. a detailed site plan that illustrates the planning
and design resolutions of those changes;

. a set of planning and design criteria that will be
used in the detailed resolution at the various scales
of each individual element;

. and finally, a staging diagram."

8.4.7 Implementation

As suggested in the 'Management' section, it may be necessary to involve
a variety of 'legal instruments' in order to ensure implementation of
some aspects of an EDM program. In particular, this may be an appropriate
means of instituting changes in the areas of target-hardening or access
control.[1] Gardiner (Ibid.:50) notes that the implementation of legal
tools and policies will generally be concurrent (rather than sequential)
with the implementation of the EDM program; however, they should begin at
the larger scale of the district or community and work down to the level
of the neighbourhood and individual buildings.

An itemization of specific implementation techniques in the area of
physical design changes is not considered necessary in the present report
as there are standard procedures in the planning, architectural and
engineering fields. Basically, they refer to schematic design, construc-
tion or implementation documents, final design, bidding or submission,
and actual implementation or supervision of construction. With respect to
the 'softer' elements of an EDM program, however, there are no standard
manuals or methods. The implementation of program elements involving
citizen action or other 'people-action' techniques is an endeavour that
probably depends as much on compelling leadership as it does on the

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[1] The following section on specific techniques includes a number of
suggestions for implementing these and other elements of the EDM
approach.

observation of commonsense rules of procedure and diplomacy. It is beyond the scope of this report to discuss the nature of 'compelling leadership' but it is important to note that this aspect of the EDM 'people-strategies' probably represents one of the weakest and most difficult elements to implement.

Gardiner (loc. cit.) concludes by observing that:

> "Given the far-reaching ramifications of the planning and design solutions that may occur, it becomes clear that they must fit into a city's master plan and development plans. At the outset, E/S [Environment/ Security] planning may entail a major reconsideration -- the acceptance of the concept that crime can be prevented. However, once the possibilities of E/S are understood through educational and promotional efforts, E/S design can become part of the ongoing planning and design process. If sufficient legal tools are implemented, the future tasks of providing environmental security will be significantly reduced."

8.4.8 Evaluation

There are numerous texts available which discuss the need for and proper methods of undertaking evaluation of an EDM program. Although the methodological complexities of evaluation will not be discussed in detail here because they will necessarily vary from situation to situation, it is possible to itemize, in a general way, the nature of the evaluation which should be undertaken. Basically, evaluation entails examination of the following five program elements (see U.S. Department of Housing and Urban Development 1979a:31):

1) Effort evaluation -- i.e. the quantity and quality of activity. This part of the evaluation assesses the input rather than the outcome. It is critical because it allows for corrections in implementation before it is 'too late'.

2) Performance evaluation -- i.e. examines the results of the effort (e.g. amounts of service rather than attempts to serve).

3) Adequacy evaluation -- how adequate the performance was relative to the need.

4) Efficiency evaluation -- i.e. cost/benefit analysis aimed at determining whether there are less costly ways of meeting objectives.

5) Process evaluation -- examines the whys and wherefores of the program's success or failure.

Good evaluation should include all five aspects and will necessitate 'pre', during, and 'post' measures of the relevant variables in the EDM program. Fairley and Liechenstein (1971:51ff) have developed a fairly elaborate list of criteria which should, in their view, be incorporated into the EDM evaluation process. The reader is referred to their report for information on these criteria and considerations.

8.5 SPECIFIC TECHNIQUES

There may be occasions when EDM planners and organizers, and local authorities might consider implementing some of the EDM strategies using legal methods or other kinds of 'coercive' techniques. Specifically, what is commonly being referred to in this regard is: (1) using by-laws to enforce target-hardening and certain access control measures, and/or (2) using insurance policies and programs to persuade people to implement certain target-hardening and other kinds of security measures. Opinion regarding these methods varies considerably and they frequently arouse an extreme range of emotional responses. Our review of these proposals is brief but will acquaint the reader with the basic issues and perspectives.

8.5.1 Security Codes or By-laws

As indicated in Chapter 5, the public is often confused and lacks knowledge about safe and effective target-hardening techniques. This raises the problem that if left to his/her own initiative and judgment, the average citizen will, even with the best of security intentions, fail to select and properly install sound and effective security devices. More often, however, members of the general public have few intentions to improve security in their homes. For these reasons, many writers have proposed the creation of building security codes or by-laws aimed primarily at establishing standards for proper target-hardening (including windows, frames, doors, jambs, locks, etc.). Other reasons for these proposals include the facts that: a significant proportion of all crimes consists of burglaries, burglaries are occurring in ever-increasing numbers in residential buildings, and most burglaries are perpetrated by entering a structure through doors and windows (see, for example, National Advisory Commission on Criminal Justice Standards and Goals 1973:198; Roudabush 1979; and Lawson 1979). Add to this the fact that few commercial and industrial enterprises (also victims of burglaries) as well as housing developers will voluntarily implement adequate target-hardening because it interferes with profits, and the case in favour of legally enforcing security standards in the form of target-hardening by-laws becomes very strong indeed (see Blancard 1973:14-15 and Roudabush 1979).

There is some evidence which suggests that when these ordinances are instituted and enforced, there is a significant drop in burglaries. In Oakland, California (Roudabush 1979) the municipal building code was amended to require security (primarily target-hardening) devices in certain buildings used for business purposes; in Rosemont, Illinois (Chicago, City of, Department of Planning 1980:4) a building ordinance was instituted

requiring deadbolt locks in all residential buildings containing six or more units. This ordinance was developed in direct response to a problem with apartment burglaries and, according to the police, has resulted in a decrease in this type of crime.

An additional advantage of a security code is that it would provide the benefit of insuring that the implementation of security planning occurs in the initial construction stage of a building. This, it is argued, is necessary because security is often overlooked until after construction is completed and the building is occupied. At this point, implementation costs and the inconvenience caused by implementation make it all the more unlikely that the security features will be instituted. Furthermore, target-hardening is a <u>system</u> of security: that is, the selected locks must suit the hinges, <u>jambs</u> and construction material etc. (see Harvey 1980:8). Thus, if physical security devices are not installed according to specific guidelines during construction, then the responsibility lies with the owner, his agent or resident who may not be cognizant of the proper measures which need to be taken given the nature and materials used in the construction of the building. Moreover, if the unit is a rental unit, tenants are sometimes not allowed to install security devices and must live with the fear that previous tenants or construction workers have access to their dwelling (see Chicago, City of, Planning Office 1980:2-3).

Ironically, many of the criticisms regarding the use of security ordinances arise from the very same arguments which favour their use. For example, public inertia makes enforcement a major condition for ensuring the effectiveness of a code, but the resources required for adequate enforcement could militate against the code being instituted. It has been observed, for example, that the institution of a security ordinance:

> "...just would add another negative function for the
> police to perform; impose another bureaucratic hurdle
> for the public to overcome, and produce another
> restriction on the use of property; mean another step
> in the direction of a police state; be of little value
> because residents do not use crime prevention measures
> now available to them; and, be of little consequence
> as long as present insurance companies' policies and
> practices remain."
>
> (Dillingham Corporation 1971:7)

Citizen resistance to the notion of a security ordinance could also arise from cost and aesthetic considerations (Dillingham Corporation 1971:9; and Waller and Okihiro 1978b). Similarly, resistance from private developers and landlords could also prove to be so strong as to ultimately undermine any attempts to implement a code (see deVines 1973b:48; and Stormes 1979:4.1).

Other objections include the arguments that there is insufficient reliable knowledge and information available about what precisely should go into the code (see Dillingham Corporation (1971:7-9). As Harvey (1980:67)

points out: "We tend to know considerably more about what the critical weak links in the security system are, than we 'know' about how to correct them." On the other hand, considerable research in this area has recently been undertaken and many might argue that we do, in fact, know enough to establish, at the very least, minimum standards (Harvey <u>loc</u>. <u>cit</u>.).[1] One further set of criticisms regarding security codes relates to the concerns that: they would foster a 'fortress mentality', they would displace rather than prevent crime, they could easily be in conflict with fire regulations (Harvey 1980:14), and there is no concrete evidence which shows that they are effective (<u>Ibid</u>.:24).

Clearly, the security code issue is one fraught with many difficulties and opposing perspectives. It is not within the scope of this report to resolve these debates or express an opinion as to which arguments have the greatest merit. Each municipality would have to determine the advantages and disadvantages of such a step for itself. However, a number of points have been made about the nature of security codes, if they were to be implemented, which merit discussion here. For example, de Vines (1973b:49) states that if codes are developed, they should be based on performance and there should be some means for constant review of the by-laws in order to take advantage of new developments. A board or commission at the national level should be set up for this purpose, since the American experience has shown that local governments, which would probably have the primary role in initiating and enforcing security codes, do not have the resources to develop adequate performance standards, as opposed to consensus standards (Hopf 1979:1.10). The City of Chicago Planning Office (1980:2) notes that security standards should specify devices which are available from a number of accessible manufacturers or suppliers; otherwise there could be delays in obtaining devices and costs could be escalated. It also agrees with de Vines that specifications should preferably be based on performance, but allows for specifications based on design (<u>Ibid</u>.:5). The reader is referred to Harvey (1980) and other building security code documents (see footnote below) for further discussion on the nature of security ordinances.

8.5.2 <u>Insurance Policies and Practices</u>

It has been suggested that insurance companies could have a significant role to play in the implementation of security features (e.g. hardware, access control) through their practices and policies regarding insuring households against crime. Simply put, it has been suggested that insurance companies develop levels or categories for insuring households against theft: the better a home's security, the lower its premiums. This would be somewhat the same as fire insurance offices which give advice at the design stage of a project and allow lower premiums for various preventive measures. It is thought that such a practice would offset the perceived tendency for people to be lax about their security because 'the insurance company will take care of my losses'.

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[1] For some examples of proposed building security ordinances see: Newman (1973a and 1976); Hopf (1979); Sagalyn (1973); Chicago, City of, Planning Office (1980); Lawson (1979); Harvey (1980); and Sawers (1980).

Once again, however, the advisability of this scheme would depend on there being a usable set of effective residential target-hardening techniques. In addition, it seems unlikely that the insurance industry would voluntarily institute such a practice because, as a report by Sagalyn and his colleagues (1973:75) points out, personal theft insurance is a relatively low-volume type of policy (most theft insurance is included in comprehensive homeowners' or tenants' policies that also provide coverage against losses from fire, water, personal liability, etc.). While it is very difficult to determine how much of the premium for 'multiple peril' insurance is attributable to burglary and theft coverage, one informed guess puts it at about 5% (Ibid.). It is suggested that "in these circumstances, there seems to be little room for meaningful rate reductions for individuals who improve the security of their homes " (Ibid:74).

On the other hand, it has also been pointed out that losses from theft may constitute a more substantial component of the losses on homeowners' comprehensive insurance than the 5% figure indicates. Sagalyn and his associates (Ibid.) note that in 1970, according to the Insurance Services Office (which had data for roughly half of all insurance companies in the United States), about 20% of the losses on homeowners' policies were attributable to theft, and on tenants' policies, where structural damage from fire or other causes is not insured, theft was responsible for 51% of all losses. In view of these figures, insurance companies may be interested in helping prevent these losses. However, Sagalyn (Ibid.) goes on to point out that, even assuming that there was room for as much as a 10% premium reduction for the average household if it installed security hardware, there still would be little incentive for the insurance agent to encourage his client to do so. Since agents are paid on a commission basis, there is a strong incentive for him/her to dissuade his client from qualifying for the reduced rate.

In the comprehensive discussion of insurance incentives in this same report (Sagalyn 1973), it is also noted that, unlike fire and property damage insurance (which a mortgagee will require as a condition of lending money to finance the purchase of a home), or insurance schemes for commercial and industrial properties, no third party is particularly interested in whether or not a homeowner has theft insurance. Furthermore, because theft insurance is not critical to the purchase or rental of a home it is clear that (Sagalyn 1973:74-75) "insurance companies are under little pressure to make policies available or keep them in force rather than cancel them [and] there is little outcry against insurance companies for refusals to issue theft insurance for households."

There are other reasons, which Sagalyn and his colleagues mention, why it would be unlikely that the insurance industry would focus on the prevention of residential crime or reduce premiums to encourage the installation of protective devices. The cost of administering a rate structure, given

existing (i.e. 1970) premium levels for residential theft coverage, might seem excessive. Inspection of homes would be required and because insurance companies have never seriously investigated the problems of residential crime in the past, "they have little knowledge about appropriate protective devices or the impact of their installation on losses from residential crime" (Ibid.).

Sagalyn and his associates (Ibid.) also examined the negative incentives insurance companies might adopt -- i.e. penalties for failure to adopt protective devices. They note that the most extreme form of negative incentive is for companies simply "to refuse to write crime coverage, leaving the household to bear its own losses." In the past, however, in the United States, this refusal has seldom been explicitly tied to the household's failure to take security measures. Because uninsurability has not been directly related to security measures, Sagalyn notes that "it is questionable, especially in the absence of adequate public information programs, that its impact has been to encourage self-protection" (Ibid.). Sagalyn argues that it may have even discouraged greater self-protection "by reinforcing fatalism about becoming the victim of a theft" (Ibid.).

Other features of some private crime insurance policies are also considered to serve as negative inducements for self-protection. Sagalyn (Ibid.) proposes that:

> "The most prominent of these is a deductible amount
> and a limitation on coverage for cash, securities,
> jewelry, and other valuables. The deductible, although
> adopted primarily to hold down the number of small
> claims that are inefficient to process, also has the
> effect of making the insured bear some of the risk of
> theft. Limitations on coverage encourage him to
> take appropriate measures to safeguard the items
> they cover..."

In the United States, the federal government residential crime insurance policy, unlike most private policies, is explicitly conditioned upon visible evidence of forced entry. As Sagalyn (1973:76) has pointed out, "this is a strong incentive...since it does not necessarily induce the installation of effective barriers to entry, but only the use of some barriers that will require physical damage to circumvent" (Ibid.). The federal policy is also explicitly conditioned upon the installation of appropriate protective devices -- e.g. deadbolt locks using either an interlocking vertical bolt and striker or a minimum ½" throw deadbolt[1] or self-locking dead latch on all doors in exterior doorways or other

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[1] According to the "Proposed Security Standards for the National Building Code of Canada" (Lawson 1979:10-11), the minimum requirement for locks on exterior doors should be "...deadbolt with minimum of one inch-throw, with hardened steel rolling insert..."; a CMHC (1981) document recommends a deadbolt lock with a 25mm throw and notes that double-keyed deadbolts are not allowed in construction financed under the National Housing Act because of the problems they can create in emergency situations (Ibid.:16).

doorways leading to areas affording easy access to the premises. The
purpose of this requirement, which is enforced by inspections of the
premises when a claim is made, is "primarily to ensure the financial
soundness, at reasonable premium rates, of the Federal residential
crime insurance policies" (Ibid.). Sagalyn and his associates argue
that it "is almost certainly a necessary corollary of a legislative
and contractual commitment to keep policies in force despite the claim
experience of the insured or the crime pressure in his area" (Ibid.). While
no data are yet available on the losses recorded under these Federal
policies, it is probable, according to Sagalyn (Ibid.), "that the
Federal record (adjusted for the crime rates where policies are in
force) will be better than that of private insurers" (Ibid.).

However, Sagalyn and his colleagues explain that this is not a strong
argument for the inclusion of similar conditions in private policies.
As they point out (Ibid.:76):

> "Conditioning coverage on the installation of protective
> devices would seem justifiable only where the only
> alternative is not writing the insurance policy at all,
> which is presumptively the case with Federal policies.
> Where coverage is now available without such conditions,
> it would seem to make little sense to require the
> installation of protective devices in order to continue
> it. The cost to the insured may be substantial, while
> the gains would primarily accrue to the insurance
> companies, although they would be partially offset
> by increased administrative costs. Underwriting profit,
> in fact, might decline, as policyholders cancel their
> theft coverage rather than incur the added costs of
> protective devices. For a homeowner who considers
> crime loss a remote contingency, the choice between
> cancelling his theft coverage and spending $100 or more
> on locking devices may be a relatively easy one. For
> a household that faces a greater crime threat, the effect
> of the requirement may nonetheless be to price insurance
> coverage beyond their ability to pay. The net result,
> in both cases, is to reduce the extent to which
> financial protection is provided against loss from
> theft. This obviously has little appeal to insurance
> companies -- provided they are making a profit on
> existing insurance -- and has little to recommend it
> from a policy perspective."

8.6 OVERALL SUMMARY OF IMPLEMENTATION ISSUES

The complexity of the basic premises and strategies of the EDM approach is
clearly reflected in the intricacy of the issues surrounding implementation
of the approach. Of key importance is implementing the EDM approach
"properly":

. The suitability and effectiveness of the EDM approach depends on the
nature of the environment and the crimes occurring there; therefore,
implementation must be preceded by a thorough site analysis.

. The strategies selected for an EDM program in any given setting should
be supportive and complementary to each other; i.e. EDM requires an
integrative approach.

. Implementation of the EDM approach necessitates consultation with and
the participation of all the relevant 'actors' involved in the selected
EDM strategies.

. Evaluation is an essential component of any attempt to implement EDM.

. Adequate funding is required to ensure that all of the foregoing con-
ditions are fulfilled.

Unless all of these conditions are met, the success of the EDM approach
will be severely hampered.

It is clear that the resources required to undertake all of these conditions,
as well as the resources required in the actual implementation of the EDM
strategies, could be considerable. In fact, perhaps the most devastating
criticisms of the EDM approach concern implementation. It could be argued
that even if theoretical propositions were developed for all aspects of the
EDM approach, and all of the strategies subjected to adequate evaluation and
found to be 100% effective, the problems and costs surrounding extensive
implementation would nevertheless make this approach to crime prevention
unviable. Reppetto (1976b:284ff), for example, refers to difficulties in
the application of physical design strategies owing to costs, delays
inherent in construction, population dislocation, and further difficulties
in effecting changes in the event of errors. He comments:

> "Clearly, one can see that to accomplish even very simple crime
> prevention via urban design may cost a million dollars, take
> two years, disturb several hundred people and produce no
> guarantee of success. In contrast, additional police patrols
> can start tomorrow, cost nothing (since the officers are
> simply shifted from elsewhere rather than added to the force
> and, since 'elsewhere' will probably not be aware of it, no
> replacements are needed), and dislocate no one. If they are
> successful, the police can be withdrawn overnight, while
> streets, buildings, or whatever might be erected through
> urban design must stand 24 hours a day, year in and year
> out, even though the problem they were meant to deal with
> may exist for only a few hours a day. Finally, the
> benefits of an urban design project -- in such respects
> as reducing management costs of providing a more 'human'
> living environment -- may be so gradual as to be imper-
> ceptible. Thus, crime prevention through environmental

design, when contrasted with alternative methods,
may be perceived as costly, slow, undramatic, and
unwieldy. Given the pressure to reduce crime in
public housing projects, responsible officials are
much more likely to evict problem families, assign
police officers, or open a youth center."

Reppetto concludes that environmental design will exert a growing influence
on crime prevention but its impact will be limited by the practical
obstacles cited.

Waller and Okihiro (1978b:174) concur with many of Reppetto's arguments and
note further that there is a potential conflict between urban design
principles intended to prevent crime and the public's interest in privacy
and aesthetic features which run counter to the EDM approach. They
hypothesize that the public may not be willing to accept EDM strategies
on these grounds and may prefer to trade off a tolerable increase in crime
rates for such things as privacy and certain aesthetic design features.
This argument does not, however, allow for the fact that the optimum
implementation of the EDM approach would not include strategies which were
unacceptable to residents.

Although the difficulties and expenses surrounding implementation of the
EDM strategies are considerably reduced in new developments (as opposed to
existing housing environments), there are different types of problems
associated with implementation in new developments. The more recent plan-
ning and implementation guidelines developed by Westinghouse in its CPTED
demonstration projects and by the Hartford Institute of Criminal and Social
Justice in its demonstration crime control project in the North Asylum Hill
area of Hartford, Connecticut, place considerable emphasis on assistance
and feedback from local residents. Little attention has been given to the
development of planning and design strategies for new construction or the
creation of totally new residential environments where there is no existing
community structure and where one can only predict in a general sense what
type of residents the environment will accommodate.

On a more micro-level, implementation problems can arise with respect to
people's understanding of and willingness to undertake EDM measures. Many
of the strategies, particularly those concerning surveillance, may not be
met with whole-hearted approval by potential recipients because they are
perceived as 'big-brother' tactics, and seem to be directed against the
residents themselves, i.e. they are being 'spied-upon' (Banham 1974:112
and Chapter 5, previously, Section 2.3). Those strategies which entail
resident participation or are resident-initiated often fare no better. Pat
Brantingham, for example, has commented (Liaison 6 (5) (May) 1980:4) that
surveillance programs in which the community serves as a watchdog are
viable for perhaps four to six months, during which time the initial impetus
probably runs down or dries up altogether. She notes further that citizen
involvement is not particularly promising for highly emotional crimes in

which reactions could easily get out of hand. Lastly, there is some sug-
gestion that the kinds of crime prevention programs that citizens initiate
are not the most appropriate for the kinds of crimes they are experiencing
(Podolefsky and DuBow 1980). There is also no guarantee that residents will
use the EDM strategies in the way they are intended -- that even the best
design may be undermined by people not using it appropriately (Engstad
1975a:7). Hence there is the recurring paradox associated with EDM -- those
strategies that appear to work best (e.g. access control by a doorman,
target-hardening) are ones which the most crime-prone residential complexes
can least afford (see Waller and Okihiro 1978b:174; Sagalyn 1973; and
Skogan and Maxfield 1980:394).

Along similar lines, it is recognized that people easily misunderstand the
EDM approach to crime prevention, which is too often perceived to be a
cookbook method against crime (e.g. place all entrances no more than 10
feet away from circulation routes, provide lighting every 15 feet, etc.).
As with other crime prevention measures, there is a tendency for people to
want to apply these strategies in a generalized manner with little at-
tention to their appropriateness or likely effectiveness in specific
locations. Much of the literature on the EDM approach reveals a tendency
to reinforce this cookbook perspective (see, for example, U.S. Department
of Housing and Urban Development 1973a; Perlgut 1979, Appendix B; and Mawby
1977). Lee (1972:21) has commented in this respect that:

"...architectural determinism cannot be dismissed on
the grounds that it violates freedom or creates big
brothers, or because it doesn't work, or because the
physical environment is only one of many forces that
shape mankind. The only charge to which its proponents
might plead guilty is over-simplification."
(Emphasis added)

In contrast, what is critical to the EDM approach is the careful and
discriminate matching of strategies to setting; while all the strategies
must be initially considered in any particular setting, it is likely that
only some of them will prove, upon examination of the site (its social and
physical characteristics), to be suitable and practical. What this entails
is a thorough analysis of residential sites which, in turn, escalates the
cost of implementation. It seems to run counter to the common way of doing
things to commit the necessary time and resources required for analysis,
planning and organizing before initiating intervention programs. More
commonly, what people (government agencies, citizens, private agencies)
desire is a concrete list of guidelines which can be implemented without too
much delay for analytic work.

The fact that the EDM approach requires this kind of careful analysis means that initial enthusiasm for and interest in this approach may dissipate before actual implementation or during the course of implementation. Or it may mean that only very few isolated sites can be selected for this kind of approach. But, another critical element of the EDM approach is that many of the strategies require a fairly wide-spread application in order to preclude the possibility of displacement (see Fairley and Liechenstein 1971:49). As Hollander and Brown (1978:1) have pointed out "attempts to effect widespread crime reduction in a variety of unrelated types of crime in one or more locations often result in dispersion of effort and minimal accomplishment." These two opposing situations -- i.e. (a) the requirement for indepth analysis and therefore the likely restriction on the breadth of application for EDM strategies, and (b) the requirement for fairly widespread application for many of the strategies entailed by the EDM approach -- may militate against the feasibility of the EDM approach before it is even tried or may result in piecemeal and poorly conceived implementation.

The EDM approach has great, although unproven potential. While it may be demanding, and possibly expensive, to implement the EDM approach properly, the financial gains of reducing the crime rate of a municipality by as little as 5% would be significant, not to mention the impact of reducing the immeasurable costs arising from the inconvenience and suffering caused by crime. The potential of the EDM approach basically derives from the fact that, as Reppetto (1974:70) has pointed out: "Altering the environment in which a criminal operates will likely prove a simpler matter than altering the behavior of individual criminals or forces which produce criminal populations."

PART 3

The Canadian Situation

Chapter 9

Residential Crime in Canada: Patterns and Concerns

9.1 INTRODUCTION

Assessing the need and potential for implementing any crime prevention program is a complicated matter, largely because the issue of crime and how it affects society is a complex one. For example, no one, to our knowledge, has defined the point at which it could definitely be stated that a crime prevention program is or is not needed, whether that point is being determined by crime rates or fear of crime levels. Similarly, given the lack of empirical data on the advantages and disadvantages involved in implementing most crime prevention programs, it is difficult to state that one particular crime prevention program will automatically be more successful in one situation than in another. Obviously, this problem of assessing the need and potential for a crime prevention program is exacerbated when the program being considered is as complex as the EDM approach.

To examine the need and potential for implementing the EDM approach in Canada, we examined national crime data and conducted the Canadian surveys and case studies. In these investigations, we made as intensive an effort as was possible (within the time and resources available to both the study's investigators and the parties from whom information was requested) to obtain a representative picture of the Canadian situation with regards to the occurrence of residential crime and to the attitudes and experience of the various parties potentially interested in its prevention. To that end, the Canadian investigative work was primarily undertaken in the 23 Census Metropolitan Areas (CMA's) across the country because both the majority of the population and the majority of crime occurrences are found in these areas.[1] Research was also conducted in two cities which are not CMA's -- in Burnaby, British Columbia (because of its 'bedroom community' relationship with Vancouver), and in Fort McMurray, Alberta (because of its recent and rapid growth as a resource-centred urban area).

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[1] The metropolitan areas also have higher per capita crime rates than other areas. For example, the Canadian average residential burglary rate (per 1,000 population) in 1980 was 8.73 whereas the rate for this crime in the metropolitan areas surveyed in this study was 9.9 (per 1,000 population). The decision to focus on urban residential crime meant that we did not undertake any detailed examination of specific non-urban residential crime problems, such as those specific to summer cottages areas or Native Reserves.

The research directly undertaken as part of this study included different sets of questionnaires mailed to the police department, the major private security agencies servicing residential customers, the public housing authority, the major private residential landlords and/or developers, the municipal planning office, and the CMHC branch office architect in each CMA. Letters of inquiry regarding their interest and experience regarding the EDM approach were also directed to the attorneys general and/or solicitors general and to the police commission in each province. The questionnaires were frequently, but not in all cases, followed up by telephone discussions to clarify or expand upon the responses received. In addition, field visits were conducted in several cities to obtain further information through personal interviews and photographic documentation. (The research methodology and the questionnaire instruments used in these investigations are included as Appendix B to this report.)

In addition, four case studies intended to complement these Canada-wide investigations were conducted by independent researchers in Montreal, Quebec; Hamilton, Ontario; Calgary, Alberta; and Burnaby, British Columbia. The case studies used the same basic methodology and instruments as were used for the cross-Canada research, but their research scope was expanded considerably to incorporate the greater detail which could be obtained in intensive personal interviews and field work.

It is important to note that in undertaking all of these Canadian investigations we were aware that, despite the care that went into the questionnaire and research design, the results were likely to be of limited comparative value. This is, of course, because the different cities and agencies from which we were soliciting data varied considerably in terms of their size, organization and/or responsibilities and most particularly, in terms of both the information available on residential crime patterns and the extent of experience with the EDM strategies. While in one sense we made every effort to undertake a rigorous and detailed survey of residential crime patterns in Canada, we suspected from the beginning that the data base required to do so just did not exist; thus an important objective of these investigations was, in fact, to identify inconsistencies and inadequacies in the relevant data currently available in Canada.

One further aspect of our investigations affects the comparability of the results. In spite of considerable efforts to encourage the return of detailed responses to the questionnaires, the level of interest in doing so varied widely, in terms of both the CMA's and the organizations involved. The private sector organizations -- private security and residential landlords -- appeared to be less interested in participating in our investigations than did the public sector agencies, citing such reasons as lack of information and/or interest relating to residential crime, lack of time, and concern with confidentiality. Also, agencies in cities where residential crime was not considered a particular problem and where the EDM strategies had received minimal emphasis appeared to have little interest in responding in detail to 'yet another questionnaire'; this was a particular issue in the smaller CMA's, particularly in the province of Quebec.

In addition to the survey investigations, information on the nature of residential crime and crime prevention in Canada was obtained through the literature review. Finally, discussions with various national agencies with an interest in housing design and management and/or crime prevention -- in particular the Insurance Bureau of Canada -- also provided us with useful insights regarding the Canadian situation.

9.2 RESIDENTIAL CRIME PATTERNS IN CANADA

Identifying cross-Canada patterns of residential crime is complicated by the fact that the Uniform Crime Reporting Program (through which police forces submit their crime statistics in a consistent form to Statistics Canada) includes only one category which is indisputably a residential crime -- residential break and entry. Although other categories, such as 'wilful damage to private property' could be assumed to occur primarily in residential settings, there is no concrete data available to confirm this assumption. In addition, the fact that individual provinces have different upper age limits for juvenile offenders (18 in Manitoba and Quebec, 17 in British Columbia and Newfoundland, and 16 in the remaining provinces and territories) limits our ability to identify the extent of juvenile involvement in the commission of the EDM target crimes across Canada.

There are similar difficulties involved in determining residential crime patterns in individual cities, since the records kept by municipal police forces rarely indicate whether a crime has occurred in a residential (as opposed to industrial or commercial) environment, and in the few cases where this information is collected, it is usually only accessible through a time-consuming manual search. We would like to note here that most of the police forces in the sample cities were very cooperative in trying to provide the information we requested. However, many just did not have the type of detailed data considered necessary for effective crime analysis, and some forces that had some of this information on file did not have the resources, especially the manpower, to get access to the data.

While our investigations indicated that most police forces in the sample cities have, or are planning to have computerized records systems, it appears that it will take some time before these systems can be efficiently used for the type of crime analysis required to assess whether and how to implement an effective EDM program. Further, although some cities with computerized systems have developed extensive lists of variables which could be included in the computer record of a crime (e.g. Calgary), interviews with uniform personnel in various cities (as part of our field visits and of the case study research) suggested that there may be some difficulty in ensuring that such information is collected on a consistent basis, since it could be perceived as the cause of 'just more paper work'.

One further issue relevant to this chapter's discussion of crime patterns deserves mention here and that is the question of just how accurately statistics can indicate what is happening in terms of the incidence of crime. As is evident in the data presented in this chapter, the available statistics indicate that crime rates in Canada are on the increase. However, it is not clear to what extent such statistical increase may have been affected by greater efficiency in police reporting and by the fact that larger proportions of citizens may be reporting criminal occurrences, whether to satisfy insurance requirements or as a reflection of improved public awareness of the importance of reporting crime. On the other hand, it is widely accepted that official statistics on crime only represent from 10% to 40% of the actual number of occurrences, depending on the crime

involved (Statistics Canada 1980b:152). Despite these problems with the
official statistics, they do provide the only representative picture of
the crime situation in Canada and therefore must be examined, albeit with
some caution.

Such problems are common in the interpretation of almost any type of
statistics; however, the incidence of crime has the potential for being
a particularly emotional issue and it is because of the types of issues
mentioned above that, through this chapter, we purposefully avoid using
subjective terms often employed by the popular media -- e.g. 'dramatic'
or 'ominous' -- to describe the changing patterns in the incidence of
crime in Canada.

9.2.1 A National Picture

The following Figure 9.1 illustrates, first, that the reported Canadian
crime rate has been increasing, most particularly in the last two years
(the increase in terms of actual numbers of offenses and rates from 1979
to 1980 were, in fact, the largest since 1974). Second and most important,
this figure shows that the greatest area of increase has been in non-
violent crimes against property. This increase in crimes against property
can be largely attributed to residential burglary (see Figure 9.2). As
noted by Statistics Canada (1981), whereas:

> "The actual number of Criminal Code offences reported
> by police through the Uniform Crime Reporting Program
> went over the two million mark in 1980, registering
> a 9.8% increase over 1979...the number of breaking
> and entering offences increased 17.5% over the
> previous year. Most notable, however, was the 27.1%
> increase in breaking and entering of residences,
> from 164,192 offenses in 1979 to 208,573 offences in
> 1980." (Emphasis added)

The significance of this increase is impossible to determine until
statistics are available on the comparable changes in the numbers of
dwellings -- the actual targets of residential burglary. However, given
the fact that the size of households in Canada has decreased steadily
over the past decade or more (Statistics Canada 1980b:28) and that the
total number of dwelling units has concomitantly increased faster than the
population, the increase in the population-based rate of residential
burglary is likely to be less marked when computed on the basis of numbers
of dwellings.

Juvenile involvement in residential burglary is cause for concern. As
reported by the Canadian Centre for Justice Statistics (Globe & Mail,
October 30, 1981): "More than 25,000 delinquency charges involving break
and entry were brought against juveniles last year...Officials said many
of the charges resulted from residential housebreaking by children."
Break and entry represented the largest proportion (26.1 per cent of all
juvenile charges) of juvenile crimes (the next largest proportion was for
theft which represented 21.1 per cent of all juvenile charges) (Ibid.).

Before examining cross-Canada patterns of crime levels, it is useful to
compare the Canadian situation with that in the United States, given that
the EDM approach has largely evolved there and given that there is "close
physical and cultural proximity between Canadians and Americans" and that
"the influence of the United States on Canada is far greater than that of
any other country" (Statistics Canada 1980b:296). The same Statistics
Canada report notes, "the popular news media in North American give the
impression that the United States is a particular violent society while
Canadian streets are somewhat safer" (Ibid.:297). With regard to crimes
against the person, there is no question that the crime rate in the
United States is significantly higher than in Canada.[1] However, it is
important to note that this difference is much less distinct when the
crime rates being compared are for non-violent property crimes. Given
the two countries' differing definitions for most crime types, the best
basis for comparing the respective crime situations in Canada and the
United States is the rate of residential burglary, which is similarly
defined in each country and which is a crime of particular interest for
this study.

The 1980 average per capita rate of residential burglary in Canada was
8.73 (per 1,000 population); the average per capita rate for this crime
during the same period in the United States was 9.81 (per 1,000 population)
(U.S. Department of Justice 1981 and Statistics Canada 1981). These
figures clearly indicate that, with regard to residential burglary at
least, Canadians should perhaps be cautious about assuming that 'things are
so much better here than in the United States'. Since the EDM approach
is particularly directed to preventing non-violent property crimes such
as residential burglary, this international comparison of official
statistics on the occurrence of this crime suggests that there may be
a need for the EDM approach in Canada. However, the national statistics
can only provide a general indication of such a need; we need to examine
the patterns of the EDM target crimes from a narrower perspective to
determine the need for implementing the approach in specific Canadian
residential environments.

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[1] For example, in 1980 the murder rate was approximately 10.0 homicides
per 100,000 inhabitants in the United States and 3.0 in Canada (U.S.
Department of Justice 1981 and Statistics Canada 1981).

Figure 9.1: Criminal Code Offences by Category, Distribution of Rates per
100,000 Population, 1975-1980. (Source: Statistics Canada 1981)

Offence Rate
per 100,000
population

Property crime   Violent crime   Other crime
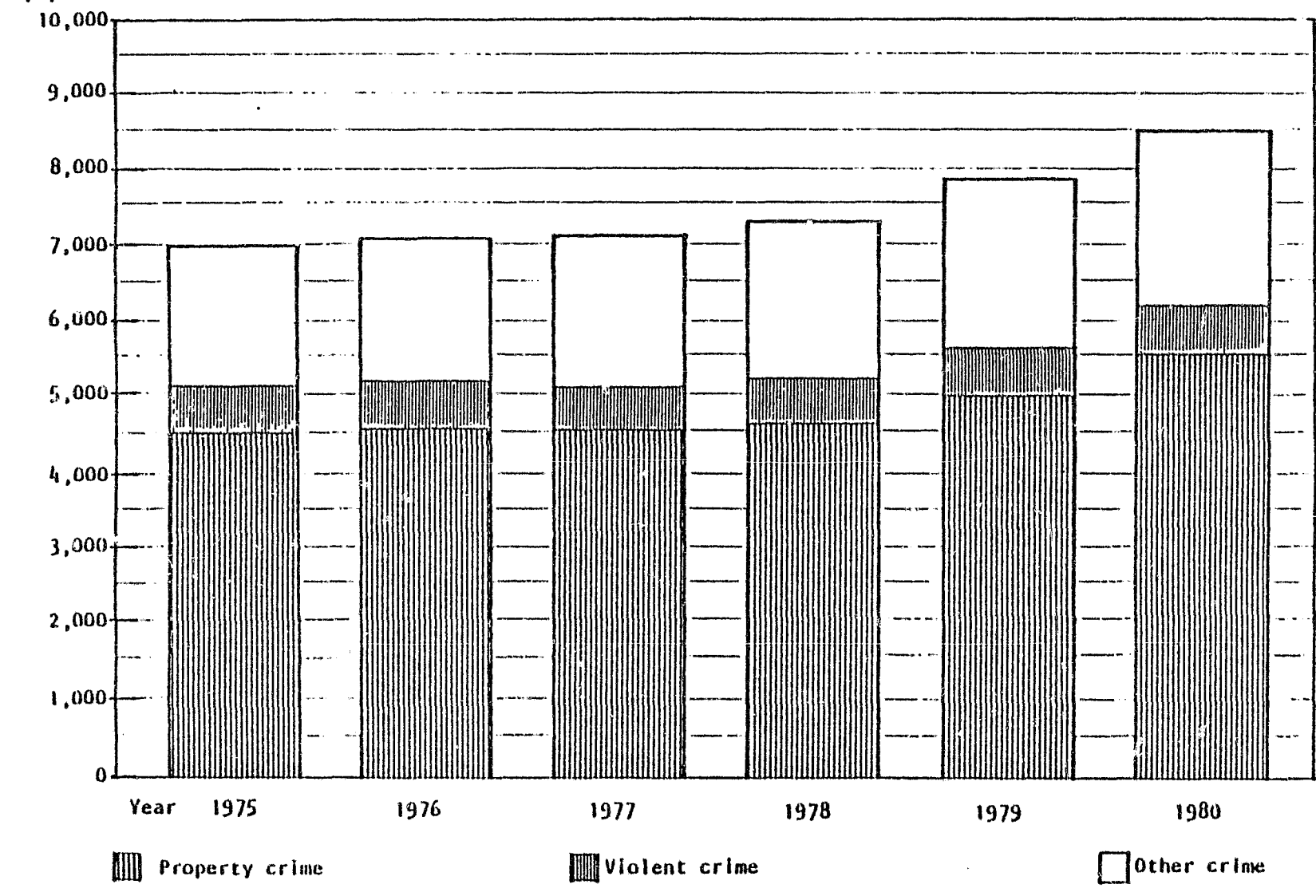
Figure 9.2: Breaking and Entering Offences, Distribution of Actual Numbers, 1976-1980. (Source: Statistics Canada 1981)

No. actual
offences
(1000's)

Year   1976   1977   1978   1979   1980

Residences   Business premises   Other
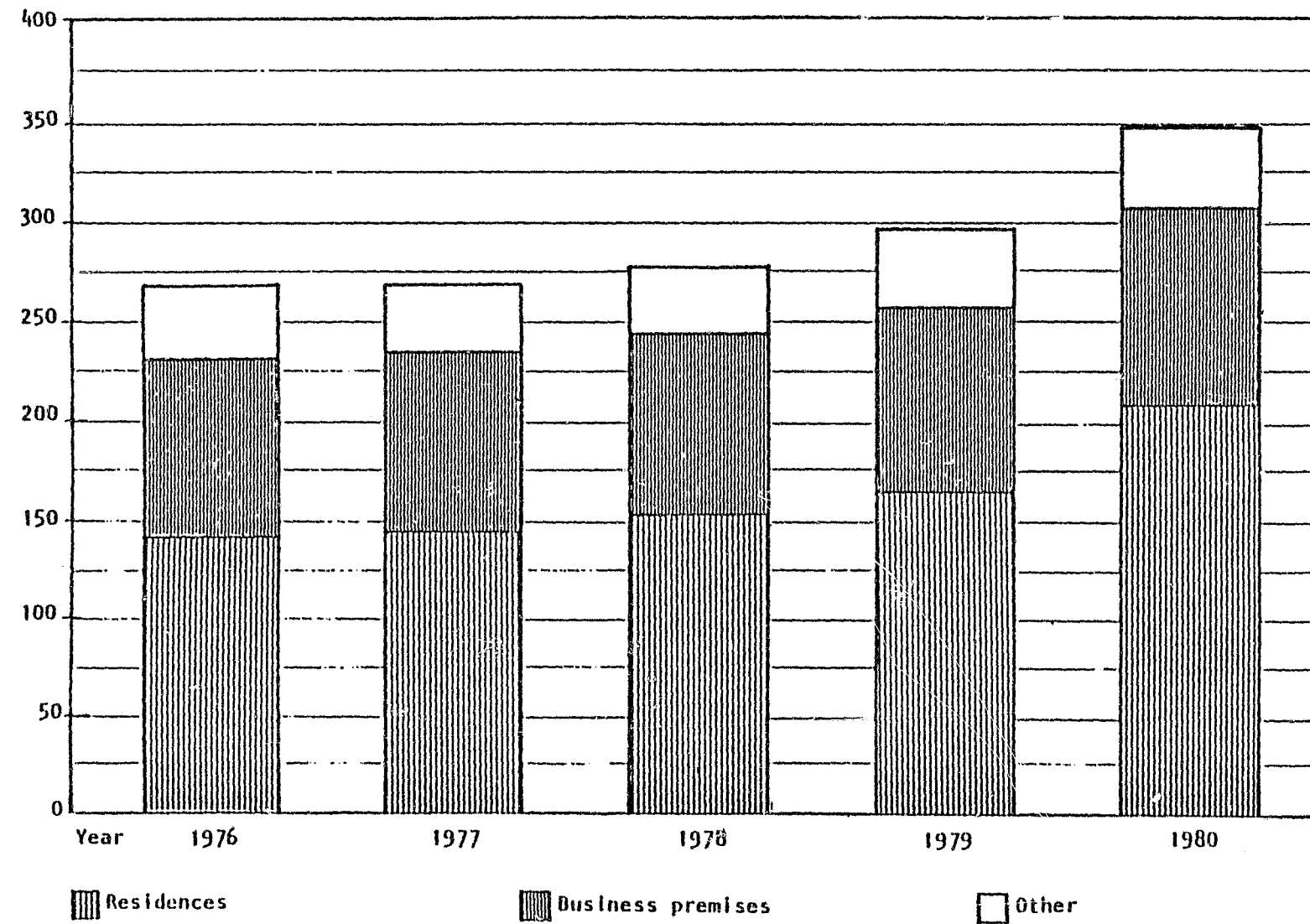
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9.2.2 A Regional Picture

Canadian crime rates vary depending on what crime category is being examined; overall crime rates, and rates for individual crime categories also vary depending on the region of the country. As noted by Statistics Canada (1981): "Crime rates in Canada...tend to be higher in the west than the east." Figure 9.3 illustrates this general east-to-west increase in 1980 provincial crime rates for all Criminal Code offences. Crime rates in the eastern maritime region and in Quebec are clearly lower than the national average and, beginning with a slight increase over the national average in Ontario, the crime rates are well over the national average in the western region (except in Saskatchewan) and reach their highest point in British Columbia.

However, this apparent east-to-west increase does not necessarily reflect the actual situation regarding particular cities or specific crime categories. For example, Table 9.1 shows the pattern of residential burglary from 1975-1980 in the police jurisdictions of the sample cities included in our investigations. This table indicates that, at the level of individual urban centres, the east-west trend in residential burglary rates is less consistent. For example, although Vancouver placed in the top five highest per capita rates of residential burglary in each year from 1975-1980, so also did Hull and Ottawa, and just as Edmonton placed in the top five three times in that period so also did the city of Quebec. Further, although Halifax only ranks in the top five once in these six years, it clearly and consistently diverges from the norm of low burglary rates in the eastern part of Canada.

Of greater value in determining geographical trends in crimes which are particularly important to the EDM approach is the type of analysis presented in Table 9.2. This table compares the five highest 1976 rates of residential burglary in the sample cities, computing these rates in terms of both the population and the number of dwellings. The latter is considered to be a more realistic and useful way of calculating the rate for this crime and for determining the crime risk in particular environments. While it is difficult to draw any firm conclusions from this data without the context of comparable statistics from other years, this table not only questions the validity of the concept of consistent east-to-west crime rate increase (at least when applied to residential burglary rates in CMA's), it also shows that the basis used for computing crime rates (e.g. by population or dwellings) can substantially affect the ranking achieved. As noted in Table 9.3 which follows, using population and number of dwellings as the bases for determining residential burglary rates can provide quite different pictures of where the problem is most severe.

Figure 9.3:   Criminal Code Rates per 100,000 Population, 1980.   (Source: Statistics Canada 1981)

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	8520.8	5072.8	5381.3	6727.7	6176.6	7087.6	8730.4	9310.7	7826.1	9772.4	12065.0

+9.8(increase over 1979)

-0.9   +3.8   +4.2   +6.3   +16.1   +7.1   +14.4   +8.5   +13.6   +7.9
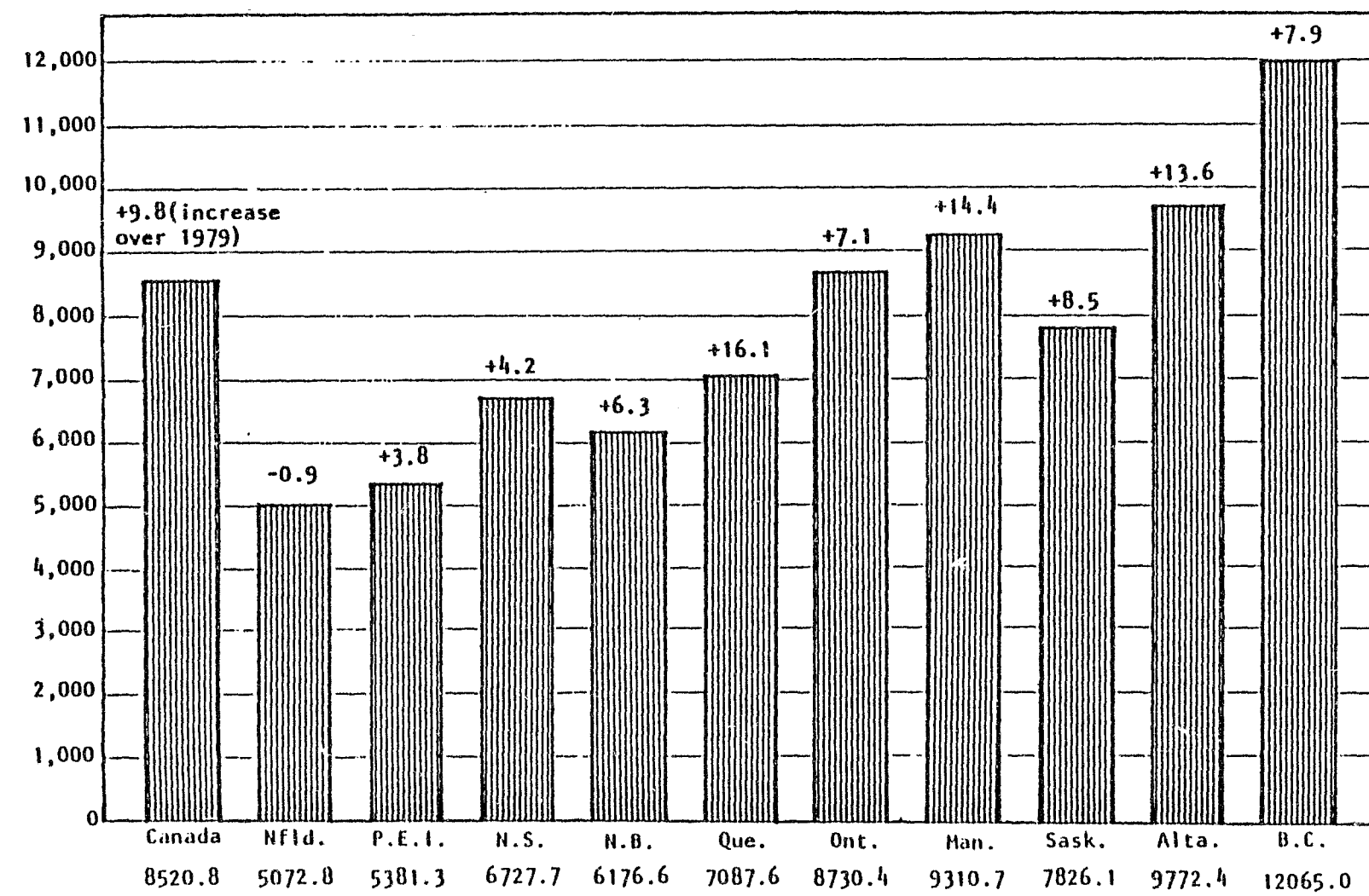
TABLE 9.1: RESIDENTIAL BURGLARY RATES (PER 1,000 POPULATION) IN SAMPLE CITIES[1]

METROPOLITAN CENTRE	RESIDENTIAL BURGLARY RATE (PER 1,000 POPULATION)					
	1975	1976	1977	1978	1979	1980
St. John's	4.65	3.41	4.41	4.9	4.54	6.52
Halifax	9.58	12.33	9.56	9.81	9.46	11.38
Saint John	3.26	4.6	3.08	1.66	4.03	5.74
Chicoutimi	1.56	7.16	3.52	4.17	4.78	11.6
Jonquière	2.79	3.51	2.23	4.63	4.84	11.85
Québec	7.56	9.8	13.03	12.87	17.17	22.77
Montréal	10.75	16.01	9.47	8.91	12.64	8.6
Hull	22.97	12.48	13.92	13.28	18.01	23.76
Ottawa	10.38	12.4	13.4	14.3	14.56	17.59
Oshawa/Whitby	3.94	3.05	5.21	3.98	4.93	5.25
Toronto	4.22	4.78	4.64	5.43	5.37	6.79
Hamilton	5.86	7.16	8.92	7.45	8.05	9.78
St. Catharines/Niagara	6.59	6.24	6.34	7.95	8.14	8.91
Kitchener/Waterloo	2.73	3.83	3.85	4.25	4.35	5.75
London	3.92	5.5	4.91	5.07	5.81	8.6
Windsor	5.52	5.95	5.49	6.25	6.91	8.51
Sudbury	3.91	4.5	4.37	5.18	6.44	5.98
Thunder Bay	3.64	4.79	4.3	5.29	4.67	6.52
Winnipeg	6.01	6.5	6.31	6.56	7.11	9.12
Saskatoon	4.42	4.31	6.32	7.18	6.82	9.54
Regina	9.83	7.8	7.99	10.13	9.19	8.95
Calgary	7.44	7.18	6.83	5.4	6.97	8.55
Edmonton	11.45	11.39	13.61	12.8	12.69	15.06
Fort McMurray	9.04	7.88	7.41	5.34	5.02	5.5
Vancouver	13.49	14.33	14.44	16.29	13.57	16.87
Burnaby	9.63	8.18	7.03	9.25	3.30	4.05
Victoria	7.89	8.53	13.21	17.68	14.57	13.81

☐ indicates this figure is one of the five highest rates that year.

[1] Source: Statistics Canada 1975-1981

TABLE 9.2: COMPARISON OF 1976 RESIDENTIAL BURGLARY RATES (PER POPULATION AND PER DWELLINGS)[1]

METROPOLITAN CENTRE	RESIDENTIAL BURGLARY RATE PER 1,000 POPULATION	RESIDENTIAL BURGLARY RATE PER 1,000 DWELLINGS
St. John's	3.41	0.9
Halifax	12.33	1.9
Saint John	4.6	1.4
Chicoutimi	7.16 }	} 1.8[2]
Jonquière	3.51 }	
Québec	9.8	1.1
Montréal	16.01	2.2
Hull	12.48 }	} 2.1[2]
Ottawa	12.4 }	
Oshawa/Whitby	3.05	1.5
Toronto	4.78	1.1
Hamilton	7.16	1.5
St. Catharines/Niagara	6.24	2.3
Kitchener/Waterloo	3.83	1.2
London	5.5	1.5
Windsor	5.95	1.5
Sudbury	4.5	1.6
Thunder Bay	4.79	1.4
Winnipeg	6.5	1.9
Saskatoon	4.31	1.3
Regina	7.8	2.4
Calgary	7.18	2.2
Edmonton	11.39	2.9
Fort McMurray	7.88	--[2]
Vancouver	14.33	1.5
Burnaby	8.18	--[2]
Victoria	8.53	0.7

☐ indicates this figure is one of the five highest comparable rates.

[1] Source: Statistics Canada 1976.

[2] Total dwelling figures were not available for these individual metropolitan centres; dwelling statistics are computed on the basis of Census Metropolitan Areas, i.e. Chicoutimi-Jonquière and Ottawa-Hull form one CMA each and Fort McMurray and Burnaby are not CMA's.

Table 9.3: Comparison of CMA's With Five Highest 1976 Burglary Rates--
Per 1,000 Population and Per 1,000 Dwellings

1976 Residential Burglary Rate Per 1,000 Population		1976 Residential Burglary Rate Per 1,000 Dwellings	
Montreal	16.01[1]	Edmonton	2.9
Vancouver	14.33	Regina	2.4
Hull/Ottawa	12.44	St. Catharines/Niagara	2.3
Halifax	12.33	Montreal	2.2
Edmonton	11.39	Calgary	2.2

The different rankings achieved with the two different bases for computation, as noted in Table 9.3, indicate that, for residential burglary at least, concerns and priorities can be falsely formed if they are entirely based on number of occurrences per capita statistics. The incidence per dwelling takes into account the actual number of targets for this crime and allows for the fact that there are variations in residential environments in different cities (particularly in terms of the housing types and the population density per dwelling unit). Thus, in terms of the vulnerability of the targets involved, it would appear that there should, for example, be more concern about the cities of Regina and Calagary and less concern about Vancouver than the per population rankings might suggest. Further analysis of this type is obviously required to determine specific geographical trends in crimes such as residential burglary.

Although it is a difficult, if not questionable, practice to transpose theories developed from micro-level research to macro-level situations, there is one theory regarding environmental correlates of crime which may be worth investigating as a possible rationale for the variations in Canadian residential crime rates. The recent work done by Newman and Franck (1980a and b) indicates that, at the level of individual housing projects at least, there are some linkages between high crime rates and high levels of population instability. At the scale of individual cities, it has been noted that "large increases or decreases in population seriously affect the ability of the community to meet the needs of its residents" (Statistics Canada 1980b:185). The fact that the western cities which are currently experiencing increases in crime rates are simultaneously going through a period of rapid population growth suggests that the influence of population instability at this scale might be worth further investigation. (Of course, if such instability is found to be related to higher crime rates, this will provide further argument in favour of the EDM strategies

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[1] The 1976 rate of residential burglary in Montreal appears to be an aberration; as indicated in Table 9.1, Montreal ranked in the top five rates only in this year and in 1975, when it ranked fourth.

aimed at fostering social cohesion.) Information on the effects of population instability on crime rates would be particularly useful to the process of planning both for new towns and the expansion of existing urban areas, and for population loss in other urban areas. Since Canada is currently experiencing considerable inter-regional population and economic shifts (e.g. from the eastern and central regions to the western region), obtaining information on how the shifts relate to crime occurrences could be considered a high priority concern to ensure that these changes do not result in substantially increased societal costs.

9.2.3 Comparative Crime Rates of the Sample Cities

The EDM approach is concerned with a number of crimes, other than burglary, which occur in residential settings. As part of this study we therefore analyzed the annual rates (per population) of each of the target crimes[1] in each of the sample cities for the period 1975-1980. This analysis proved to be of only limited value in terms of indicating clear trends, since no one metropolitan area consistently had either the highest or lowest rate of a particular target crime.

The analysis did confirm a general increase in crime rates going from east to west across the country. The anomalous high rates in Halifax have decreased in ranking importance over the last several years but inconsistencies in the east-west trend are evident in the case of higher rates than could be predicted by this trend in Ottawa/Hull and, to a lesser degree, Montreal and Quebec. These cities regularly rank in the top three rates over the six years, together with Vancouver, and, less markedly, Edmonton and Victoria. The analysis of the EDM target crime rates in the sample cities also indicated some unusual findings: for example, Fort McMurray has a relatively low rate of residential burglary (ranking in the lowest three in 1980) but at the same time has a relatively high rate of wilful damage to private property (the highest of all the cities examined in 1980). Similarly, the rate of wilful damage to private property does not appear to be related to the overall crime rate in other cities, most particularly in Windsor and Thunder Bay, which have high vandalism rates but generally average rates of other target crimes (except some assault categories).

While these findings would appear to indicate that there is no clear link between the occurrence rates of one target crime and those of another in the same city, there are so many problems involved in analysing information obtained at such a gross scale that we hesitate to draw any firm conclusions.

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[1] Burglary, robbery, theft, motor vehicle theft, indecent assault, other assault, rape, trespass, arson, vandalism, homicide and attempted murder.

First, the overall consistency of crime data is affected by variations in police reporting practices and general levels of efficiency. It is also affected by the degree of public concern about crime, particularly with regard to how this is reflected in reporting crimes to the police. For example, as part of a recent study of residential property crime in Thunder Bay (Worrell and Sparkes 1980), the researchers examined the effects of interviewing residents and, in the high-crime areas surveyed, of encouraging the creation of Neighbourhood Watch Programs, on the reporting practices of the residents. In comparing the property crime reports received from the surveyed areas and from a set of randomly-selected control areas during the eleven-month period before and after the interviewing period, the researchers found that:

> "The number of cases reported to the police increased
> in all areas. However, the percentage increase in
> the interviewed areas (29.7% and 25.2%) was higher
> than in the control areas (9.1%).[1] It is more
> significant to note that the percentage increase is
> greatest in the two areas where ideas of neighbour-
> hood watch were presented to the residents. This
> indicates that formal institutional intervention
> can function to increase the reporting of residential
> property crimes to the police."   (Ibid.:105)

Second, the extent to which the crime rates in different cities can be compared is severely constrained by the many variations and permutations of physical and social characteristics which determine the nature of the environments being compared. A third related point to be considered in comparing national, regional, or municipal crime data is that these statistics are concerned with such gross areas that it is impossible to state that City X, for example, has a bigger overall problem with crime than City Y, when the reality may be that only one small area in City X is determining its high crime rate and that City Y has a less apparently severe but more widespread crime problem; the question that can then be posed is which city has the greatest crime problem in terms of the number of people affected, the demands placed on law enforcement and other agencies, and so on.

It should be noted that, for some target crimes in some locations, there is more detailed information available than is provided by police statistics alone. For example, the research conducted by Waller and Okihiro (1978a and b) has painted a precise picture of the nature of residential burglary in Toronto, and of its correlates and effects. Studies on the nature and prevention of vandalism crime have been done for entire provinces, such as Prince Edward Island (Gaudet and Doyle 1979) and Ontario (Ontario Task Force on Vandalism 1981) and for cities such as Halifax (Halifax, City of 1979) and Mississauga (Mississauga, City

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[1] The researchers attributed the increase in the control areas to the increased attention being given to property crime -- particularly in the local media -- during the period this study was undertaken.

of 1976). A study of residential property crime in Thunder Bay (Worrell and Sparkes 1980) also focused on vandalism and various environmental variables which appeared to affect the occurrence of vandalism. However, investigations of this type have tended to conclude that it is impossible to make sweeping statements which would describe the nature (including causes and effects) of vandalism (or for that matter, other crimes) in all communities (see Ontario Task Force on Vandalism 1981:xix). The Insurance Bureau of Canada has, in fact, recently completed a Canada-wide survey of vandalism, conducted by the Jaycees in sixty communities; the preliminary analysis of the findings from this survey also stresses the environment-specific nature of vandalism, and as is discussed in the next chapter, the need for environment-specific prevention programs (conversation with Mr. Richard Wright, February 9, 1982).

Our review of the official crime statistics for the CMA's and of the provincial and municipal studies on specific target crimes was not only incapable of revealing any clear patterns of the target crime occurrences, it was also unable to suggest what environmental factors might be related to these occurrences. It was largely to investigate these matters more closely that we conducted the surveys of police and other agencies in the major metropolitan areas across Canada. The objectives of these investigations and the results obtained are discussed in the following section.

9.2.4 Residential Crime Patterns Within the Sample Cities

This section presents the information on the patterns of residential crime in the 25 urban areas included in our study and in the case study research which was ancillary to our study. These city-specific investigations were considered necessary for several reasons. The first was to obtain as clear and comparable a picture as possible (within the resources of all involved) of the nature of residential crime in Canadian metropolitan areas, and of the characteristics of environments with both high and low crime rates.

In addition, we wished to have a basis for comparing the nature of the crime-environment relationship in Canada with that in the United States, since many of the strategies included in the EDM approach reflect the particular crime-environment situation in the United States (for example, high-crime areas have large proportions of low-income, racial minority populations, living in dense, multiple high-rise developments, often in the urban core, isolated from more middle-income populations and other housing environments). Although the authors of this report, and the agencies commissioning this study, had some clear perceptions from their experience that the Canadian situation varied considerably from that in the United States, the questionnaire survey and case study investigations were required to support or refute those perceptions.

Similarly, despite our personal and professional convictions that the data currently available on residential crime and the environments in which it occurs across Canada were inadequate for the purposes of preparing or implementing an effective EDM program, we believed it was necessary to investigate the availability and reliability of those data if we were going

to be able to realistically assess the potential for implementing the EDM approach in Canada.

Throughout the research on the crime patterns in the sample cities, the intent was to use police data and perceptions as the basis for developing an overview of the crime pattern in each city and for identifying residential areas with distinctively high and low crime rates. The information requested of private security agencies, private landlords and public housing authorities was intended to fill in the details regarding specific residential areas or projects with high and low crime rates. In many cases, the residential buildings or complexes identified as having high or low crime rates by the landlord groups were located in the respective areas which the police designated as having high or low crime rates.

Two different approaches were taken to solicit information on residential crime patterns in the sample cities. In the first approach, the respondent group was asked to identify and describe three residential areas (residential buildings or complexes in the case of the landlord groups) which were known for their high crime rates, and three which were known for their low crime rates. Second, the police forces were requested to identify, for each of the EDM target crimes, the extent to which these crimes occurred in residential settings in their jurisdiction and the extent to which juveniles were involved in committing these crimes. The landlord groups were asked to rank the target crimes according to how much these represented a serious cause for concern within the housing administered by each organization, and to estimate the proportion of juvenile involvement in each EDM target crime.

Two points about the survey design deserve emphasis here. First, the questionnaire to each respondent organization was accompanied by a reasonably detailed description of the EDM approach to ensure that the respondents understood the purpose of the various areas of questioning. Second, the instructions provided to the respondent groups made it clear that if the respondents did not keep records of the information requested, we were equally interested in their perceptions. For example, although a police department's records might not be organized in such a way as to clearly identify residential areas with markedly high or low crime rates, we expected that criminal investigations officers would have a common sense of what areas in the city fit these definitions.[1]

To help us determine, first, to what extent the information provided was based on concrete data, and second, how much of the data required for effective EDM implementation was currently available or likely to be available in the near future, we also requested the respondent groups to

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[1] The perceptions regarding high-crime areas in a particular city did prove to be quite common and widespread among individual officers in a police department, as determined in several of the case studies which used cognitive mapping techniques (because of the inadequate data available) to obtain police judgements on high- and low-crime areas. However, police perceptions regarding low-crime areas were not as clear or prevalent, supposedly because low-crime areas do not convey a strong image in terms of police interests.

identify what types of crime occurrence information was collected, with reference to how consistently it was collected and to the respondent's ability to access this information (e.g. by manual or computerized methods). Few of the respondent police forces indicated keeping detailed records of the type of information considered important to crime analysis and to the EDM approach (for example, on the specific environmental characteristics of the location of an EDM target crime occurrence, with regards both to land-use and design features and to characteristics of the residents). The private security and landlord groups, not surprisingly, kept much less detailed records than the police. At best, the landlord groups indicated they maintained records on vandalism occurrences on a relatively consistent basis.

These findings are critical to the following discussion on the results of our investigations in the sample cities, in that the descriptions which follow should be viewed more in terms of how residential crime (and areas or buildings with high or low crime rates) is perceived by the relevant groups than of how it is actually documented to be. The findings presented in this section should therefore not be considered conclusive, in terms of being applicable to all the urban centres studied, or obviously, to other urban centres. Further, our investigations have confirmed that the quality of the data currently collected on the nature of residential crime in Canada, and the characteristics of the environments where it takes place, is not adequate enough to enable precise statements to be made on the crime-environment relationship (such as 'a residential environment sited in x location, with y design features and z population, will have a high or low crime rate').

Not only did the data we were able to obtain vary widely in terms of quality, there were some agencies (particularly in the private sector) and some areas of the country (particularly Quebec[1]) which either did not wish to respond to 'yet another questionnaire' or did not have a high enough degree of concern about the EDM target crimes to complete the questionnaire.[2]

Thus the information obtained in this study's investigations across Canada varies not only in terms of its quality (i.e. detail) but also in terms of its ability to provide a representative picture of different geographic

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[1] The vandalism survey recently conducted by the Insurance Bureau of Canada, mentioned previously in this chapter, also had difficulty in motivating agencies in Quebec to take part and to provide the information requested.

[2] Police forces had the highest response rate, with more than three-quarters of the mailed questionnaires being returned. Just under half of the relevant public housing authorities and CMHC branch offices responded, and slightly smaller proportions of the private security and private landlords returned completed questionnaires. More than half of the municipal planning departments responded; however, it should be noted that the information requested from them was much more general and in the form of a letter of inquiry rather than a questionnaire.

situations[1], and of the crime-related concerns of the different types of agencies involved.

i. **Proportions of EDM Target Crimes Occurring in Residential Settings**

As noted previously, the only crime category which is, by definition, a residential crime is residential burglary. Thus, one of the basic tasks of our investigations, and of the case studies, was to try to determine to what extent the EDM target crimes were, in fact, residential crimes.

- Slightly less than half of the responding police departments could identify what proportion of each of the EDM target crimes occurred in residential settings in their jurisdictions (slightly less than half of these could do so by a file search; the majority of the police forces that felt capable of responding to this question did so by educated guess).
- According to those police departments that could identify what proportions of the EDM target crimes occurred in residential settings in 1980, the crimes most frequently noted as having 80% or more occurrences in residential environments were (in rank order) as follows: residential break and enter, theft (over and under $200) from a motor vehicle, wilful damage (private), theft under $200 (bicycle), arson, trespass at night, rape and homicide.[2]
- The case study investigations, which allowed more intensive questioning of police data and perceptions, basically indicated a similar ranking of crimes of concern in residential settings, although in Hamilton common assault was noted by the police as being one of the five target crimes occurring most often in residential settings.
- In terms of the EDM target crimes which occurred most frequently or were of most serious concern to them, the respondent public and private landlords indicated that vandalism, theft and burglary were, in order of importance, the target crimes of greatest concern in the buildings they administered.

These rankings of the proportions of the target crimes occurring in residential settings should be viewed with some caution. As noted, not all of the respondent groups, even the police departments, could make these types of analysis of their records, and many indicated they felt very uncomfortable in even estimating these proportions.

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[1] Not to mention the fact that, because of the need to focus its resources, this study did not, as noted previously, investigate residential crime patterns in the Yukon or the Northwest Territories, which do not contain CMA's; in the many urban centres which are not large enough to be considered CMA's; or in special situations such as cottage areas or Native Indian Reserves (both of which have been noted in the literature and media as having particular crime problems).

[2] The actual number of occurrences in these last two crime categories were, of course, much lower than in the other categories.

ii. **Juvenile Involvement in the EDM Target Crimes**

As discussed in Chapter 6, the rationale for some of the EDM strategies (for example, providing recreation facilities and programs) derives from the concern that a substantial proportion of the EDM target crimes (especially vandalism) are committed by juveniles.[1] While official statistics indicate that a substantial proportion of burglary occurrences involves juvenile offenders, and the literature (e.g. Ontario Task Force on Vandalism 1981 and Worrell and Sparkes 1980) confirms the belief that a large proportion of vandalism occurrences is committed by juveniles, it is not clear to what extent this is the case for the other target crimes.

In requesting information on juvenile involvement in the EDM target crimes, we were interested both in data drawn from the respondents' records and, in cases where the data did not exist, in the respondents' perceptions regarding juvenile involvement, since this issue could affect their overall view of their particular crime problems.

- Almost all of the responding police departments could identify the proportion of juvenile involvement in the EDM target crimes, although approximately one-third did so on a 'best-guess basis' because of difficulties in getting access to the relevant records.
- The crimes most frequently noted by the police as being committed by juveniles were (in ranked order) as follows: theft over and under $200 (bicycles), residential break and enter, theft from a motor vehicle (over and under $200), motor vehicle theft, other theft (under $200), arson, trespass at night and wilful damage (public, and less commonly, private).
- Responses from the private and public landlords regarding the extent of juvenile involvement in committing EDM target crimes in their buildings were based on perceptions, since very few of these respondents kept relevant consistent records. The landlords quite consistently cited the following three target crimes (in ranked order) as being committed primarily (i.e. in the majority of cases) by juveniles: vandalism, theft and burglary.

For a number of reasons, these findings and their indication of substantial juvenile involvement in the EDM target crimes should be viewed with caution. As with the case of defining what proportion of the target crimes is residential crime, discussed above, the fact

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[1] This concern assumes that juveniles primarily commit crimes in areas where they live.

that a substantial proportion of the police departments had to rely
on their perceptions to respond indicates that there is clearly not
enough firm data to draw definite conclusions regarding juvenile
involvement (not to mention the fact that the data on juvenile
involvement are based on different provincial age definitions of
juvenile offenders).

Further, as found in the Hamilton case study, even when there are
data available, different conclusions can be drawn from different
groups of data; the Hamilton case study found discrepancies in the
proportions of juvenile involvement indicated by the police depart-
ment's official statistics (which documented "processed" incidents)
and the proportions indicated by the estimates of the department's
Youth Branch (which included all "actual" incidents, some of which
were not included in the official statistics because the juvenile
offenders only received a caution). Another problem related to
juvenile crime statistics was noted in the Burnaby case study, in
which some of the police officers interviewed cautioned that, since
juvenile crimes are less sophisticated and easier to detect and
solve, the apprehension and clearance records are likely to show
higher proportions of juvenile involvement than may actually be the
case for all reported crime.

Finally, since approximately one-third of the respondent police
departments defined proportions of juvenile involvement in the target
crimes on the basis of their perceptions and experience, it is also
important to note that, as found in the Burnaby case study, the
identified extent of juvenile crime activity is greater when it is
based on police perceptions than when it is based on crime report
data.

iii. Characteristics of Residential Environments with High and Low Target
Crime Rates
Our information-gathering on the proportions of the target crimes
occurring in residential settings and on juvenile involvement in the
target crimes had two broad purposes. The first was to obtain an
overview of the nature and seriousness of the EDM target crimes in
the sample cities -- an overview which was based, as much as possible,
on the records maintained by the respondent groups. The second
purpose was to get the respondents, the police departments in
particular, thinking in terms of 'residential crime' and to prepare
them for the detailed descriptions required of the specific environ-
ments in which the EDM target crimes occurred most or least
frequently.

At the commencement of our investigations into crime-environment
relationships in Canada, we had serious doubts about the extent and
quality of the available data on the EDM target crimes and on the
residential environments in which they occurred. Since we suspected
that the information we could gather on these matters was more likely
to be based on perceptions and experience than on hard data, we took
considerable care in designing the questionnaires, our primary

investigative tools. to ensure that the responses were as consis-
tently structured and detailed as possible. To that end, the police
departments were asked to identify three distinct residential areas
in their jurisdiction which, according to report statistics or police
perceptions, were considered to have high rates of the EDM target
crimes, and three residential areas which were considered to have low
rates of the target crimes. Similarly, the private security agencies
and private and public landlords were asked to identify three high-
crime and three low-crime residential properties (buildings or
building complexes) for which they were responsible (for security or
management).

The respondents were then asked to describe, as completely as possible,
each of the residential areas or properties identified as having high
or low crime rates according to the following characteristics:[1]

1. PREDOMINANT TYPES OF EDM CRIMES
(i.e. Burglary, Robbery, Theft, Motor Vehicle Theft, Vandalism,
Arson, Trespass, Indecent Assault, Other Assaults, Rape, Homicide
and Attempted Murder.)

GENERAL CHARACTERISTICS OF AREA/NEIGHBOURHOOD:
2. LOCATION IN CITY
(i.e. downtown or central core; residential area surrounding central
core; outlying suburb; residential area beyond municipal boundaries;
other--specified.)
3. APPROXIMATE SIZE OF AREA/BUILDING OR PROJECT. (in square miles
or number of blocks) (If the area was a building, the number of
dwelling units and number of floors was requested.)
4. TYPE OF USES IN AREA/NEIGHBOURHOOD
(i.e. residential or mixed residential--e.g. commercial-residential,
industrial-residential; if mixed, ratio of mix was requested.)
5. GENERAL INCOME LEVEL OF AREA
(i.e. lower, middle, upper or mixed; if mixed, ratio of mix was
requested.)

SPECIFIC CHARACTERISTICS OF AREA:
6. PREDOMINANT TYPE OF HOUSING
(i.e. highrise (5 stories plus), lowrise (under 5 stories), row
housing, semi-detached or duplexes, single-detached or mixed; if mixed,
ratio of mix was requested.)
7. PREDOMINANT TENURE/MANAGEMENT CHARACTERISTICS
(e.g. owner-occupied, private or public rental, condominium,
co-operative, non-profit, etc.)
8. QUALITY OF HOUSING MAINTENANCE
(e.g. well-kept, in state of disrepair, etc.)

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[1] As noted earlier in the chapter, the respondents all received, in addition
to the questionnaire, a summary description of the EDM approach which
clarified why these characteristics were considered to be important to
the occurrence or prevention of the target crimes.

9. POTENTIAL FOR CONCEALMENT IN AND AROUND HOUSING/BUILDING
(e.g. alleys, shrubbery, partitions, parked cars, fences, blind paths and corridors inside buildings, etc.)

10. OTHER AREA/BUILDING CHARACTERISTICS
(e.g. quality of lighting, frequency or density of pedestrian traffic, other activities in area, e.g. pub, youth hang-outs, etc.)

11A. PARTICULAR POLICING STRATEGIES
(for Police) (e.g. foot/car patrols, fixed/random beats, team policing, saturation policing, specialty squads, etc.)

11B. SECURITY MEASURES IN OPERATION
(for Private Security Agencies and Landlords) (e.g. security guards, cameras, alarm systems, etc.)

CHARACTERISTICS OF RESIDENTS:

12. PREDOMINANT EMPLOYMENT STATUS OF RESIDENTS
(employed, unemployed, mixed; if mixed, ratio of mix was requested.)

13. PREDOMINANT TYPE OF RACE OR ETHNICITY OF RESIDENTS
(e.g. British extraction, Asian, French, Italian, Native peoples, etc. or mixed; if mixed, ratio of mix was requested.)

14. PREDOMINANT FAMILY STRUCTURE OF RESIDENTS
(i.e. singles, 2-parent families with children, 1-parent families with children, elderly living alone, or mixed; if mixed, ratio of mix was requested.)

15. PROPORTION OF JUVENILES IN AREA/BUILDING OR PROJECT

16. OTHER DESCRIPTIVE CHARACTERISTICS

Despite the structure provided for recording the information requested on these characteristics of high- and low-crime residential areas and buildings in the sample cities, the responses varied widely in terms of consistency and detail. The responses also indicated that most of the respondents had to describe the high- and low-crime areas/buildings on the basis of their perceptions of, and experience with, these areas/buildings, since relevant data were generally unavailable.

Although the respondents' descriptions of high- and low-crime residential areas/buildings showed no clear consistency within individual sample cities (i.e. one high-crime area/building could differ quite markedly from another in the same city) or among all of the urban areas surveyed, a comparison of the characteristics of all of the high-crime areas/buildings and of the low-crime areas/buildings identified suggests some useful findings. Once again it is cautioned that these findings should be viewed only as general indicators and not necessarily as conclusive or representative predictors of what is or is not a criminogenic residential environment across Canada.

. First, it is important to note that a large majority of the responding police departments could identify and describe the three residential areas in their jurisdictions with the highest rates of the EDM target crimes. Most could also identify the three areas with the lowest rates, although the ability to describe these areas appeared to be less strong, perhaps because these areas had a lower profile with regard to police involvement.

. Approximately two-thirds of the private and public landlords could identify at least one residential building or project with high rates of the EDM target crimes; progressively smaller proportions could identify a second or third high-crime property. The proportion of landlords able to identify low-crime buildings or projects was much smaller, again perhaps because these did not have a strong image or were difficult to select among many low-crime properties.

. Predominant Types of EDM Target Crimes: The respondents' perceptions of the predominant types of target crimes in high-crime residential areas and buildings/projects closely matched the responses recorded previously (see 9.2.4.i), i.e. vandalism, residential burglary and theft under $200 (particularly of bicycles and from a motor vehicle). These same crimes were perceived as the predominant types in low-crime areas/buildings although, obviously, these occurrences were considered to be less frequent or serious than in the high-crime cases.

. Location in City: Although both high- and low-crime areas and buildings were identified in central urban core, surrounding core and suburban locations, proportionally more high-crime areas and buildings were identified in the central core and more low-crime areas and buildings were identified in the suburbs.

. Size of Area/Buildings: The sizes of the areas and buildings identified as having high and low target crime rates varied so widely that no useful conclusions could be drawn from the responses (except confirmation of the value of collecting crime data on consistent geographical or population/dwelling unit bases, e.g. census tracts).

. Type of Uses in Area/Neighbourhood: There was no substantial difference between high- and low-crime areas in terms of the land uses in the area; the majority (approximately two-thirds) of each type of area was in a mixed use area (residential/commercial/industrial) and the remainder were in entirely residential areas. There was some difference in the perceptions of land uses in the neighbourhoods of individual residential buildings with high and low crime rates, with the high-crime buildings being identified more frequently in mixed use neighbourhoods and the low-crime buildings being primarily identified in entirely residential neighbourhoods.

. General Income Level of Area: While the police and landlord perceptions indicated that both high- and low-crime residential areas and neighbourhoods around high- and low-crime buildings had populations in every possible income group, larger proportions (more than half) of the identified high-crime areas (as compared to less than one-third of the low-crime areas) were

perceived as having predominantly low-income or low/middle-income populations, and larger proportions of high-crime buildings were identified in low-income neighbourhoods.[1]

. Predominant Type of Housing: While the police responses identified some (approximately one-quarter) of the high-crime areas as being predominantly composed of single detached housing, approximately one-third of the high-crime areas were identified as having predominantly multiple housing (divided into relatively equal proportions of primarily semi-detached, rowhousing, lowrise and highrise apartments) and approximately one-third were identified as having mixed types of housing (including single detached and various types of multiple housing). On the other hand, the majority of the low-crime areas were identified by police as being primarily composed of single detached housing.

It is not surprising that all of the high-crime buildings identified by the landlord respondents were multiple forms since the vast majority of both public and private rental housing is multiple housing (Statistics Canada 1980:189). It is difficult to draw any conclusions regarding the specific types of multiple housing most commonly identified as high-crime buildings, because this must take into account what predominant types were managed by the various landlords; however, it would appear that rowhousing and highrises were more frequently perceived as being high-crime buildings than were semi-detached, duplex or lowrise housing types.

. Predominant Tenure/Management Characteristics: The perceptions of the police and private security organizations included in our investigations were that high-crime areas and buildings were much more frequently composed of rental, particularly public rental, housing. In general, it appeared that areas with low-income, high density populations and extensive multiple rental housing were perceived by police as being more likely to have high crime rates; low-density areas with single detached, owner-occupied housing were perceived as low-crime areas, partially because the police viewed these residents as law-abiding because they had a vested interest in their community.[2]

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[1] However, it is important to note that the case study investigations found that, as noted in the literature (see Chapter 2, 2.3.ii), police officers, particularly uniform officers, perceive low-income residential areas as troublespots and therefore patrol these areas more often, thereby possibly increasing the reported crime rate for these areas. This was found to be particularly the case with public housing.

[2] This perception confuses the issue of where EDM target crimes are committed and where the offenders live. Although not directly questioned on this issue, the police respondents' perceptions appear to be that high-crime, low-income areas are criminally victimized by residents of these areas.

. Quality of Housing Maintenance: While the police perceptions of housing maintenance indicated that the quality of maintenance could be either good or bad in both high- and low-crime areas, high-crime areas were more frequently described as being in disrepair and the low-crime areas were more commonly perceived as exhibiting good quality maintenance. It is interesting that the landlords were much less critical in evaluating the quality of housing maintenance and rarely identified either high- or low-crime buildings administered by them as exhibiting poor quality maintenance.

. Potential for Concealment In and Around Housing: The results of the mailed questionnaires were inconclusive regarding the potential for concealment, only suggesting that although both high- and low-crime areas and buildings offered at least some concealment opportunities, high-crime areas and buildings were more likely to do so. The field visits and case study research allowed more direct examination and objective assessment of this characteristic and confirmed that the high-crime areas and buildings identified did indeed have more adjoining back lanes, partitions and solid fences, and, on the west coast in particular, high shrubbery concealing both door and window entry points. Problems with landscaping were not restricted to the west coast, however; one of the high-crime areas in Montreal was bounded on one side by two parellel rows of high hedge which separated the residential area from a major traffic artery. Both the police and residents perceived the space between the hedge-rows as a prime concealment space.

. Other Area/Building Characteristics: High-crime areas and buildings were more frequently identified as having poor lighting (in one case at least, because mature trees had begun to block the otherwise satisfactory street-lighting); more major traffic arteries -- both pedestrian and automobile (and, in one case a railway line) -- either on a boundary of the residential area or bisecting it; and, more traffic generators and potentially problem uses such as liquor stores, taverns, and pinball parlours.

. Particular Policing Strategies: No distinct variations in policing strategies in high- and low-crime areas were found (primarily because car patrols represented the most common policing strategy in almost all areas identified). The case study investigations indicated that the policing strategy in effect may be a more important variable than the questionnaire results indicate. In Calgary, for example, the burglary problem in one high-crime area had become so severe that the police established a special two-man squad to deal with it. In Montreal, residents of one high-crime area formed a citizens' committee for crime prevention, largely stimulated by plans to move the local police division. The residents were lobbying to prevent this move because they were concerned both with the additional

distance between the new police location and their area (and the increased response time this would entail) and with the decreased police knowledge of their area that would likely be the eventual result of the increased distance (for example, because of less frequent patrolling and less day-to-day exposure to the area).

. Security Measures in Operation: The most common security measure (excluding police) in operation in both high- and low-crime buildings was private security personnel. Private security personnel were used in approximately half of the high- and low-crime buildings identified by both private and public landlords, and were rarely used in any of the high- or low-crime areas of predominantly single detached housing identified by police.

The private security and landlord respondents rarely indicated that alarms or cameras were used, possibly because of the false alarm problem noted by both police and private security represen- tatives in questionnaire and interview responses. This problem was so severe in Halifax that the police department analyzed the proportion of false alarms they received and determined that in a 2-1/2 month period in 1980 the cost of false alarms to the department was approximately $27,000 (conservatively), assuming one officer required an average of twenty minutes to respond to each false alarm received.

It is impossible to determine whether private security personnel were used more frequently in high-crime buildings than in low- crime buildings since many of the low-crime buildings (particularly multiple housing buildings with upper-income and elderly residents) used at least one shift, usually evening or night, of security guards. Almost none of the landlord respondents who used private security guards indicated having done a cost analysis of their effectiveness.

It is worth noting that the responses received from the private security agencies surveyed and interviews with police in several cities generally confirmed the concern raised in the literature (noted in Chapters 6 and 7) regarding the quality of training given to private security personnel. However, our investigations also found one instance of a private security agency which appears to operate in an extremely professional manner. The Community Guardian organization, which was established to under- take almost all of the public housing private security in Ontario, maintains extensive records on crime occurrence to determine problem areas and times and to allocate manpower effectively.

. Predominant Employment Status of Residents: Many of the organiza- tions involved in the survey had difficulty in describing the predominant employment status of residents in high- or low-crime areas and buildings and, in fact, did not respond to this question or did so incompletely, presumably because of lack of knowledge about this characteristic of residents. We therefore cannot draw any conclusion regarding the employment status issue.

. Predominant Type of Race or Ethnicity of Residents: As with employment status, the issue of ethnic characteristics of the population in both high- and low-crime areas and buildings was clearly a problem for many respondents, particularly with regard to the low-crime areas and buildings. However, where information was provided, it suggested that high-crime areas and buildings are more frequently perceived as having population with mixed ethnic characteristics (particularly Native Indian in the western urban areas) and low-crime areas are more frequently identified as having populations of 'British extraction'.[1]

. Predominant Family Structure of Residents: As with the other resident characteristics, no clear picture emerged of distinct variations in the predominant family structure of residents in high- and low-crime areas and buildings. For example, although the survey and case studies indicated that buildings with pre- dominantly senior citizen populations are commonly perceived as low-crime buildings, some of the high-crime buildings identified by the landlords had predominantly senior citizen populations. Overall, it can only be stated that the perceptions of the organizations that participated in our investigations were that high-crime areas and buildings were more likely to have predomin- antly single-parent family populations and low-crime areas and buildings were more likely to have two-parent family populations.[1]

. Proportion of Juveniles in Area/Building: The identified proportion of juveniles in high- and low-crime areas and buildings varied widely. However, the common perception that emerged from the survey and case study investigations was that the presence of a substantial juvenile population was closely associated with higher crime rates.[1]

. Other Descriptive Characteristics: Providing information on all the above characteristics of high- and low-crime areas and buildings appeared to exhaust most organizations' knowledge about these areas and buildings. Where additional detail was provided it usually related to high-crime areas and buildings and included such perceptions of crime-related characteristics as: nearby presence of park, shopping plaza, etc. which acts as a hang-out for potential and actual offenders; lack of green space and adequate recreation facilities; physical isolation from community resources; and, distinctiveness of area or building in comparison to the surrounding area.

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[1] We emphasize that all of these potentially controversial findings are based on perceptions (primarily of the police respondents) and not on data.

9.2.5 Summary

The major finding resulting from our investigations regarding the physical and social characteristics of high- and low-crime residential environments in Canada is that inadequate data exist to state that one environment, because of its specific characteristics, will inevitably have a particular crime rate. Further, the identified variations in the characteristics of areas and buildings with similar crime rates, often in the same city, suggest it may never be possible to predict precisely what characteristics a high-crime or low-crime area or building will have.

Nevertheless, until more precise information on the need and potential for implementing the EDM approach becomes available, judgements on the residential crime situation in Canada must be based on the perceptions and impressions of those organizations with experience in enforcing law and managing housing. Those perceptions tend to link certain environmental attributes with high-crime rates. According to the respondent law enforcement and housing organizations, the physical characteristics most commonly associated with high-crime areas or buildings are high-density (especially highrise) rental housing, problem land-uses (from major traffic arteries to taverns) located either within or adjacent to the residential environment, and poor surveillance opportunities. In terms of the social environment, high-crime areas and buildings are most commonly perceived as having low-income populations with substantial proportions of juveniles and, less markedly, of single-parent families.[1]

The above description represents the aggregate perception of the nature of high-crime residential environments. Instances of high-crime environments comprising single-detached, low-density, owner-occupied housing with middle- or upper-income, two-parent family populations were also cited in both our survey and interviews and in the case study research, as was just about every other permutation possible of physical and social characteristics. However, on an aggregate basis the common view of what constitutes a high-crime residential environment in Canada to some degree matches the profile of such environments in the United States, although the presence of racial minorities appears, not surprisingly, to be of much less significance in Canada.

However, this study's investigations indicate that the differences between high- and low-crime areas in Canada are less marked than in the United States, and that both high- and low-crime areas can have very similar physical and social characteristics. These findings clearly support the concept of a crime-prevention program which addresses the specific needs of a particular environment. Further, the fact that the relevant organizations could distinguish and, in most cases, clearly describe residential environments which they perceived as having a crime problem supports the argument that the EDM approach should and can be applied in these environments. However, the ability to distinguish a problem does not necessarily imply there is concern about the problem, and it is the purpose of the next section to examine that issue.

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[1] Other researchers have also shown a correspondence between most of these environmental characteristics and high rates of burglary (see Waller and Okihiro 1978b,; however, studies on environmental correlates of vandalism (see Worrell and Sparkes 1980) raise questions about these relationships, particularly regarding the high crime rate - low income population association.

9.3 CONCERNS REGARDING RESIDENTIAL CRIME

While the original terms of reference for this study did not include research relating to the degree to which residential crime is a concern in Canada, our investigations did encompass this issue to a limited extent once it became clear that the EDM approach, as we have defined it, requires the commitment of a wide range of organizations and individuals for its implementation to be effective. Such widespread commitment and involvement require that the relevant organizations and individuals feel some concern about the occurrence of crime and have an interest in preventing it.

To the extent possible within the other work of the study, we therefore investigated whether the housing and planning organizations included in our research were, in fact, concerned about residential crime, and whether a similar concern had been expressed by the public served by these organizations.[1]

This section examines the extent of concern regarding the occurrence of residential crime from two viewpoints: that of organizations concerned with planning and managing housing, and that of the general public.

9.3.1 Planning and Landlord Organizations

i.   Planning and Planning Review Organizations
      Our investigations into the extent to which residential crime is a
      concern to organizations involved in the planning of residential
      environments concentrated on the views expressed by municipal
      planning departments and CMHC branch offices in the sample cities.
      In very simple terms, our investigations, and those of the case
      studies, indicated that crime and its prevention are not major
      concerns in the planning review and approval work carried out by
      these organizations. Some municipal planning offices have developed
      by-laws or guidelines which clearly relate to various EDM crime
      prevention strategies; however, their purpose in doing so has not
      been specifically to prevent crime but more generally to encourage
      the development of more livable housing environments. Similarly,
      some of the elements involved in the CMHC offices' review of plans
      were viewed as being related to, but not motivated by, crime
      prevention concepts.

      Generally, both these groups indicated that residential crime in
      their jurisdictions had not been raised as a concern by either the
      general public or by official agencies such as the municipal

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[1] It was assumed that the police did have a concern about residential crime, given their mandate and the documented increases in related crime rates. Although we did not specifically question police about the extent to which residential crime was a concern, several police forces spontaneously indicated that residential crime (break and entry in particular) was becoming a major concern.

government. At the same time it should be noted that many of these planning and planning review organizations expressed an interest in the EDM approach and perceived how crime prevention could be incorporated into and complement other design objectives which they were trying to achieve.

ii. Landlord Organizations

The extent to which landlords across Canada are concerned about the occurrence of crime is difficult to determine, since we found, among both private and public landlords, an understandable reluctance to discuss the presence of crime problems in their properties. We can assume that those organizations that did provide information for this study were those which did have some concern about crime. However, only about one-third of the landlords (private and public sector) contacted in our investigations were willing or able to respond to our information requests. This in itself could be interpreted as an indication of a lack of concern about crime and its prevention.

Those landlords that did participate in our investigations almost unanimously indicated that the particular EDM target crime of concern for them was vandalism. It is not surprising that vandalism was ranked as being the major crime of concern for this group since it is the one crime that has direct cost implications for the housing landlord or manager. Despite this concern however, few landlords indicated having undertaken any analysis of the costs they had incurred as a result of acts of vandalism. In considering the expressed concern with vandalism rates, it is important to keep in mind that, as discussed previously in Chapter 5, landlord organizations often have difficulty in distinguishing vandalism from natural wear-and-tear (and would perhaps prefer not to make this distinction since costs incurred by acts of vandalism can usually be recompensed by insurance claims); therefore, it is not easy to determine to what degree residential vandalism is a problem.

iii. General Public

It must be pointed out that this study did not undertake research (for example, victimization surveys) directly aimed at measuring the extent of public concern with the EDM target crimes. However, we did raise this issue with the organizations included in our investigations, and, in general, found very few examples where individuals or groups representing the general public had raised the issue of crime and its prevention with such official agencies as municipal councils or planning departments. Further, police departments in various urban centres noted that lack of public interest and action was a problem in the promotion of such programs as Operation Identification and security surveys.

In a few cases, however, when a crime problem has become particularly acute (in terms of increased incidence or emotional impact), residents in Canada have been motivated to take direct measures to

prevent crime. For example, in Montreal it was found that a group of residents in the town of Mont-Royal had organized to form the "Women's Voice for Public Security" committee, in response to a series of attacks on children in the area. As noted previously, this group has become active in trying to prevent the re-location of the local police station (for consolidation purposes) to a less accessible site, and has actively solicited and obtained media attention regarding the need for citizen intervention and improved police protection to prevent crime.

The fact that relatively few public individuals or groups in the sample cities have publicly expressed concern about crime or undertaken action in this regard does not necessarily mean that crime is unimportant as a public issue. For example, a survey on public priorities in urban Canada (CMHC 1979) indicated that the issues of greatest concern were two global economic issues -- inflation and unemployment, and that the issue ranking third in terms of public concern was "reducing crime in the community" (Ibid.:3). This study found that crime was not only ranked very high as a priority, it was also "an important predictor of satisfaction with one's city; and it was a determinant of neighbourhood satisfaction" (Ibid.:36).

Further, the survey showed that:

> "The intra-city zone in which the respondent lives has a significantly greater effect on the level of concern about crime than does the particular city, especially in the larger cities. In general, the largest cities are more likely than smaller ones to have crime problems in the central zone, but despite the tendency for crime concerns to be greatest in the largest cities, there are notable exceptions such as Toronto and Quebec City. Greatest concern with crime occurs in the inner-city areas of Regina and Edmonton. Both Regina and Edmonton also show high concern with crime in the mature suburban zone, and for Edmonton this holds true in the new suburbs zone as well." (Ibid.:36-37)

However, in differentiating between concerns about property crime (the particular focus of the EDM approach) and personal crime, the same study found that:

> "concern with property crime does not appear to follow the same pattern as the other measures... While our other measures of crime concerns were more affected by the intra-city zone in which the respondent lives, concern with property crime is more a function of the city... For

example, Montreal shows relatively high concern
with personal crime but low levels of concern
with property crime, while in Vancouver and
Thunder Bay the pattern was reversed." (Ibid.:37)

Finally, this study notes that, according to the survey sample,
almost one in three Canadians reported having some concern about
property crime. This finding is substantiated by a more recent
national Gallup poll which indicated that one in four Canadians
had been victimized by a property crime (Toronto Star, January
30, 1982).

It is important to consider the findings of the CMHC survey with some
caution, since the survey approach involved presenting the sample
with a pre-determined list of 26 different issues (organized into
the following categories: transportation, land use and urban
development, pollution and energy, social services and facilities,
economic, political, and other, i.e. reducing crime). The extent
to which the public would independently identify crime as a major
issue is therefore unknown.

A more recent survey addressing residents' attitudes towards city
services in the City of Toronto (Environics Research Group Limited
1981) obtained some interesting results which throw some light on
the CMHC survey's findings regarding the fact that residents in
different zones of the same city gave different priorities to the
issue of crime. The Toronto survey found that:

"Torontonians feel safe walking alone at night
in their own neighbourhood but they do not feel
safe walking in the downtown area... Seventy-
seven per cent of people would feel either very
safe or reasonably safe in their neighbourhood
and 21 per cent would not feel safe. In
contrast, 52 per cent of people would feel very
safe or reasonably safe walking downtown and
42 per cent would not feel safe." (Ibid.:30)

These findings most likely reflect the fact that only a minority of
Toronto's population lives in the downtown area; this area is
therefore largely unknown to the majority of the population, in
comparison to their own neighbourhoods, and their fear reflects
this unfamiliarity (as noted in the same study, among those people
surveyed who live in the downtown core, only 18% feel unsafe while
walking alone at night in the downtown).

Nevertheless, it was the negative findings of this survey which were
highlighted in the public media, as evident in the headline "42%
feel unsafe downtown when alone at night, survey finds" (Toronto
Star, October 29, 1981). Such headlines obviously have an impact
on the public's perception of, and fear about crime, and make any
objective definition of this concern very difficult.

Overall, it would appear that, whatever the actual level of public
concern about crime in Canada may be, such concern is rarely
expressed in terms of preventive action (as opposed to demands for
increased penalties for offenders, more police, and other crime
control measures). A three-year study on crime intervention rates,
conducted by Harold Tarkooshian, of Fordham University in New
York, found that Canadians in four cities (Ottawa, Calgary,
Edmonton and Vancouver) "intervened 8 per cent of the time when they
witness a staged crime" (Globe and Mail, July 31, 1980). The
average intervention rate in the fifteen U.S. cities included in the
study was 11 per cent. The staged crimes were primarily breaking
into locked cars, and were always staged in broad daylight and
where help was accessible. Not only did Canadians rarely intervene
to determine whether the person breaking into the car had the right
to do so, Mr. Tarkooshian indicated in an interview that he found
"Canadians were a bit less reserved in helping strangers break
into cars" (emphasis added) (Ibid.)

While our investigation at the national level and in the sample
cities found little obvious evidence of public action motivated by
a concern about crime, our research on various organizations'
experiences and attitudes regarding the EDM approach revealed that
this finding might be a function of the scale at which we conducted
our investigations. Public groups in many smaller urban centres
than those in our sample have become involved in community crime
programs; this would appear to indicate more concern exists than
was apparent in the CMA's directly surveyed in our study.

9.4 SUMMARY

Distinguishing patterns of the EDM target crimes in Canada is a difficult exercise because of the lack of adequate data. At the national scale, the official crime statistics indicate that these crimes are more prevalent in metropolitan areas; however, they can only suggest which metropolitan areas are most in need of a crime prevention program like the EDM approach, because of the problems of comparing data gathered at such a gross scale. Thus, while the national statistics suggest that CMA's in the western region have the highest rates of the EDM target crimes, they also indicate that there are cities in the central and eastern regions which have higher rates than other cities in those regions. Further, since we found no clear connection between the rates of different target crimes in the same cities, it is impossible to conclude that a particular city has the greatest need of the EDM approach because it has the highest occurrence rates for all of the EDM target crimes.

Identifying the environmental features associated with the EDM target crimes is an even more difficult matter. Our findings in this regard are primarily based on the perceptions of the organizations surveyed because of the scarcity of relevant data. However, those perceptions are important because they indicate what types of environments are seen by the appropriate organizations as presenting crime problems, and therefore where these organizations would most likely support a crime prevention program.

In general, the aggregate view which came out of our investigations is that high-crime areas are more likely than low-crime areas to be comprised of high density (particularly highrise) rental housing, and to have poor surveillance opportunities and various uses which are perceived to generate or facilitate crime. These high-crime areas are most commonly perceived as having low income populations, with substantial proportions of juveniles. This aggregate perception cannot, however, be taken as an accurate predictor of all high-crime residential areas in Canada, as there were instances of high-crime areas being described as being composed of low density, single family, owner-occupied housing with middle or upper income residents and relatively few juveniles.

Overall, our investigations indicated that the characteristics of high- and low-crime residential areas in Canada can vary considerably, which suggests that the EDM approach, because of its emphasis on situation-specific selection of crime prevention strategies, is particularly suited to the needs of Canadian residential environments.

The issue of concern about residential crime is a difficult one to address since the public's covert feelings and overt actions may not be congruent, and it is primarily by observable actions that the level of concern is determined. However, allowing for the fact that the relative lack of public action with regard to residential crime may not be a true reflection of the level of concern, we must point out that the EDM approach, to be effective, requires considerable involvement on the part of the individual residents and the surrounding community. The fact that Canadians do not appear to

have established patterns for being involved in preventing crime suggests that translating any existing concern into action will require some effort.

One important issue that must be kept in mind is that, regardless of the actual crime rate and public action regarding that crime rate, public surveys in Canada have found that almost half of the respondents in a national sample indicated "similar rates of reported feelings of insecurity about walking local streets at night" as were reported by a national sample in the United States (Statistics Canada 1980b:297). Further, those feelings of insecurity would appear to be increasing (Ibid.). It is therefore possible that the public will, in the near future, be more interested in undertaking the types of crime prevention measures included in the EDM approach.

From another perspective, financial concerns, particularly in a time of economic recession, may prove to be the motivating force which causes the various organizations and individuals who are affected by the occurrence of EDM target crimes to become involved in crime prevention activities. Insurance premiums have been increasing over the past few years and all property owners -- both private and public landlords, and individual home-owners -- are affected by these increases. The Insurance Bureau of Canada has conservatively estimated the cost of all insurance-related crime in 1981 in Canada at $1.3 billion (conversation with Mr. Nigel Dunn, IBC, February 4, 1982). A large proportion of this figure represents property loss and damage resulting from occurrences of the EDM target crimes. Increasing people's awareness of the fact that crime has real costs for everyone -- whether through taxes to maintain police forces or through insurance premiums -- is, we suggest, perhaps the best means of translating the concern of all those affected by residential crime into the type of action required by the EDM approach.

Chapter 10

Canadian Experiences and Attitudes Relating to the EDM Approach

10.1 INTRODUCTION

In the United States, where the concepts of "defensible space" and "CPTED" were developed, the recent Anti-Crime Program is the only example we could find of experience with what we have called the EDM approach. Since it is only recently that relevant organizations in Canada, particularly police forces, have shown substantial interest in the theory and implementation of "defensible space" and "CPTED", we did not expect to find a great deal, if any, Canadian experience with EDM-related concepts. This expectation was confirmed by our investigations; however, our survey of relevant organizations operating in the sample cities and at a national level showed that, in some areas of the country and in some types of communities, there is a substantial base of experience with, and a growing interest in, individual EDM strategies. In some cases this experience and interest is focused on the objective of preventing crime; in others, such as the EDM-related policies established by municipal planning departments, the intent is to improve the general 'quality of life' in urban environments.

The starting point for the findings presented in this chapter is, therefore, that the EDM approach, as a coordinated and comprehensive approach to residential crime prevention, is not widely known in Canada and has not been implemented in the optimum situation-specific manner described previously.[1] In examining Canadian experiences and attitudes regarding the EDM approach, this chapter necessarily concentrates on experiences and attitudes regarding individual EDM strategies and from those findings postulates how the approach as a whole is likely to be viewed. Part of the intent of this chapter is to determine to what extent the Canadian experience supports or refutes the judgments reached in the United States about the effectiveness and feasibility of the EDM strategies.

In the two main sections of this chapter -- on Canadian experiences and attitudes regarding the EDM approach -- we first look at each topic from a national perspective and then examine the situations in the sample cities, particularly those where relevant agencies have expressed particularly useful or significant views which are important to our subsequent recommendations on implementing the EDM approach in Canada.

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[1] This study in itself may be said to have laid the initial knowledge base regarding the EDM approach, through the questionnaire survey and the accompanying description of the approach, and through discussions with various organizations carried out by our study team and the case study researchers.

10.2 CANADIAN EXPERIENCES RELATING TO THE EDM APPROACH

The occurrence of EDM target crimes in Canada differs somewhat from that in the United States. It would therefore appear logical to assume that Canadian experiences with implementing EDM strategies (in terms of both the selection and effectiveness of the strategies) would differ from the United States' experiences, on which most of the judgments on the strategies have been based. One purpose of this examination of Canadian implementation of EDM strategies is therefore to test that assumption (within the constraints presented by the availability of relevant information).

The second purpose is to evaluate to what extent the organizations and individuals who optimally should be involved in implementing the EDM approach have developed a base of experience with EDM strategies. Obviously the presence or absence of this experience is critical to the development of recommendations on how to implement the EDM approach in Canada.

10.2.1 A National Picture

i. Government Organizations
    The interest of the Ministry of the Solicitor General can be seen to reflect its concern with the increasing costs of crime and of the criminal justice system, and its awareness of the need to consider a range of less traditional crime control approaches than have been used in the past. The general belief that "crime prevention is the prime responsibility of criminal justice agencies" is now being questioned, and sharing that responsibility with the community is considered to be a promising alternative (Canada, Ministry of the Solicitor General 1979:29-30; see also Engstad and Evans 1979). In fact, this approach to crime control may not only be a promising alternative but a necessary one; as the former document suggests, the pressure being put on governments to reduce expenditures in the criminal justice area is likely to result in: (1) a search for alternative, less costly programs; (2) increased pressure for greater coordination between the three major levels of government; and (3) a greater emphasis on evaluative research, particularly cost/benefit analysis (Ibid.:35). In many ways, the EDM approach is a particularly appropriate response to these types of concerns because of its emphasis on sharing the overall responsibility for crime prevention and on tailoring an implementation program to the needs and resources of the specific community concerned.

Over the last five years, elements of the EDM approach have been the subject of several research studies commissioned by the Solicitor General's Department, the most relevant of which have been the Harvey (1980) study, discussed in detail later in this chapter, and a review of the "CPTED" approach by Stanley (1976). Although both these studies, particularly the former, focus on the design component (especially target-hardening strategies) of the EDM approach,

they do note the importance of increasing people's awareness of various EDM strategies, and in general, of making the general public and specific target groups "think in crime prevention terms" (Stanley 1976:25).

Beyond its commissioning of research studies, the Ministry of the Solicitor General, particularly through the Crime Prevention Centre of the RCMP, has actively promoted the dissemination and testing of EDM-related ideas through its direct and indirect support of such activities as:

. lectures at the Canadian Police College on various
. approaches to crime data collection and EDM-related program planning, implementation and evaluation;[1]
. courses at the Banff Centre of Management on "Crime Prevention Through Environmental Design";
. a research study to develop a model for crime analysis, currently being completed by the RCMP in Manitoba;
. a seminar on "Crime Prevention Through Environmental Design" held in British Columbia, March 27-28, 1980 (Canada, Ministry of the Solicitor General 1980);[2]
. a coordinated effort to incorporate various EDM-design strategies in the planning of a new town (Tumbler Ridge, B.C.), drawing on the combined expertise of Patricia and Paul Brantingham of Simon Fraser University, the RCMP and the B.C. Ministry of Municipal Affairs; and
. the development of more sophisticated and effective data registration and analysis (i.e. computerized) systems for police forces who demonstrate a need for and interest in such systems.

The Crime Prevention Centre of the RCMP has itself taken a key role in promoting the "Crime Prevention Through Environmental Design" concept within the RCMP organization and to other interested law enforcement organizations. These dissemination efforts clearly emphasize the design component of the EDM approach (see Moffatt 1981), most particularly the potential for incorporating security standards in the National Building Code (Lawson 1979 and Moffatt 1981) (this issue is discussed in more detail later in this chapter).

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[1] These sessions are usually conducted by Dr. Douglas Frisbie, who has been involved in the development and promulgation of "CPTED" concepts for many years.

[2] This seminar brought together law enforcement, housing and planning officials whose discussions included some very interesting points regarding EDM; these are discussed in the 'Attitudes' section of this chapter.

More generally, the Ministry of the Solicitor General can be said to be promoting EDM-related concepts and strategies to the general public as part of its "Working Together To Prevent Crime" publicity, through which local police forces distribute pamphlets on such topics as: home security, highrise security, Operation Identification, auto theft prevention, protection for senior citizens, Block Parents, stopping vandalism, and even baby-sitting hints. While these brochures undoubtedly provide useful information to the public, our discussions with various police forces indicated that the effectiveness of such publicity is not what it could be, primarily because in most cases the police promote a program such as Operation Identification on an indiscriminate basis and do not have the data (or sometimes the inclination) to assess whether that is the most appropriate program for a particular neighbourhood or community.

The Canada Mortgage and Housing Corporation has only recently taken on an overt role in promoting crime prevention, although several of its design guideline documents produced in the last ten years (e.g. on outdoor living areas and parking areas) have indirectly addressed crime prevention needs in conjunction with other design objectives (for example, in the design and placement of lighting, fencing, pathways, etc.). The CMHC's recent publication Protecting Your Home Against Burglary (1981) is, however, the first document prepared by that agency which directly concerns crime prevention as a design and management objective. The vast majority of the EDM-related techniques recommended in this document fall into the target-hardening category and are techniques that can be implemented by the individual home-owner. The document does, however, also advocate such resident strategies as Neighbourhood Watch and law enforcement strategies such as Operation Identification.

Despite the production of this document, it must be noted that the issue of crime prevention does not rank highly in CMHC's list of priorities. The Corporation has historically been concerned with ensuring that Canadians have access to adequate and economical housing; its current priorities -- for example, regarding energy conservation and rehabilitation of the existing housing stock -- are clearly ones for which the economic benefits can be fairly clearly defined which, as noted in Chapter 7, is not the case with the concept of designing and managing the environment to prevent crime. However, CMHC's mandate does not exclude its involvement in researching or implementing the EDM approach. and, as noted by Harvey (1980:81-82), it is possible that changes in the legal interpretation of what responsibilities are included in the provision of "safe" housing may require CMHC to address the issue of crime prevention more directly in its financing of either new construction or rehabilitation projects.

ii.   Non-Governmental Organizations and Individuals

A major non-governmental organization with an interest in residential crime and its prevention is the Insurance Bureau of Canada (IBC), a non-profit organization supported by the insurance industry. The IBC has an obvious interest in reducing insurance losses resulting from criminal acts and has for many years been particularly active in anti-arson programs, in conjunction with the Canadian Association of Fire Chiefs. More recently, the IBC has turned its attention to other crime prevention programs and in this regard has recently designed and sponsored the cross-Canada survey on vandalism mentioned in Chapter 9 (the report on this survey will be available for distribution by the spring of 1982), in which Jaycee's in 60 communities examined the extent and nature of this crime and the types of organizations and programs that are currently working to prevent vandalism. While the survey was relatively unsophisticated, to allow its easy administration by the Jaycee's (who interviewed police, fire and other municipal officials in their communities), the IBC obtained some useful findings which support the EDM concept -- for example, that the causes, effects and successful prevention methods relating to vandalism vary considerably from community to community. This survey is also expected to be useful in the future because it has provided the Jaycee organizations involved with a 'foot in the door' to enable them to come back with suggestions on how they can assist municipal departments by participating in crime prevention programs.

The IBC's involvement in education programs on crime prevention has included giving talks on anti-vandalism programs and also sponsoring the CTV production of the "National Crime Test". This television program had a national airing in late 1981 (attracting 2.9 million viewers according to the Nielsen rating) and is currently expected to be aired annually during the next few years. This program will be broken down into half-hour educational films (most likely on the separate topics of home security, and vandalism and auto theft prevention), which the IBC intends to loan out, free of charge, to interested groups (conversation with Mr. Nigel Dunn, IBC, February 4, 1982).

The IBC has also sponsored a number of community-oriented, national crime prevention programs (e.g. "Lock it and pocket the key" auto theft prevention) which have been promoted by the Jaycee's, and is currently involved in increasing the scope and impact of such programs through a newly-established "Community Crime Prevention Network" (the founding committee of which has included representation from the Ministry of the Solicitor General). The IBC is providing expertise and seed funding to help set up this network, which will focus on collecting and disseminating information on the crime prevention programs that have been tried in various communities across Canada and the lessons that have been learned from their implementation. This network could obviously be a very convenient means for disseminating information on the potential of the EDM approach.

The two main private sector organizations which have a nation-wide interest in housing design and construction are the Urban Development Institute (UDI), and the Housing and Urban Development Association of Canada (HUDAC). These organizations, whose membership is composed of private sector developers and builders, are largely funded by members' fees. Up to the present time, HUDAC and UDI have shown little national interest in the idea of preventing crime through improved design of the residential environment, except in regards to preventing vandalism and theft at construction sites, which is considered to be a major problem.[1] This lack of interest can be attributed to two factors: first, the absence of any widespread knowledge about EDM ideas; and second, the absence of any perceived need for considering crime prevention in the design and construction of housing. On the whole, housing developers and builders have not found that EDM-related design features add to the marketability of their product, except in the case of housing designed for some high-income residents (i.e. the general public does not usually look for security features when buying or renting housing, whereas it does look for such features as fireplaces, outdoor private space, and adequate parking).

An organization which is concerned with housing design and which combines public and private sector interests is the Canadian Housing Design Council (CHDC), which is supported by CMHC funds and composed of planners, architects, builders and other individuals who are primarily employed in the private sector. While the CHDC has not considered crime prevention to be an important design objective in the past, upon being informed of the EDM approach some CHDC members have expressed interest in promoting the approach as a housing design issue of national consequence.

One other set of Canadian organizations and individuals which has had some experience with elements of the EDM approach is one which is not specifically interested in implementing crime prevention programs or improving housing design; in the academic field, the interest is more to expand the state of knowledge about EDM-related matters. In the academic field in Canada, interest in EDM-related concepts does not appear to be extensive and has generally been (and continues to be) manifested in criminology and other social sciences. In the architectural and other design-oriented disciplines, where one might expect the EDM approach would have attracted some attention, we found little evidence that it had in fact done so beyond the inclusion of Defensible Space (Newman 1972) on the prescribed reading list for architectural students (and we question whether this exposure to only the "defensible space" element of the EDM concept is beneficial or is a case of a little bit of knowledge being worse than none at all).

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[1] While crime prevention may not be a major concern to the national membership of HUDAC, one example of a local HUDAC branch becoming involved in crime prevention was found in the Hamilton case study and is discussed later in this chapter.

Undoubtedly, the two individuals who are most widely known for their research in, and dissemination of, EDM-related concepts are Patricia and Paul Brantingham, of Simon Fraser University. While much of the Brantinghams' work has been related to the theory of crime prevention through environmental design (see Brantingham and Brantingham 1975a and b; Brantingham and Faust 1976), they have also recently become involved in putting this theory into practice. Dr. Patricia Brantingham is currently working on the Tumbler Ridge new town experiment mentioned previously in this chapter, and has assisted the British Columbia Police Commission in the preparation of an audio-visual presentation on "Crime Prevention Through Environmental Design".[1] It is important to note that it is the design component of the EDM approach which is emphasized in this audio-visual presentation (and is most likely to be the focus of the new town experiment, since there are no community services or residents as yet around which management strategies could be planned).

The City of Vancouver Police Department kindly arranged a viewing of this audio-visual presentation during our field visit to interview various organizations in that city. While we found that the presentation provides a considerable amount of useful information, clearly and succinctly structured and well illustrated, we felt some concern about its prescriptive tone -- for example, in stating that grid street patterns, because they usually have more vulnerable and distinctive 'edges' demarcating different types of land use, result in more crime than 'T' or 'L' street configurations. While research has indicated a connection between this type of street design and higher rates of residential burglary, the definitiveness of such findings can be questioned, given the many other factors that may be involved. Promoting belief in such direct correlations, particularly among the audience for which this presentation appears to be intended -- the police -- could result in some problems. As key agents in the implementation of EDM management strategies, the police could, in our view, benefit equally from more information on the variety and complexity of the physical and social environmental factors which are considered to have a role in the occurrence and prevention of crime, as from the type of prescriptive information included in the B.C. Police Commission's audio-visual presentation.

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[1] Yet another term in the EDM lexicon appears in this audio-visual presentation; while "CPTED" is used to refer to the application of EDM design strategies at the scale of individual houses or housing complexes, "CPTUP" ("Crime Prevention Through Urban Planning") is used to refer to strategies which relate to land usage, street design, etc. which need to be applied at a larger scale (see also Canada, Ministry of the Solicitor General 1980).

Beyond the Brantinghams, there are few other individuals who have been as directly involved in the development of EDM-related concepts in the Canadian environment. Some researchers -- such as Engstad (1971, 1975a and b), Gillis(1974, and with Hagan 1979), Hagan (1975 and 1977) Singh, Celinski and Jayewardene (1980), Waller and Okihiro (1978a and b) -- have made useful contributions to our knowledge of Canadian residential crime and have developed a variety of suggestions for its prevention, but none could be considered to be closely identified with individual EDM strategies or with the EDM approach as a whole.

Nevertheless, our review of the pertinent literature indicates that what we have called the EDM approach in this report has, in fact, been steadily evolving in academic minds in Canada over the last several years -- it has just not been given a name which identified it as an integrated approach. This is a significant finding since the focus of academic research and interest, particularly in the social sciences, is often a bellwether of developments in public policy or programs. For example, the proceedings from a crime prevention workshop convened by the Centre of Criminology of the University of Toronto several years ago (Centre of Criminology, University of Toronto 1975), indicate that, even though EDM strategies per se formed a relatively small portion of the topics discussed, there was considerable agreement on the need to coordinate crime prevention strategies. It is interesting to note than even without the benefit of the subsequent evaluations of the U.S. experience (which, as noted previously, contributed substantially to this present study's definition of the EDM approach), the group discussion on environmental design and modification at that workshop came to the following major conclusions, each of which is clearly reflected in the EDM concept:

"(i) Environmental design is not the only crime prevention technique, and its cost and effectiveness must be carefully weighed against other techniques.

(ii) Design can in most instances only encourage activities that lead to reduced crime. It cannot, however, do even this alone and so must be developed in conjunction with other factors such as effective building management.

(iii) Designers must balance the goal of crime prevention against other design objectives. Until recently, very little weight has been given to the objective of crime prevention. However, designers must guard against the tendency to move to the other extreme in attempting to remedy this situation."

(Ibid.:118)

This acknowledgement of the need to integrate crime prevention programs was even more evident in the more recent workshop convened by the Department of Criminology of the University of Ottawa in 1981. Many of the presentations and discussions at this workshop emphasized the need for better community networks to pool knowledge and resources to combat crime effectively. This emphasis is much more evident in the 1981 workshop proceedings (Department of Criminology, University of Ottawa 1981) than in the 1975 instance.

iii. General Public

The investigations of this study were focused on the EDM-related experiences of law enforcement and housing-related organizations. However, although we did not directly investigate this issue, it would appear that there is very little national data on the general public's experience with EDM strategies. One source of limited information is the same November 1981 Gallup poll cited in the previous chapter (regarding what proportion of Canadians had been victimized by particular crimes during the previous twelve months). This survey also asked about what things people had done or do, because of their concern about crime. Using a pre-determined list of precautions, the following proportions of the sample indicated having undertaken each activity (the precautions which could be considered as EDM strategies are noted by an asterisk):

Table 10.1: Types of Crime Prevention Strategies Used by Public[1]

Precaution	National Average
Let neighbours know when away**	53%
Keep light on at night	38%
Have trained dog	12%
Installed burglar-proof locks*	18%
Installed burglar alarm*	4%
Carry a weapon	4%
Carry a whistle	1%
Other measures	4%
None of the above	22%

(Percentages add to more than 100, due to multiple response.)

** Could be part of a Neighbourhood Watch program.

[1] Toronto Star, January 30, 1982.

Obviously, the Gallup poll list is very limited; nevertheless, the responses appear to indicate that almost one-fifth of the public has some experience with one of the most basic EDM design strategies -- target-hardening. Even more importantly, these survey results suggest that there is good potential for implementing such resident management strategies as Neighbourhood Watch, since more than half of the respondents already see their neighbours as informal surveillance agents who can assist in reducing the likelihood of crime against the respondents' properties when the respondents are absent for extended periods.

In addition, it could be concluded that on the national level the general public is indirectly developing experience with various EDM strategies (primarily the design component) through its exposure to education programs such as the "National Crime Test" and to the increasing numbers of advertisements in various media for security services and for security devices (both mechanical and electronic) which individual residents can install or have installed. However, given the proposal that each community is likely to have its own unique crime problem and resources to deal with that problem, it is at the local level that we are more likely to find useful information regarding the general public's experience with the various EDM strategies. The purpose of the next section is to examine the amount of related experience found in the sample cities included in our investigations.

10.2.2 The Sample Cities

As mentioned previously, we found no example of the EDM approach being implemented in Canada in the way which is inherent to the approach -- i.e. selectively choosing strategies which address the specific environmental problems of a community and which build on the resources and capabilities of that community. However, since few of the strategies comprising the EDM approach are new -- in either the crime prevention or environmental design fields -- we solicited information on the extent to which the individual strategies had been implemented by relevant organizations in the sample cities included in our investigations. It should be noted that it is very likely that there is a natural skew in the results from that solicitation in that all of the organizations included in our survey did not return completed questionnaires. It is probable that those organiz- ations that did respond were those with the most interest in, and experience with the EDM approach to crime prevention.

Accepting that inevitable skew, this section on the relevant organizations' experience with the EDM strategies first examines those of law enforcement and housing organizations, and then those of planning and development review organizations.

i.   Law Enforcement and Landlord Organizations

Because of the varying quality of the information obtained in our survey and in the case study investigations, the extent to which each type of law enforcement and landlord organization has had experience in implementing the various EDM strategies is examined here only in terms of whether the majority of each type of organization indicated having such experience. The following Table 10.2 illustrates which EDM strategies have been implemented by a majority of the policing and landlord organizations that participated in our investigations. It should be noted that police and private security organizations were requested to identify which strategies were implemented directly by them, and which were implemented in conjunction with other organizations (e.g. other municipal departments, community organizations, etc.).[1] Since only a small proportion (usually less than one-third) of the police department and private security agency respondents indicated implementing any of the strategies on a shared responsibility basis, these response categories have not been included in Table 10.2. Similarly, the proportion of public housing authorities implementing any EDM strategy in new housing never exceeded one-third, there- fore this category is also omitted from the table.

The following list summarizes the information presented in Table 10.2 according to the groups of EDM strategies implemented by the majority of each type of organization in the sample cities (beginning with the most frequently mentioned):

. Target-hardening and Improving lighting;

. Improved rental and eviction policies and Security surveys and inspection programs; and

. Detection hardware, Reducing concealment opportunities, Using real or symbolic barriers to control circulation within an area, Distinguishing between resident and non- resident space, Improved building image and maintenance, and Operation Identification.

As is evident from this list, the EDM strategies which have most commonly been implemented by the law enforcement and landlord organizations included in our investigations in the sample cities are those which, as discussed in Part 2 of this report, appear to be best supported by commonsense arguments or empirical validation, and which are easiest to implement.

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[1] In the case of the police, we were interested in their general experience in implementing EDM strategies; for private security agencies, we requested information only about the strategies implemented in residential properties.

TABLE 10.2: LAW ENFORCEMENT & LANDLORD ORGANIZATIONS' EXPERIENCE WITH EDM STRATEGIES

STRATEGIES	POLICE - DIRECTLY RESPONSIBLE	PRIVATE SECURITY - DIRECTLY RESPONSIBLE	PUBLIC HOUSING - IN EXISTING PROJECTS	PRIVATE LANDLORDS - IN NEW PROJECTS	PRIVATE LANDLORDS - IN EXISTING PROJECTS
Target-hardening	X	X	X		X
Detection Hardware	X	X	X		
Improving Surveillance Potential:					
Reducing concealment opportunities	X	X			
Improving lighting	X	X	X		
Improving placement of windows					
Improving visibility of locations for service and activity areas					
Increasing pedestrian/street traffic					
Controlling Access and Escape:					
Controlling access to/escape from an area					
Using real or symbolic barriers to control circulation in an area			X		
Improving ease and speed of response to crime for police/security personnel					
Fostering Territoriality and Social Cohesion:					
Clustering dwelling units					
Decreasing height and size of developments					
Distinguishing between resident/non-resident space			X		
Reducing incompatible or conflicting uses					
Reducing differentiation between specific environments and neighbouring areas					
Resident Strategies:					
Education programs	X				
Resident/community surveillance programs	X				
Self-help programs					
Resident/tenant associations	X				
Landlord Strategies:					
Private security guards		X			
Improved building image/maintenance			X		X
Improved rental/eviction policies			X	X	X
Police Strategies:					
Consultation/liaison with housing/planning authorities					
Public relations programs	X				
Team or neighbourhood policing					
Security surveys/inspection programs	X	X	X		
Operation Identification	X	X			
Community Strategies:					
Improved recreational facilities/programs			X		
Improved social services/crisis intervention					

X - indicates a majority of the respondents in this category indicated using that particular strategy.

Among these same organizations, only _minorities_ of each type of organization indicated having implemented the following strategies:

. Improving visibility of locations for indoor and outdoor resident service and activity areas;

. Increasing pedestrian and street traffic;

. Controlling access to and escape from a general area (e.g. through restricted street configurations);

. Improving ease and speed of response to crime (e.g. improving access for police/security personnel);

. Clustering dwelling units;

. Decreasing height and size of developments;

. Resident self-help programs (e.g. escort services);

. Police consultation and liaison (e.g. with planning/ housing authorities);

. Team or neighbourhood policing; and

. Improved social services and crisis intervention services.

Many of the strategies in this list have only rarely, if ever, been implemented and assessed in demonstration projects, and have been put forth as crime prevention strategies primarily on the basis of comparative data (for example, Newman's comparisons of crime rates in multi-family highrises and lowrises generated the proposal that decreasing the height and size of housing developments would decrease the crime vulnerability of residents). Further, some of these strategies have been noted as possibly having conflicting effects; for example, it has been proposed that increasing pedestrian and street traffic above some indeterminate level could actually generate more crime by bringing more potential criminals and victims together, rather than decrease crime by providing more 'eyes on the street'. Given the ambiguous nature (and in some cases, innovative nature, as in the case of police liaison with planning/ housing authorities) of many of the above strategies, it is not surprising that there has been limited experience with these strategies in Canada, and we would hesitate before judging this lack of experience a problem.

ii. Planning and Development Review Organizations

Most of the municipal planning departments and CMHC branch offices included in our investigations indicated that it was unusual for them to establish performance criteria or development policies, or to make planning or development review judgements, which solely related to crime prevention objectives. However, most also indicated that, as much as possible within their various mandates (e.g. Provincial Planning Acts), public safety is a concern that is considered together with other social planning and physical design objectives. A typical response from the planning departments in

regard to this matter was that provided by the Sudbury Planning Department: "many facets of effective EDM correspond to conventional land use planning methodologies." For most of the planning departments in the sample cities, crime prevention was one of the objectives considered when judgments were made about some of the following functional and design elements of a residential development:

. the placement and extent of outdoor lighting;

. the use of real or symbolic barriers defining zones of influence;

. the use of fences, walls, landscaping, etc. distinguishing resident from non-resident space; and

. the provision of parking areas, recreation areas, and garbage facilities and how these are located to ensure they do not conflict with each other or with other uses.

In the majority of cases, such elements were a particular concern in multi-family (i.e. high density) developments, and were not considered in detail, if at all, in single-family developments. With regards to multi-family developments, several planning departments and CMHC offices also noted that reducing differentiation between new developments and the surrounding area was an important concern in the development review process.

Although the above comments fairly describe the extent to which most of the planning and development review organizations included in our investigations indicated considering crime prevention objectives, in a few cases crime and crime prevention were considered to be major concerns. The City of Edmonton, for example, has a land use bylaw under which a major development can be reviewed in terms of "its provision of defensible space and impact on policing, public safety and security." In another example, the City of Vancouver Planning Department has recently developed a security bylaw relating to the restriction of access to underground parking garages. In both these cases, the planning departments are working closely with the police and have been motivated to take these and other EDM-related actions because of widely-voiced public concern about crime. In most cases, however, the issue of crime prevention had not, to the planning department's knowledge, been raised as a major public concern in the sample cities.

One final interesting finding to come out of our investigations is that in the larger urban centres included in our sample, the planning departments were more likely to emphasize the importance of what can be termed the 'soft' EDM strategies, i.e. those relating to fostering territoriality and social cohesion and to providing

improved recreation facilities and programs and social services. It would appear that in the more complex urban environments there is a more obvious requirement for these strategies than might be apparent from the aggregate comments recorded for the total sample.[1]

10.2.3. Other Urban Centres

This study's concentration on the larger urban centres across the country may have been one of the reasons that our investigations did not identify a great deal of crime prevention activity in which the general public played a major role. In subsequent investigations after the survey was completed, we became aware that there was a considerable amount of community crime prevention work going on in various non-CMA urban areas. For example, through the Insurance Bureau of Canada we learned of an anti-vandalism program (often called 'Counteract') which was started four years ago in Mississauga and has since been established, in various modified forms, in cities such as: Belleville, Brampton, Brantford, Burlington, Oakville and Whitby.

These programs are apparently usually begun by an action-oriented team of concerned community representatives who, in close coordination with the local police, develop an anti-vandalism program for their community. These programs often include such EDM strategies as Neighbourhood Watch, public education and awareness programs, and in some cases, a Teens on Patrol program.

The existence of these programs clearly indicates, first, that this present study has by no means documented all EDM-related activity in Canada. Second, it suggests that there may be more public concern regarding residential crime, or at least regarding vandalism, than we were able to identify through our attempts to gather information on this matter from official organizations. Finally, it also suggests that there is a network of active members of the public, concerned about crime and prepared to do something about it, through which the EDM approach could be effectively promoted.

10.2.4 Summary

In a broad sense, our investigations indicated that almost all of the EDM strategies have been or are being utilized by the various organizations included in our research in the sample cities, although it is clear that no one type of organization has made use of every strategy. Each type of organization has tended to implement those strategies which most closely match that organization's particular mandate or interests (in the simplest example, it is only in regards to the strategy relating to the provision of security personnel that the majority of the private security agencies indicated having EDM-related experience). Overall, the most widespread experience is with the least (theoretically) complex strategies, especially with target-hardening.

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[1] The planning departments in larger urban centres are also more often able to ensure action is taken in regard to these strategies.

It appears that those EDM strategies with which the law enforcement and landlord organizations have the least experience are those with which the planning and development review organizations are most familiar, and vice-versa. Except in a few cases such as Edmonton and Vancouver, we found little evidence of substantive cooperation and consultation between the different types of organizations. It seems likely that this is because there has been no perceived need (i.e. a substantial crime problem) for such concerted action. Nevertheless, it was pointed out by several police representatives involved in this study and in the case studies that, from the point of view of the police (i.e. the organization responsible for coping with problems that arise because of inadequate planning, the 'one left holding the baby'), more cooperation and sharing of knowledge between organizations concerned with the safe design and operation of residential environments would help to ensure that a severe enough problem does not arise to force such cooperation to take place.

Overall, it would appear that, although they have frequently been implemented to satisfy a range of objectives, of which crime prevention is only one, many of the design and management strategies of the EDM approach have been implemented fairly extensively in Canada. The fact that there is this base of experience does not, however, automatically imply that those strategies that have been implemented are positively viewed by the organizations that have used them, or that the strategies with which there has been little experience are considered ineffective. Before any conclusions can be drawn as to the potential for expanding the existing experience base with individual EDM strategies into implementation of the total EDM approach, we must review what the organizations who would be involved in such implementation think of the potential of the individual strategies and of the approach as a whole.

10.3 ATTITUDES RELATING TO THE EDM APPROACH TO CRIME PREVENTION

In examining the issue of how the EDM approach and its strategies are viewed by the organizations that would primarily have to initiate their implementation, it is important to take into account how the overall concept of crime prevention is considered. Until the last decade crime prevention was not a major activity of Canadian law enforcement agencies (Moffatt 1981:2). Even though crime prevention activities are becoming increasingly common in Canada, they are still an issue of debate. Two opposing views about crime prevention and EDM-related strategies were summarized at a national convention on crime prevention held in Winnipeg during July 1981. The view expressed by the Solicitor-General Robert Kaplan (Globe and Mail, July 14 1981; see also Engstad and Evans 1979) was that "more and better equipped police responding even more rapidly to calls" was not the solution to controlling crime since "despite massive increases in police personnel and equipment, the magnitude and seriousness of our crime problem has continued." Mr. Kaplan indicated that a better response to the crime problem was to develop more "community policing programs" in which the police and the community work together to prevent crime through such programs as Operation Identification, Neighbourhood/Block Watch, environmental design, and audio-visual information presentations (all of which are, of course, considered to be EDM strategies). On the other hand, another speaker at that conference, Professor John Hylton of the University of Regina's School of Human Justice, criticized such programs for fostering a "siege mentality" and for perpetuating "the very social and economic inequities that are the root of crime" (Globe and Mail, July 16, 1981).

Obviously, as authors of this report, we support the positive view of crime prevention and question the validity of the "siege mentality" type of criticism. The EDM approach to crime prevention assumes a concern with territoriality and proposes using that concern to address a societal problem. While the EDM approach emphasizes the need for individual residents to take more responsibility for ensuring the security of their living environment, it places even more emphasis on the need for residents to act as part of a community, which we do not believe constitutes creating a siege mentality. Further, it is our opinion that the criticism that crime prevention programs do not address the real root causes of crime is, as noted previously, of little relevance; crime and its varied causes have continued to exist throughout human history, and we question the practicality of expecting solutions to the many causes of crime to be forthcoming in the near future, while at the same time doing nothing to prevent the occurrence of crime in the present.

That having been said, we still have to consider that even among those who support the idea of crime prevention, there are many different ideas about what constitutes an effective crime prevention strategy. The following discussion will examine those views as presented by the organizations included in our research. However, before proceeding to that discussion, we would like to mention two issues that need to be kept in mind even though they do not specifically relate to the question of how the EDM approach is viewed. First, in discussions with police representatives in various cities it was repeatedly made clear that, at least at the level of the uniform personnel, EDM strategies and the EDM-type of approach to crime prevention are likely to receive little support as long as what is perceived as the truly effective type of crime prevention -- i.e. tougher sentencing practices -- is downplayed in criminal justice policy. Second, it must be remembered that everyone and every organization is continually balancing priorities; while landlord organizations may be concerned about the occurrence of vandalism in their buildings, they are equally, if not more concerned with rising energy costs, maintenance problems and a host of other matters. Similarly, while municipal planners may wish to apply EDM-related principles to the extent their mandates will allow it and to review plans exhaustively from an EDM point of view, they may also be trying to cope with development pressures that do not allow them the time to undertake such review, or they may be faced with more demanding and immediate concerns such as finding housing for individuals displaced by new development. We highlight these points here as a caution against thinking that if most of the relevant organizations approve of the EDM approach then there will be no difficulty in getting it implemented.

10.3.1 Perceptions of Effectiveness of Individual Strategies in Preventing EDM Target Crimes

In both this study's investigations and those of the case studies, four groups of organizations (police forces, private security agencies, public housing authorities and CMHC branch offices) were requested to assess the likely effectiveness of each of the EDM strategies in preventing each of the target crimes. The other groups -- private landlords and municipal planning departments -- were asked for more general evaluations since it was felt that their areas of interest and experience would not enable them to make the specific types of judgments required of the first set of organizations.

This section therefore presents the first group's assessments of the specific EDM strategies and discusses the implications of these judgements, and then summarizes the more general comments provided by the private landlords and municipal planning departments and their implications. The last section of the chapter examines the wider ramifications of these findings as they affect the potential for implementing the EDM approach in Canadian residential environments, particularly in terms of current Federal policies or attitudes which relate to the EDM approach to crime prevention.

i.   Assessments of Individual EDM Strategies

The following Table 10.3 summarizes the judgements of the relevant organizations in the sample cities with regard to the effectiveness of the individual EDM strategies; the main purpose of this table is to indicate those strategies which the majority of the police, public housing and CMHC respondents evaluated as being successful in preventing the relevant target crime.

The results obtained from the private security group are not included in this table because there was no clear majority view expressed by this group with regard to the effectiveness of EDM strategies in preventing any target crime except vandalism and arson. In terms of vandalism prevention, a majority of the private security group indicated they perceived the following eight EDM strategies as being effective: target-hardening, detection hardware, reducing concealment opportunities, improving lighting, private security guards, improved building image and maintenance, security surveys and inspection programs, and improved recreational facilities and programs. With regard to arson, a majority of the private security respondents supported the effectiveness of private security personnel. Interestingly, these are the only two target crimes that the majority of this group judged as being likely to be prevented through the provision of their guard services.

Also omitted from this table is the target crime category of homicide and attempted murder, since no EDM strategy was judged to be effective in its prevention according to a majority view of the respondent organizations.

TABLE 10.3: ASSESSMENTS OF EFFECTIVENESS OF EDM STRATEGIES (By Target Crime)

	BURGLARY			THEFT			M-V THEFT			VANDALISM			TRESPASS		
	Police	Pub.Hsg.	CHHC	Police	Pub.Hsg.	CHHC	Police	Pub.Hsg.	CHHC	Police	Pub.Hsg.	CHHC	Police	Pub.Hsg.	CHHC
Target-hardening	X	X	X	X	X	X	X		X		X			X	
Detection Hardware	X		X	X		X	X				X		X		
Improving Surveillance Potential:															
Reducing concealment opportunities	X	X		X	X		X			X			X		X
Improving lighting	X			X	X	X	X	X	X	X			X		
Improving placement of windows*															
Improving visibility of locations for service and activity areas	X			X		X	X			X			X		
Increasing pedestrial/street traffic	X			X		X	X			X			X		
Controlling Access and Escape:															
Controlling access to/escape from an area	X			X		X	X			X					
Using real or symbolic barriers to control circulation in an area	X			X			X	X		X			X	X	X
Improving ease and speed or response to crime for police/security personnel	X			X			X		X	X	X		X	X	
Fostering Territoriality and Social Cohesion:															
Clustering dwelling units			X												
Decreasing height and size of developments															
Distinguishing between resident/ non-resident space															
Reducing incompatible or conflicting uses															
Reducing differentiation between specific environments and neighbouring areas*															
Resident Strategies:															
Education programs	X	X		X			X			X	X		X		
Resident/community surveillance programs	X		X	X		X	X		X	X			X		
Self-help programs															
Resident/tenant associations	X			X			X								
Landlord Strategies:															
Private security guards			X	X		X	X		X	X			X		
Improved building image/maintenance										X					
Improved rental/eviction policies	X														
Police Strategies:															
Consultation/liaison with housing/ planning authorities	X			X			X			X			X		
Public relations programs*															
Team or neighbourhood policing	X			X			X			X			X		
Security surveys/inspection programs	X	X		X			X			X	X		X		
Operation Identification	X			X											
Community Strategies:															
Improved recreational facilities/programs	X			X			X			X	X	X	X		
Improved social services/crisis intervention	X										X				

X - indicates a majority of the respondents in this category considered that particular strategy would be successful in preventing that target crime.

* - this strategy was added to the list as a separate strategy after the questionnaire and case study research was completed, therefore were no structured responses on its effectiveness.

TABLE 10.3: ASSESSMENTS OF EFFECTIVENESS OF EDM STRATEGIES (By Target Crime)

	ARSON			ROBBERY			IND.ASS'T			OTHER ASS'T			RAPE		
	Police	Pub.Hsg.	CHHC	Police	Pub.Hsg.	CHHC	Police	Pub.Hsg.	CHHC	Police	Pub.Hsg.	CHHC	Police	Pub.Hsg.	CHHC
Target-hardening				X	X								X		
Detection Hardware	X			X		X									
Improving Surveillance Potential:															
Reducing concealment opportunities	X			X	X	X	X	X	X	X	X	X	X	X	X
Improving lighting	X			X			X		X	X	X	X	X	X	X
Improving placement of windows*															
Improving visibility of locations for service and activity areas				X			X			X			X	X	
Increasing pedestrial/street traffic				X			X	X		X	X		X		X
Controlling Access and Escape:															
Controlling access to/escape from an area															
Using real or symbolic barriers to control circulation in an area				X							X				
Improving ease and speed or response to crime for police/security personnel	X			X			X			X			X		
Fostering Territoriality and Social Cohesion:															
Clustering dwelling units															
Decreasing height and size of developments															
Distinguishing between resident/ non-resident space															
Reducing incompatible or conflicting uses															
Reducing differentiation between specific environments and neighbouring areas*															
Resident Strategies:															
Education programs	X			X			X			X			X		
Resident/community surveillance programs	X			X			X	X		X			X		
Self-help programs															
Resident/tenant associations				X			X						X		
Landlord Strategies:															
Private security guards	X			X			X	X		X		X	X		
Improved building image/maintenance	X														
Improved rental/eviction policies															
Police Strategies:															
Consultation/liaison with housing/ planning authorities	X			X											
Public relations programs*															
Team or neighbourhood policing	X						X			X			X		
Security surveys/inspection programs	X			X											
Operation Identification				X											
Community Strategies:															
Improved recreational facilities/programs															
Improved social services/crisis intervention										X					

X - indicates a majority of the respondents in this category considered that particular strategy would be successful in preventing that target crime.

* - this strategy was added to the list as a separate strategy after the questionnaire and case study research was completed, therefore were no structured responses on its effectiveness.

Overall, Table 10.3 suggests that the strategies with which each organization has had experience (see Table 10.2 previous) are the ones most likely to be judged as effective. Closer examination of the majority effectiveness assessments does, however, reveal some variance from this overall pattern. For example, although in only a few cases did the majority of the police or public housing authorities indicate having direct experience with implementing the following strategies, the majority of these organizations often judged them positively with reference to their ability to prevent some (and sometimes most) of the target crimes:

. Improving visibility of locations for resident service and activity areas;

. Increasing pedestrian and street traffic;

. Controlling access to and escape from an area;

. Using real and symbolic barriers to control circulation in an area;

. Improving ease and speed of response to crime for police and security personnel;

. Resident and community surveillance programs;

. Consultation and liaison with housing and planning authorities (this was viewed positively by a majority of the respondent police forces only, not by majorities of the public housing and CMHC respondents);

. Team or neighbourhood policing (again a majority view of police respondents only); and

. Improved recreational facilities (which a majority of the police sample, while indicating having no experience with implementing this strategy, judged as being effective in preventing five out of ten target crimes).

In the effectiveness assessments summarized in Table 10.3, the organizations involved clearly perceived the prevention capability of some strategies as being widespread, and of others as being specific to a few target crimes. For example, the following strategies appear to be considered primarily effective in preventing the non-violent property crimes (i.e. burglary, theft, motor vehicle theft, vandalism, trespass, and in some cases, arson):

. Target-hardening;

. Detection hardware;

. Controlling access to and escape from an area;

. Using real or symbolic barriers to control circulation in an area;

. Security surveys and inspection programs;

. Improved recreational facilities and programs, and, to a lesser extent,

. Consultation and liaison with housing and planning authorities, and

. Operation Identification.

None of the EDM strategies appear to be perceived by the organizations involved as being specifically oriented to the prevention of the violent crimes (i.e. robbery, indecent assault, other assault, rape, and in some cases arson). However, the following set of strategies generally appear to be considered effective in preventing both property and violent crimes:

. Reducing concealment opportunities;

. Improving lighting;

. Improving visibility of locations for service and activity areas;

. Increasing street and pedestrian traffic;

. Resident education programs;

. Resident and community surveillance programs;

. Private security guards, and

. Team or neighbourhood policing.

One group of strategies -- those oriented to fostering territoriality and social cohesion -- and individual management strategies such as resident self-help programs and improved rental and eviction policies, were rarely, if ever, judged to be effective in preventing any target crime in the majority view of the organizations involved.

Other strategies appeared to be considered effective in preventing a very specific type of target crime. For example, in the opinion of the police respondents, the strategy regarding improved building image and maintenance was likely to be effective in preventing vandalism and arson; improved social services and crisis intervention services were considered by the police to be effective prevention strategies for burglary and other (i.e. not indecent) assaults and by public housing authorities to be effective in preventing vandalism.

On the whole, the strategies which concentrate on target-hardening, improving surveillance potential, resident education and involvement, and police programs rank the highest in terms of being given a

positive assessment by all types of the respondent organizations for their potential in preventing a broad range of EDM target crimes.[1] With regard to burglary, these views are generally supported by relevant Canadian research (see Waller and Okihiro 1978b) which has found that the existence and use of target-hardening devices and of surveillance opportunities are important factors distinguishing victimized from non-victimized residences.

This summary of the majority opinions on the effectiveness of the EDM approach does not reflect some of the individual comments documented during this study and the case studies. For example, while generally emphasizing the value of the strategies aimed at improving surveillance potential (particularly the improved lighting strategy -- cited as "the single most important physical design feature"), private security representatives consulted in the Hamilton case study considered that increasing pedestrian traffic would increase vandalism rather than prevent the target crimes. Further, as noted in the Montreal case study, two of the more popular crime prevention measures mentioned by the individual organizations interviewed in that city are not even included in the inventory of EDM strategies, i.e. repression (on the part of the police), and behavioural precautions or restrictions (on the part of the general public).

From a more positive point of view, there were also some extremely supportive assessments which do not come out clearly in the overall summary of the judgments. For example, the public housing authority in Halifax was very supportive of the strategy of providing improved recreation facilities and programs, which it had found to be successful in decreasing crime in its projects (particularly

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[1] These judgments were generally supported by interviews with ex-offenders which took place in the Calgary and Hamilton case studies. In the Calgary instance, the ex-offenders identified locks, improved lighting and visible entrances as significant deterrents. Ex-burglars in Hamilton also identified improved surveillance (including that provided by clustering dwelling units) and police saturation of an area as strong deterrents, but did not perceive target-hardening as a problem because even when good locks, etc. were present the resident was often careless in using them or in leaving alternative entrances (e.g. windows) open or otherwise vulnerable. Furthermore, one ex-offender who had been involved in thefts from motor vehicles noted that good lighting was not a deterrent but rather assisted him to gain access to the vehicle more quickly.

vandalism, which cost the authority approximately $16,000 in one project alone in 1980 -- $4,000 of this amount was for repairs to elevators rendered inoperable by vandalism).[1] On a larger scale, such an overall summary can not convey the EDM-related enthusiasm of some of the police forces (particularly in the western region of the country). For example, the Hamilton-Wentworth Regional Police is so interested in the potential of the design component of the EDM approach that it has prepared, for use at the Ontario Police College, a succinct and well thought-out introductory document on environmental design and its effects on crime prevention. Similarly, both the Calgary Police Department and the B.C. Police Commission have put together audio-visual presentations to promote EDM strategies. It is important to note, however, that while several police forces are very positive about the EDM approach, they are also conscious of the difficulty they may have in implementing various EDM strategies.

At the micro level, for example, the police representatives interviewed in this study and the case studies frequently noted the problem of getting members of the public actively involved in crime prevention measures that only they can effectively undertake (for example, crime prevention officers of the Halifax Police Department estimated that the average proportion of residents that would participate in Operation Identification would rarely, in their experience, exceed 10%). At the macro level, such management strategies as police consultation and liaison with planning and housing organizations, and team or neighbourhood policing, were perceived to be very desirable but difficult to implement largely because of administrative concerns. With regard to the consultation strategy, some of the police offers who were interested in implementing this strategy indicated their concern with the problem of getting officers trained in this area (for example, to assess development applications and plans), given the limited police manpower resources available. Similarly, the experience of at least one police force (the RCMP in Burnaby) was that although zone or neighbourhood policing might be more successful in increasing officers' understanding of an area and its crime problem and thereby in facilitating crime prevention programs, this policing strategy could be unsuccessful from a management point of view when the available money and manpower were limited.

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[1] The Halifax Housing Authority is notable for its records on vandalism costs and on how these costs have been affected by such activities as the intensive recreation programming. For example, the Authority's records indicate that in 1980, the per unit cost of vandalism in one family project was $48; in two others where the authority's community relations staff had successfully implemented recreation programming, the cost per unit was $26 and $22 (these projects had per unit vandalism costs similar to the first example before the recreational programs got underway).

Some interesting points in this regard came out in the proceedings of the British Columbia seminar on crime prevention through environmental design, held in March 1980 (Canada, Ministry of the Solicitor General 1980). Some of the participants at this seminar had found that an effective way to promote EDM strategies at the municipal level and to obtain municipal backing (and perhaps related allocations of funds) was to focus on the cost savings that would result for the municipal government if EDM strategies were jointly worked out by the municipal police and design engineers for implementation in new developments (Ibid.:37). As noted by the Chief Constable of the police in Matsqui, the police already have a degree of credibility in the municipal structure which can be effectively used, together with the "downstream cost factor" argument, to lobby for additional resources and input regarding development decisions as they relate to crime prevention (Ibid.:70).

On the whole, then, it appears that three key groups who would be involved in implementing or providing advice about the EDM approach have some fairly consistent views on the effectiveness of the strategies,[1] with the EDM approach being considered particularly applicable to preventing property crime (which has one of the most rapidly increasing occurrence rates in Canada, as discussed in Chapter 9). The most favoured strategies are clearly the design-oriented strategies which focus on target-hardening and improving surveillance potential, and the management strategies which emphasize educating and motivating the general public to take an active role in preventing crime in their homes and communities.

The fact that there is this general agreement on the strategies with the most potential for preventing the EDM target crimes is a significant finding. Obviously, since such agreement exists, at least among the organizations consulted in the sample cities, encouragement to implement these strategies is likely to fall on fertile ground, so to speak. Further, since these organizations already perceive connections between the physical and social environment and the occurrence of the target crimes, and in general see the value of environmental interventions to prevent those crimes, it would appear that these views could be expanded to incorporate other EDM strategies whose potential is not as immediately apparent as, for example, target-hardening and improved lighting.

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[1] Views which are not only internally consistent but which are also generally in accordance with the assessments our study team arrived at as a result of the literature review and field visits in the United States.

ii. General Assessment of the EDM Approach

In order to arrive at a general assessment of how the EDM approach is viewed in Canada, this section draws on almost the entire range of sources consulted in this study, from the literature review, to the assessments of individual strategies presented in the previous section, to general statements on the approach made by municipal planning departments and private landlords in the sample cities and by provincial attorneys general.

In essence, the range of attitudes encountered in this study's consultation with public sector organizations and individuals can be summarized in comments received from two provincial attorneys general. In one case, the EDM approach was viewed as "a bandaid approach (which) would imply to some extent that we are a 'besieged society' and must take refuge in crime resistant premises." On the other hand, this present study on the EDM approach was described as a "well-intentioned effort" which fits into that attorney general's "promotion of the prevention of crime through a variety of approaches." From these two sets of comments, it is clear that the attitude of an individual or organization with regards to crime and crime prevention is likely to be a basic determinant of that individual's or organization's assessment of the EDM approach.

The above type of range in attitudes was perhaps most evident among the police forces contacted in this study and the case studies, and we focus on that group here because the police should, optimally, be a key motivating force in promoting and implementing the EDM approach. In general, it was found that at the management level and in the crime prevention and community relations divisions of the police in the sample cities, the attitude regarding the EDM approach -- i.e. the approach as an integrated whole and not just a set of strategies -- was fairly positive. Among some of those forces that were in the process of developing computerized record systems, there was a particular enthusiasm for using their improved analytical capability to define problem areas in their jurisdictions and to develop EDM-related crime prevention programs which addressed the problems identified. Other police representatives were less interested in this type of crime analysis and wanted a set of rules that specifically prescribed what to do, where to do it, and how to do it. Both these groups showed some interest, ranging from mild to extremely enthusiastic, in working with planning and housing authorities to review development plans from a crime prevention view; however, it was unusual for this interest to be accompanied by an awareness of the problems that would be likely to arise in trying to enforce EDM-related suggestions in new developments.

It is important to note that these types of interest in the EDM approach, although they were fairly common at management levels in police organizations, were not apparent at the uniform levels. The uniform officers interviewed during this study and the case studies appeared to experience difficulty in fitting the EDM approach into what they perceived as their primary role, i.e. to detect and apprehend criminals. It was at this level that the most comments were made relating to 'how could the EDM approach even be considered as worthwhile when bail, parole and sentencing policies put the criminals who have been detected and apprehended right back on the street'. This attitude clearly relates to the whole issue of how crime prevention is viewed, as mentioned previously; however, it is raised again here because effective involvement of the police in implementing the EDM approach will need to take such views into account and will probably require some advance public relations work.

While the organizations concerned with the provision and management of housing view the EDM approach as a promising one, crime prevention is usually lower in these organizations' priorities than concerns such as energy conservation and interest rates. For example, while municipal planning departments, except in the few cases where the occurrence of the EDM target crimes is an issue of public concern, appear to be generally interested in the EDM approach and how it reinforces other planning objectives, they also have many other design and performance criteria which must take first priority (because, unlike the EDM strategies, these are defined and required by the Provincial Planning Act or municipal by-laws). Because of the police interest in the EDM strategy of joint consultation between police and planning organizations, it is also important to note that the planners consulted in this study often expressed a concern about this strategy because it would involve adding yet another stage to the development review and approval process. This was a particular issue in some western cities such as Vancouver that are experiencing housing booms which are already straining the resources of the relevant planning departments.

With respect to private sector landlords, the ratio of questionnaires returned, and the limited detail provided in those which were returned, suggest that this group has the least interest in the problem of residential crime among all of the organizations contacted in this study and the case studies. While we did find individual cases of private sector residential builders and managers having implemented EDM strategies (particularly those relating to target-hardening and rental and eviction policies), the general impression conveyed by this group was that until the potential market indicated that EDM-related elements were desirable features, there was no real cause or motivation for incorporating any of the elements that increased the cost of constructing or operating a residential property (which perhaps implies that this group could be convinced to implement those EDM strategies that do not imply additional costs, just more sensitive design and management).

Public housing landlords clearly expressed more concern about residential crime and more interest in the EDM approach than did the private sector landlords. However, some representatives of this group noted that they did not always have control over the implementation of various strategies. For example, the extent to which desirable EDM design strategies were incorporated in new housing was often constrained by financing limitations, as were the various authorities' abilities to operate recreational programs. Some of the public housing authorities contacted in this study indicated that in some ways they, like the police, felt they were the ones left holding the baby, i.e. buildings were poorly constructed in the first place (from the point of view of EDM and many other functional concerns) and handed over to the housing authority, which was then expected to manage these buildings without adequate maintenance and program funds. Not to mention the fact that many of the public housing authorities included in the sample indicated that they are currently undertaking very little new construction (excepting buildings for senior citizens) and are having to continue to accommodate families in existing highrise buildings even though they believe this increases the potential for crime and other social problems.

In summary, our general conclusion is that the broad view of the law enforcement, housing, and planning organizations included in this study is that, while the EDM approach makes sense, it must take its place in line with a number of other concerns and priorities. We would suggest that if the EDM approach is to be promoted in residential areas that are experiencing problems with the occurrence of the EDM target crimes, the best means of increasing all of these organizations' interest in implementing the approach would be to identify, as clearly as possible within the available data, the actual financial costs of crime as they affect the government levels which fund the police and the public housing organizations, the private landlords who must repair damage incurred by vandalism and other criminal acts, and the individual residents who pay taxes to ensure they have police protection and insurance premiums to cover the cost of crime-related damage and loss.

10.4 SUMMARY

This chapter has broadly assessed the extent to which the relevant organizations in Canada have developed experience with elements of the EDM approach, and the attitudes of those organizations regarding the potential of the approach. On the whole, that assessment has indicated that there is a base of experience with those EDM strategies which are, first, the least theoretically complex (in terms of the crime-environment relationships they attempt to address), and second, the least expensive (i.e. no one has attempted major retrofitting projects similar to those undertaken in CPTED demonstration projects in the United States). Obviously, the extent of experience among these organizations reflects the findings in the previous chapter that the occurrence of the EDM target crimes, and related concern, varies in Canada depending on the geographical location and the specific housing environment involved (e.g. single-detached family housing versus multiple family public housing).

While this general conclusion suggests that there is a good potential for implementing the EDM approach as a coordinated crime prevention program in Canada, there are several points which came out of this chapter's assessment which will need to be carefully considered to ensure that the approach is effectively implemented. The first relates to the problem of convincing relevant organizations that there is no hard-and-fast formula for applying crime prevention programs, that considerable thought and effort is required to select those strategies which will best suit the particular problem and environment concerned. Even in the case of target-hardening, one of the simplest of the EDM strategies, the common perception that related performance criteria could easily be incorporated in the National Building Code is open to question (Harvey 1980). In fact, the Harvey study very neatly highlights the problems of developing broad guidelines even with regard to target-hardening, and although she concludes that such guidelines can be developed, she cautions against automatically assuming that target-hardening criteria can be incorporated easily into regulatory building codes, primarily because of their potential for conflicting with other performance criteria.

Another point which comes out of this chapter's discussion relates to the extent to which Federal policies and programs, which appear at first glance to be unrelated to the issue of residential crime, may in fact have a considerable impact on the extent to which the EDM approach can be implemented. For example, if public housing organizations had more control over the facilities which could be incorporated into new developments which they eventually will have to administer, and if they had more discretion in allocating operating funds, their ability to institute EDM-related strategies, such as recreational programming, would be improved. In a similar vein, as long as various crime prevention programs (e.g. Operation Identification) are promoted at the Federal level without cautions as to their value when used on an indiscriminate basis, police forces are likely to question the value of such crime prevention programs because, almost inevitably, there are no conclusive results which come out of such widespread use of what should be situation-specific strategies.

One other important finding which has come out of this assessment, and which has not been directly mentioned until now, is that there seems to have been a notable lack of coordination between various organizations and between different regions of the country, particularly in regard to sharing information on which crime prevention programs have been effective and which have not, and on the lessons learned about how to implement various EDM strategies most effectively. It is our view that it is in this area that the Federal government could play a particularly useful role in ensuring that such information was available and disseminated to those organizations that are interested, and in supporting the development and documentation of findings on the effectiveness of individual EDM strategies and of the EDM approach as a whole.

PART 4

Summary

Chapter 11

Conclusions and Recommendations

11.1 INTRODUCTION

The broad purposes of this study were first, to investigate the
nature and potential impact of the EDM approach to crime prevention,
basically in order to determine whether the EDM approach makes sense;
and, second, to examine the nature of residential crime in Canada and
the relevant experience and interest regarding its prevention in
order to develop conclusions on the need for implementing the EDM
approach and recommendations on how it might be implemented. The two
sections of this chapter summarize the findings and conclusions coming
out of these areas of investigation, and present the recommendations
that flow from those conclusions.

11.2 FINDINGS AND CONCLUSIONS

In our investigations regarding what is known about residential crime, we found that there are several social and physical factors commonly associated with high residential crime rates. The population of high-crime areas is frequently composed of low-income families with substantial proportions of juveniles, often housed in multiple-family, particularly highrise, dwellings. The social and physical characteristics of such environments are thought to make the resident population both more vulnerable to criminal victimization and more motivated to commit crime.

Reactive approaches to controlling crime, as are entailed in the judicial and correctional fields, have limited effectiveness, and proactive crime prevention is now considered to be the best response to the problems of high-crime environments, largely because it can have an impact on a much larger proportion of the offenders and victims involved in residential crime. Crime prevention efforts in the past have tended to focus on changing the motivations of potential offenders. Partly because this focus has had limited success, and partly because there is now more knowledge about why and how residential crime occurs, the current emphasis is on reducing the opportunities for crime which are presented by areas of vulnerability in the social or physical character of residential environments.

Initial efforts to prevent crime by altering the environment in which it occurs tended to focus on modifying the physical factors considered to be related to the incidence of crime. However, it is now generally accepted that an effective crime prevention program must address both the physical and social criminogenic characteristics of an environment, and this concept forms the basic principle of the Environmental Design and Management approach.

A second important principle of the EDM approach builds on the acknowledgment that every environment is unique in terms of its crime problem and contributing factors -- therefore the selection and application of appropriate crime prevention strategies must vary from environment to environment. Thus, while the EDM approach includes a range of strategies aimed at improving the physical and social characteristics of an environment for crime prevention purposes, it does not recommend universal application of any one strategy.

Following on these first two points, the third basic principle of the EDM approach to come out of our investigations is that effective application of the approach is not a simple matter. First, it requires careful analysis of the existing or potential crime problem and of the relevant environmental factors. And second, it demands the involvement of a range of individuals and organizations, most particularly the residents (when there are residents in place) and the police. A corollary of this finding is that there must be a perceived or anticipated need, whether because of crime rates of because of fear of crime levels, before the EDM approach can be properly applied in a given environment.

Finally, the EDM approach -- most notably the design component -- need not imply high or even additional costs if it is implemented in the initial construction planning stage. However, many of the design strategies can be expensive to implement in existing structures. In the case of existing housing where there is a crime problem, it may therefore be necessary to depend largely on the management strategies.

These findings structured our investigations regarding the need and potential for applying the EDM approach in Canadian residential environments. With regard to need, we found that the occurrence rates of residential crimes, particularly those of property crimes, are increasing in Canada. Whether this is a result of improved reporting practices on the part of the police or individual citizens, or of changes in a wide range of socio-economic factors, the direct and indirect costs of residential crime are of increasing concern to the public and to various organizations in the private and public sectors. Although the common perception in Canada is that the need for extensive intervention to prevent crime in this country is not as serious as in the United States, the per capita rates of the EDM target _property_ crimes in Canada are becoming comparable to those in the U.S. Many public and other agencies in the United States have considered these rates a serious enough problem to warrant intervention with various EDM strategies.

There is a clear lack of detailed data on the occurrence of residential crime in Canada, and our findings on what particular environments might need the EDM approach are necessarily based on the perceptions of organizations involved in law enforcement and housing management. Their perceptions are that there is a need for crime prevention programs in some residential environments in their jurisdictions. We found that the social and physical environmental factors associated with high crime rates vary considerably, even within individual cities. While low-income populations and multiple-family housing are frequently perceived to be criminogenic factors, there are also cases where high-crime areas are described as having predominantly middle- or high-income populations living in every possible type of housing.

To determine the potential for implementing the EDM approach in those residential environments in Canada perceived as having a crime problem, we investigated the EDM-related experience and attitudes of relevant national organizations and of law enforcement and housing organizations in major metropolitan areas across the country. At the national level, there is a growing commitment to, and interest in, crime prevention in general, and particularly in the comprehensive, community-based type of crime prevention program entailed in the EDM concept. In individual municipalities, we found that almost all of the individual EDM strategies have been, or are being implemented, although not always for direct crime prevention purposes. The greatest interest in EDM strategies -- particularly those related to design -- is evident in the western region of Canada, where per capita crime rates suggest that the incidence of the EDM target crimes is most serious.

The conclusions derived from these findings had to answer two basic questions: (1) Is the EDM approach to crime prevention conceptually and practically worth considering for application in Canadian residential environments? and (2) If so, under what conditions should the approach be implemented? The answer to the first question is a qualified 'yes'. The answer to the second question is a spelling out of the qualifications in the answer to the first question. These qualifications are as follows:

(1) A mixture of design and management strategies is most likely to have the greatest impact in preventing crime.

(2) The mixture of strategies employed in any one environment should be determined through a detailed analysis of the existing or anticipated crime problems and of the physical and social characteristics of that environment. Since no two residential environments are identical, it follows that the mixture of strategies required will vary in different environments.

(3) The effective implementation of the EDM approach in any residential environment requires the full understanding, support and cooperation of residents, management and a variety of community-wide agencies (including police, social service agencies, municipal authorities, etc.). This requirement means that the EDM approach can only be implemented properly where the perceived need is serious enough to stimulate such widespread involvement, and further, that planning and implementing the approach as a whole in new residential environments would be a difficult matter since there is no existing population to provide the necessary support and input.

(4) Finally, some elements of the EDM approach, particularly the design component, can be costly to implement and may not be considered appropriate or feasible unless the need is great enough to substantiate such expenditures in either cost-effectiveness or socio-political terms.

Overall, we have concluded that the EDM target crimes are not a major problem in a substantial enough proportion of Canadian residential environments to justify the development and implementation of any national EDM policy or program aimed at all residential environments. However, we have also concluded that the EDM target crimes represent a serious enough concern in some existing residential environments, particularly (according to the perceptions of police) in low-income, public rental environments, to justify consideration being given to applying EDM strategies for crime prevention. Somewhat less definitively, we have further concluded that some types of new residential environments -- for example, those intended to house low-income groups or highly transient populations -- could develop into serious criminogenic situations in the future and that EDM-related steps, in particular the appropriate design strategies, should be considered to prevent this from happening. These conclusions form the foundation for the recommendations presented in the next section.

11.3 RECOMMENDATIONS

Our recommendations regarding the implementation of the EDM approach in Canada include two broad recommendations and nine detailed recommendations aimed at achieving the broad objectives. All of the recommendations presented here reflect one basic judgment resulting from our investigations -- that although the EDM target crimes may not be a serious problem in every residential environment in Canada, the areas in which they are a concern are not restricted to one portion of the country and in that sense can be said to be a national concern. Therefore, it is at the level of the Federal Government that actions regarding the EDM approach should most appropriately be initiated and coordinated. The Federal Government, through the Ministry of the Solicitor General, has, in fact, a history of taking a coordinating role in crime prevention efforts and the recommendations which follow assume that it will continue to do so with regard to the EDM approach, which in many respects is in particular agreement with the motto of "Working Together To Prevent Crime". Further, it is also at the Federal Government level, primarily through the Canada Mortgage and Housing Corporation, that standards have been established for the effective design and operation of residential environments. Therefore,

> (1) It is recommended that the Federal Government support crime prevention through the EDM approach by incorporating its underlying principles in the various Federal programs relating to the design and management of residential environments.

11.3.1 Determining Conditions

There are nine specific actions recommended to achieve the overall objective of Recommendation #1. However, before proceeding to describe those specific actions, this section discusses the conditions or considerations that were taken into account in our determination of what types of actions are required. These conditions relate to: (1) the regulation of the design and management of residential environments; (2) the need to focus available resources; (3) the need for additional research; and (4) the implications of various ongoing and projected changes in the nature of residential environments.

i. Regulation of the Design and Management of Residential Environments

The issues discussed below are, with the exception of the last point, concerned with the implementation of the design component of the EDM approach. In this regard, experience has shown that when the design of certain aspects of residential environments is deemed to be critical to the health, safety and well-being of residents, the immediate reaction of many is to look to the possibility of legislating or regulating the design and construction of these aspects through one or more of a variety of mechanisms, including local plans and zoning by-laws and national, provincial and local building codes. Some have suggested that many of the

design strategies discussed in this report should be treated in a similar way. With the exception of target-hardening security devices, we would argue strongly against this notion on a number of grounds:

(a) To begin with, the idea of regulating the design of residential environments to achieve crime prevention objectives would have limited impact since it would only be really applicable to future housing or to existing housing that is undergoing major renovations. There is no feasible way (let alone acknowledged need) to compel owners of existing residential buildings to make physical changes to these buildings for crime prevention purposes.

The housing provision and conservation/rehabilitation processes in Canada are quite separate and involve quite different sets of government policies, programs and regulations as well as motives. Historically (over the past ten to fifteen years), governments in Canada have had a much more pronounced and deliberate role in the provision of new housing than in the conservation/rehabilitation of existing or older housing. The process involved in providing new housing is relatively easy to understand. Government involvement exists at all stages in the process from the securing of funds through design and development to the operation of the finished product. Although there are opportunities in this process for further intervention to achieve specific objectives, e.g. to implement EDM strategies, would be limited.

By comparison, governments have tended to neglect the conservation and rehabilitation of the existing housing stock and whatever government involvement has occurred has focused primarily on the conservation/rehabilitation of single-detached forms of housing. This is in part understandable since the vast majority of multiple-family accommodation in this country has been constructed in the last twenty years and its newness has precluded rehabilitation concerns.

(b) We are by no means convinced that all existing or future residential settings require or will require further design intervention for crime prevention purposes; therefore, to add another series of requirements to existing building regulations would be unwarranted in terms of cost-effectiveness.

(c) Even if it were determined that a significant proportion of future residential settings could have serious enough crime problems to warrant nation-wide intervention, the nature of the EDM approach would preclude the development of any standard set of regulations or guidelines. The mixture of strategies required in any one environment should be determined in response to the specific problems and characteristics of that environment. This would minimize the usefulness of the development and application of a uniform set of standards.

(d) Again, even if it were determined that nation-wide intervention were required, given the wide range of design strategies that are involved in the EDM approach, we know of no single suitable mechanism that could be used for regulating all of these design issues. Some could be regulated through national or provincial building codes, others could be dealt with as conditions of financing, and still others would logically appear to be the subject matter for municipal zoning by-laws and development agreements. On this last point, it should be noted that what municipalities can and cannot control, in regard to land use and development, is dictated by provincial governments through enabling legislation related to planning. Unfortunately, most provinces do not allow for municipal control over a wide enough spectrum of design issues for such control to be much use in the regulation of design features for crime prevention purposes.

(e) The final argument against regulating design features for crime prevention relates to potential conflicts between design regulations for crime prevention purposes and design regulations to achieve other objectives, such as fire safety. Identifying and resolving all such conflicts would be an extremely difficult task, and would be of questionable value given the fact that the effectiveness of most of the design strategies to prevent crime has not been substantiated.

While there are clear and long-standing mechanisms available for regulating the design and construction of buildings (such as building codes and by-laws), the mechanisms available in Canada to regulate the types of management strategies involved in the EDM approach are limited. For example, there is no means currently available for controlling how and where recreational facilities and programs are provided. In fact, implementing many of the management issues involved in the approach would generally fall to the discretion of individual landlords and public agencies. Even if mechanisms to regulate the management of residential environments did exist or could be created, many of the arguments raised above with respect to the EDM design component would also apply to the management strategies making it neither feasible nor desirable to follow such a course of action.

Given the limitations and difficulties noted above of regulating (or for that matter establishing uniform guidelines on) the design and management of housing for crime prevention purposes, we believe that the best way of ensuring that the potential of the EDM approach is realized in the most efficient and effective manner possible (in those residential environments where it is most needed) is by mounting programs to explain, promote and encourage the use of the approach among the various interest groups concerned with crime prevention and the provision and management of housing.

ii. Need to Focus Resources

The second condition affecting our recommendations has to do with the focus or emphasis of any programs that are developed to implement the EDM approach in Canada. We would argue that efforts be concentrated, but not exclusively focused, on <u>existing</u> housing in known high-crime areas for the following reasons:

(a) The crime problems associated with existing residential environments either are known or can be identified, and relative concern for these problems can be measured. By comparison, one can only speculate on the crime problems that might be associated with future housing.

Many EDM strategies require the support, cooperation and participation of the residents in order for these to be effective as crime prevention measures. Since new or future environments obviously do not have an existing population, it is difficult to ensure that the selected strategies will be agreeable to, and supported by the eventual residents.

(b) If the Canadian rental housing market continues to show extremely low vacancy rates and mortgage rates continue to be high (thereby constraining current or prospective home-owners from changing their accommodation), it is likely that residential mobility will decrease and thereby lead to a greater sense of community and a related commitment on the part of residents. This trend could provide greater opportunities for the effective implementation of EDM strategies that require resident support and cooperation.

(c) Up until the late 1950's and early 1960's, the vast majority of housing across the country was of a single-detached, owner-occupied nature. Since that time the housing stock profile (particularly in the larger urban centres) has changed dramatically with the advent of the highrise apartment building. As these buildings age during the 1980's and 1990's (many are already twenty years old), serious consideration will have to be given to major renovations to these buildings. CMHC has established housing rehabilitation as one of its three major policy and program priorities for the 1980's. Given this coming need and commitment, there will be considerable opportunities in these necessary rehabilitation programs to make security changes to multiple-family housing that would not have been feasible five or ten years ago.

(d) Finally, and most important, is the fact that the current housing stock in this country is projected to comprise at least 75% of the housing stock by the year 2000. In other words, all else being equal, a focus on new/future housing would likely represent a focus on a relatively small proportion of the crime problem.

While the above arguments support an emphasis on existing housing, future housing should not be dismissed out of hand. Continuing the trend noted above, multiple-family housing starts will likely continue to outnumber all other forms of housing starts over the next twenty years, and care should be taken to ensure that design and management features that have resulted in opportunities for crime are not repeated.

iii. Need for Further Research

The third condition to be considered in recommending actions regarding the EDM approach in Canada is that research is not necessary to justify implementing EDM programs. Our review of the extensive and costly EDM research undertaken in the United States has indicated that research undertaken 'for its own sake' is un-likely to provide definitive and universal answers on the effectiveness of specific EDM strategies or combinations of strategies.

While there is certainly potential for incorporating research activities in EDM implementation programs (see *Recommendation #9)*, research findings are likely to be of more value in refining implementation programs than in altering their overall orientation.

iv. Dynamics of Urban Environments

In addition to the conditions noted above which affect our recommendations on the implementation of the EDM approach in Canada, we would like to raise one further and over-riding general note of caution relating to the impact of the future dynamics of Canadian urban areas on the need and opportunities for implementing EDM strategies.

(a) What began in the late 1900's and early 1970's as a small movement to buy and renovate old houses into fashionable in-town residences, has now mushroomed in the major urban centres in Canada into a widespread interest in living downtown. These downtowns are now being seen as more attractive places to live than they were in the 1950's and 1960's, in part due to the savings in transportation costs that can be realized by moving closer to one's place of work and in part due to changing demographic characteristics. Fewer and smaller family-type households are being formed and consequently less emphasis is being placed on the traditional family-oriented amenities that are normally an important factor in the decision on residential location.

This trend is having a dramatic impact on the physical character of certain downtown areas. New luxury condominium apartment projects and small infill residential projects are being built in areas which not too long ago were comprised of parking lots, warehouses, industrial and marginal commercial areas. Not surprisingly, this resurgence of the downtown is having dramatic social manifestations as well. Due primarily to rapidly escalating residential real estate

values in the downtown, the lower-income groups are being forced to seek accommodation in the suburbs and peripheral areas.

Two potential implications of this trend vis-a-vis crime patterns are as follows: first, the relocation of lower-income families to suburban areas, in which the social services they rely on are not available or relatively accessible, could create further social and economic pressures that could result in higher incidences of crime, particularly juvenile crime; second, the development of luxury condominium projects in downtown areas, sometimes close to high-crime areas, could present ideal burglary targets for professional criminals.

(b) Another urban dynamic which requires further consideration is the boom-and-bust growth cycle. Traditionally, various regions and cities of the country have grown at unequal rates. Certain parts of the Maritimes experienced rapid growth during the late 1960's while other centres in Canada were experiencing slower growth. Alberta and British Columbia have been the growth areas during the mid and late 1970's, while many Ontario, Quebec and Maritime cities have been displaying static or declining populations. These boom periods create tremendous community instability due to population changes. Because they make development of informal and formal mutual aid systems and community commitment very difficult, areas affected by booms would be a suitable focus for the implementation of the EDM approach.

11.3.2 Detailed Recommendations

We recommended above that the Federal Government take actions to ensure that the potential of the EDM approach to crime prevention is realized in Canada. With the above four sets of conditions in mind, these recommended actions are discussed below under four major groupings:

i. The development of an information and education program on the EDM approach to crime prevention.

ii. The development of an EDM implementation program in selected residential environments across the country.

iii. The establishment of a research and data development program relating to the EDM approach to crime prevention.

iv. The regulation of target-hardening security features of new housing.

i. Information and Education Program
Implementing the EDM approach through regulated standards or guidelines is neither feasible nor desirable. The most logical way to proceed to ensure that the potential of the EDM approach to crime prevention is realized, in those residential environments

where it is required, is by developing an information program to explain and encourage the use of the concept among those individuals and groups that are involved in crime prevention and the provision, conservation and management of residential environments. The need for a program to explain the approach was confirmed in Chapter 10 which concluded that while a number of the types of groups referred to above have, in fact, had some experience with one or more of the EDM strategies, there is a limited understanding of the interactive nature of these strategies and the conditions necessary for them to be effective.

In order to disseminate information on the EDM approach, we propose one broad recommendation and five more specific actions. First,

(2) *It is recommended that the Federal Government develop an information transfer strategy for explaining and promoting the EDM approach.*

That strategy will define the most appropriate means -- brochures, audio-visuals or other media -- for disseminating EDM-related information. For simplicity's sake, the following recommendations on where and how such information should be directed refers to the means as 'information packages'. With regard to the markets which require this information, *it is recommended that the Federal Government:*

(3) *Develop a general information package on the EDM approach for the general public. This information package should be simple and should provide the essence of the EDM approach, discuss the general strategies involved, and the implementation issues which can affect its effectiveness. Further, it should set out a general methodology for groups concerned with crime prevention to assist them to determine which, if any, EDM strategies are required, appropriate and feasible in which residential environments.*

(4) *Develop a set of more detailed information packages, directed to specific groups, to be used in conjunction with the general package. These information packages would address the EDM strategies relevant to the interests of each group, and the specific roles and responsibilities to be undertaken by such groups in applying the EDM approach to crime prevention to their relevant functions. In particular we would suggest that specific information packages be developed for: police forces; private security agencies; tenant/ratepayer organizations; architects and planners (including municipal planning officials); developers (private, public and non-profit); and housing managers.*

(5) *Develop and conduct workshops and seminars on the EDM approach, again directed at the specific groups identified in Recommendation #3, to supplement the detailed information packages.*

In recommending the development of EDM-related information packages and workshops/seminars, we have made no explicit distinction between existing and new (future) housing. The setting-specific nature of the EDM approach; the importance placed on resident cooperation and participation; and the relative need in existing and new housing environments would suggest that, in many respects, the opportunities for effective application of the EDM approach during the design and development of new housing are somewhat more limited than with existing housing. Nevertheless, we feel that these opportunities are important enough for the Government to take steps to see that EDM strategies which are related to the actual operation of the housing environment are considered during the design and development of new housing in order to reduce the risk of these new environments becoming serious criminogenic situations.[1] Therefore,

(6) *It is recommended that the Federal Government, under the responsibility of CMHC, consider the development and distribution of a detailed information package on the EDM approach to crime prevention specifically geared to those involved in the design and development of new housing.*

This package should not be as directive a document as the various advisory documents currently distributed or being developed by CMHC, but rather an information source which describes the different design and management strategies which comprise the EDM approach, and the various conditions under which they could be applied in the design and management of new housing. The document should emphasize those EDM strategies (and sample techniques) which could be most easily incorporated into design solutions and proposed building management systems with or without the participation and support of residents.

The impact and success of such an approach are obviously dependent upon the interest and willingness of those involved in the housing provision process to consider crime prevention issues and EDM strategies during the development process. While we have deliberately avoided recommending a mandatory approach, CMHC may wish to consider some steps it may want to take to ensure a greater level

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[1] The major advantage that exists with regard to the implementation of the EDM approach in new housing, as compared to existing housing, is that the incorporation of the EDM design strategies in new housing is likely to be much cheaper and easier.

of interest in EDM. These additional steps could range from a series of promotional seminars/workshops with those groups involved in the provision process through to the establishment of funding incentives. Similarly, CMHC may wish to consider trying to enlist the support of the large private sector conventional mortgage lenders and insurers and the large home insurance companies in encouraging builders/developers to consider the EDM approach in new housing.

Recommending the development of a detailed information package for architects, planners and developers that is specifcally geared to new housing raises the question of whether or not a specific package related to incorporating design strategies in existing housing should also be developed for these same groups. The answer is 'yes'. Therefore,

(7) *It is also recommended that the Federal Government, under the responsibility of CMHC, consider the development and distribution of a detailed information package on the EDM approach to crime prevention specifically geared to those involved in the renovation and rehabilitation of existing housing.*

This document should pay particular attention to those physical features of existing buildings which can be most easily and cheaply altered for crime prevention purposes (e.g. target-hardening features, improved lighting and landscaping treatment, etc.).

ii. **Implementation Program for Selected Environments**

In lieu of being able or needing to recommend enforcing the implementation of the EDM approach in all residential environments, we have recommended a national program to explain and promote the use of the approach in those environments where it may be needed. However, like any other promotional program, there is no assurance that the information and education programs recommended above will result in the effective application of the EDM approach in those areas where it is most seriously needed. Therefore, in order to further promote and demonstrate the approach and to ensure that its potential benefits do accrue to those residential environments most in need of crime prevention assistance,

(8) *It is recommended that the Federal Government consider the establishment of a major program aimed at setting up pilot projects which could provide guidance and financial assistance for the implementation of the EDM approach in residential environments where there is a demonstrated need, willingness and ability to develop and implement an EDM program for the purpose of reducing/preventing the target crimes. We would further recommend that this*

program be <u>*responsive*</u> *and not directive, because we
do not believe there is any practical way for government,
on its own accord, to determine whether a specific
environment needs the EDM approach to crime
prevention.*

The first task entailed in this recommendation is to determine, in
detail, the objectives and requirements of this EDM program. At
this point we can only describe this responsive program in general
terms; the details would need to be fleshed out later and would
need to reflect experiences gained in the information dissemination
efforts recommended above.[1] The responsible Government agency (or
agencies) would inform relevant groups and organizations across
the country of its intention and willingness to provide guidance
and financial assistance for the development and implementation
of an EDM approach to preventing/reducing target crimes in those
residential settings where it is warranted and feasible. Interested
groups and organizations would be invited to submit applications
for study grants to analyze and document the need for an EDM
approach to crime prevention and to develop a program of strategies
suitable to their own particular settings. This application for
a study grant would in itself require an initial documentation
of the crime problem, a detailed description of the residential
setting and a preliminary assessment of feasibility. In other
words, the applicant would have to provide sufficient information
to convince the Government to support the undertaking of a more
detailed problem analysis and planning study.

The invitation or call for study grant applications should probably
specify one closing date. All applications would then be able to
be assessed together on a comparative basis and all study grants
would be awarded at roughly the same time. Similarly, the same
deadline for submission of the study documents would apply to all
successful applicants in order to facilitate another comparative
assessment for funding the implementation and evaluation of the
proposed EDM programs.

In general terms, the funded studies would need to include:

  (a) an indepth assessment of need (problem definition);

  (b) a preliminary review and evaluation of the various
      EDM strategies available and how they related to
      the problem;

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[1] The description which follows clearly draws on the lessons learned
in the development and implementation of the Urban Initiatives
Anti-Crime Program in the United States. If the Federal Government
agrees to proceed with the implementation of the EDM program
recommended here, it should investigate the problems and benefits of
the U.S. program in more detail than was possible in this present
study.

  (c) an assessment of the human resources available,
      including the willingness of residents and various
      agencies to cooperate and participate in an
      implementation program;

  (d) a detailed description of the EDM program to be
      undertaken; the costs of undertaking it; an
      implementation schedule and a description of the
      management group and process that would be set
      up to administer the implementation; and

  e) a description of the evaluation process to be
     undertaken to assess the implementation process
     and the overall impact of the program.

These studies would then be submitted to the Federal Government
which would assess the results and award (or not, as the case
may be) the applicants monies to implement the proposed programs
and to evaluate their effectiveness in achieving the stated
objectives. While experience elsewhere would suggest that most
applicants for assistance under this program will have a geniune
concern and interest in crime prevention, those assessing such
applications should keep in mind that some applicants might view the
program as just another way of getting easy money to repair and upgrade
housing projects without any direct concern for crime prevention.

Obviously, the above program description is extremely simplified
and lacks details on some very important issues that would have
to be dealt with in the development of such a program. For
example, if such a program is to be successful, the Government
has an initial and critical job to do with regard to heightening
the awareness and understanding of various individuals and groups
in the crime prevention and housing sectors concerning the EDM
approach to crime prevention.

One could characterize the current state of the art in Canada
regarding the EDM approach as being in its infancy and, as
experience in the United States has shown, a little bit of
knowledge in this area can be detrimental (in that the problems
and proposed solutions are viewed in an overly simplified way).
The above recommendations relating to the development of a
program to explain and promote the EDM approach are therefore
critical to the success of the type of responsive implementation
program being recommended here and must precede the announcement
of this program.

Further, by its very nature, the EDM approach to crime prevention
will entail the involvement of different levels and departments
of government in the implementation and funding of various
strategies. The Ministry of the Solicitor General of Canada and
the Canada Mortgage and Housing Corporation have, of course, major
roles to play in the development and administration of an EDM
approach to crime prevention in residential settings. There is
also a case to be made for involving other Federal departments
such as Health and Welfare, and Employment and Immigration;

provincial governments, particularly those departments that have responsibility for municipal affairs, housing, community and social services; and municipal planning departments, housing agencies and police. By suggesting the possible involvement of the provincial governments, we are of course raising the prospect that the responsive type of program we are proposing could be developed, administered and funded as a joint federal-provincial program.

We raise the issue of involving other departments of the Federal Government and possibly the various provincial governments for a number of reasons. The EDM approach to crime prevention does not fall neatly into the jurisdictional responsibility of any one level of government or any one or two departments within the Federal Government. 'Intra-departmental and intra-governmental cooperation' is the operative phrase if the type of responsive program we are recommending is to be successful. This is not to say that one or two departments such as the Ministry of the Solicitor General and/or CMHC could not take the lead role in developing and administering the program, but that serious consideration should be given early on in the development of this program to the contributions and roles of other departments and other levels of government. This cooperation issue becomes even more critical when one considers the amount of money that would be required to initiate such a program extensively and the need to explore the possible use of existing government funding programs, such as youth employment programs and the Residential Rehabilitation Assistance Program of CMHC, in the funding of this new program.

Whatever structure is evolved for the development and administration of the proposed program, it is essential that the program itself have a specific time frame and budget, detailed criteria and priorities for funding, and a built-in overall evaluation procedure.

Two final points can be made in support of the importance we attach to the program described above. First, residential crime is not a problem which is unique to any one municipality or province in Canada. It is or could be a national issue. However, the responsibility for crime prevention has traditionally been and is likely to continue to be, jurisdictionally divided. In fact, considering the variety of crime prevention strategies involved in the EDM approach (and the range of design and management issues these strategies are meant to resolve), experience would suggest that one might encounter some considerable disagreement among various crime prevention, social service, housing agencies, etc. as to whose responsibility crime prevention really is. For this reason it is important that some organization take a lead role in the early implementation of the EDM approach until its merits have been adequately demonstrated to ensure that those environments most in need of assistance receive it. In our view, this lead role can best be taken by the Federal Government.

Second, and following on the above point, is the fact that 'nothing succeeds like success' If successful, this program will create a minimal grass-roots understanding and appreciation of the nature and merits of the EDM approach to crime prevention which, if experience elsewhere is any indication, is not only a prerequisite to its successful implementation but is also the most effective way to increase awareness (through word-of-mouth promulgation among peer groups such as police, planners, etc.).

iii. Research and Data Development

We do not believe that there is any need or purpose for replicating the same kind of extensive research projects undertaken during the last decade in the United States in order to implement the EDM approach in Canada through the activities recommended above. However, in concurrence with the programs we have recommended, there is certainly a potential for increasing the level of knowledge about those aspects of crime and the residential environment which are relevant to the EDM approach. This approach is still evolving and could benefit from further research. In particular, we believe that incorporating research activities into the responsive program which we have recommended would be much more likely to provide useful results than the more abstract and general type of research studies undertaken previously. Our reason for suggesting this type of approach is simple: the site-specific nature of the many variables affecting the crime-environment relationship would tend to limit the applicability of the findings derived from research which looked at an issue (displacement, for example) in the general sense. Therefore,

> (9) *It is recommended that the aforementioned responsive program, through which the Federal Government would provide guidance and financial assistance to implement the EDM approach in existing residential environments, should allow participants in that program to undertake research on aspects of the crime-environment relationship which are particularly relevant to their specific problems and to the EDM strategies that they propose to implement.*

Examples of some of the crime-environment issues which, in our view, need further research and which could be appropriately incorporated into individual applications to the program include the following:

(a) displacement, whether spatial, temporal or technological;

(b) the extent to which particular crimes can be defined as 'crimes of opportunity';

(c) the environmental stimuli that affect a potential offender's perception of whether or not a particular environment is vulnerable; and

(d) the most effective means of maintaining the interest and involvement of the residents and management of a residential environment in working to prevent crime in their communities.

In addition to the above areas of research, there is a clear need for developing better data bases for determining more precisely the need for, and success of, the EDM approach to crime prevention. There is considerable room for improvement with regard to the type and extent of information collected by the relevant authorities across Canada (including police and public and private landlords).

As an initial step in developing a better base,

> *(10) It is recommended that the Ministry of the Solicitor General provide guidance and financial assistance to police forces which indicate an interest in implementing the EDM approach and in collecting the types of information on crime occurrences which are relevant to that approach, with particular reference to specific locational characteristics of criminal acts in residential environments.*

Those police forces which are developing computerized data systems would, of course, be the most suitable and likely to receive assistance to undertake more detailed data collection of this type. With regard to the housing sector, we believe that it is too early in the development of the EDM approach in Canada for the Government to do more than suggest to housing agencies, public housing authorities in particular, that the maintenance of consistent records of crime occurrences in their projects would be worthwhile.

iv. Regulation of Target-Hardening Security Features
As we briefly mentioned above, the one area in which the Government could usefully develop standards for implementing EDM strategies is in the area of target-hardening.[1] The provision of more secure locks, doors and windows is the only EDM strategy which can be fairly definitively judged as effective in preventing crime, and is also a relatively simple and inexpensive process if undertaken during the construction of new housing rather than retroactively. There is considerable support among some police forces across the country for developing security codes for incorporation into their

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[1] CMHC has developed a useful publication in this regard, Protecting Your Home Against Burglary (1981) which incorporates target-hardening and some other EDM strategies. This document has been made available to police crime prevention units.

respective municipal by-laws. However, it is likely that there would be some opposition to such a code among private sector groups involved in housing development, particularly since our investigations indicated that the majority of these groups do not appear to consider crime prevention in residential environments an important issue. The codifying of standards for secure locks, doors, and windows could also be seen by the general public as unwarranted government intervention which would tend to encourage what is referred to as the 'fortress' mentality', especially by those who criticize crime prevention measures which they view as 'band-aid' treatments which ignore the real roots of crime.

Nevertheless, there are sufficient examples of the successful development and implementation of security standards in building codes in the United States to justify serious consideration of this approach in Canada. An important lesson gained in the past development of security codes is that they should include specific performance standards rather than depend entirely on descriptions of the elements involved. Since there would likely be considerable duplication of efforts if individual municipalities were to develop separate security codes, and since it is at the Federal level that the best resources exist for developing the performance standards mentioned above,

> *(11) It is recommended that the Federal Government give serious consideration to incorporating a target-hardening section for crime prevention purposes in the National Building Code and to encouraging the National Research Council to undertake the delineation of appropriate performance standards for locks, doors and windows in residential structures. Appropriate security performance standards would need to address other user requirements relating to safety, accessibility for disabled, use by elderly, etc.*

Appendix

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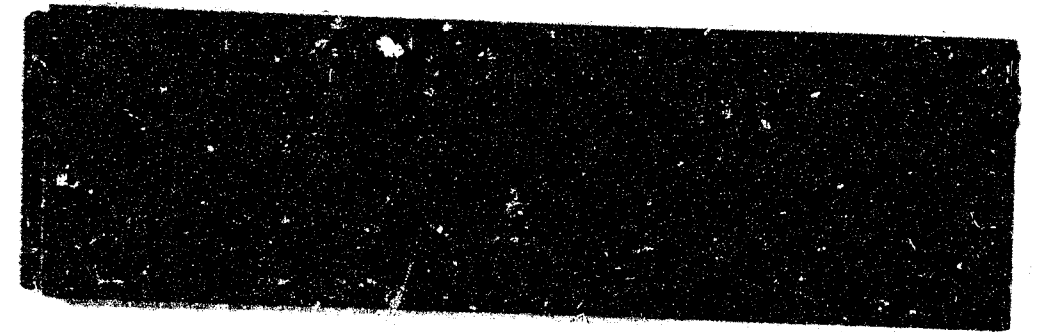
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Survey Methodology

SURVEY METHODOLOGY

To obtain information on the nature of residential crime and the environments in which it occurs in Canada, a set of surveys was undertaken in the 23 Census Metropolitan Areas, and in Fort McMurray, Alberta and Burnaby, British Columbia. The six types of agencies contacted in each city were: the police, the major private security agencies servicing residential properties, the public housing authority, the major developers/managers of private sector rental housing, the CMHC branch office, and the municipal planning department. In addition, general letters of inquiry were directed to each provincial police commission and to the office of the provincial attorney and/or solicitor general.

Each agency receiving a questionnaire was first contacted by telephone, or in some cases by mail, to establish the agency's willingness to participate in the survey. A total of 237 questionnaires and letters of inquiry were sent by mail. The most intensive information requests were directed to the police; an example of the police questionnaire is included in this appendix. Progressively less detailed questionnaires, modeled on the police questionnaire format, were sent to the private security agencies, landlord organizations and CMHC offices. The most general information requests were directed to the municipal planning offices.

Follow-up discussions, by telephone or during the field visits, were also made in several cases to ensure that the most complete information possible was obtained.

ENVIRONMENTAL DESIGN AND MANAGEMENT (EDM) APPROACH TO CRIME PREVENTION PROJECT

QUESTIONNAIRE TO MUNICIPAL POLICE DEPARTMENTS

. Project undertaken

for: The Ministry of the Solicitor General of Canada

and

Canada Mortgage and Housing Corporation

by: Urban Design Consultants

and

The Research Group

December 1980

<u>GENERAL GUIDELINES FOR COMPLETING THIS QUESTIONNAIRE</u>

1. Before beginning the questionnaire, please read the documents enclosed separately, i.e.:

   - the covering letter

   - the introductory document on crime prevention through Environmental Design and Management (EDM)

   The introductory document outlines the major principles, objectives and strategies of the Environmental Design & Management (EDM) approach to crime prevention. Various parts of the questionnaire refer you to specific sections in the introductory document for an elaboration of the terms being used within the questions. For your convenience, a list of the EDM "target crimes" is included here in Figure 1.

<u>Figure 1: List of EDM Target Crimes</u>

UCR CODES	DESCRIPTION
001 & 006	HOMICIDE (murder, manslaughter, infanticide) and ATTEMPTED MURDER
008	RAPE
009 & 010	INDECENT ASSAULT (female & male)
	OTHER ASSAULT
013	Wounding
014	Bodily Harm
015	Police
016	Other Police/Public Officer
017	Other
018	ROBBERY (Total)
024	RESIDENTIAL BREAK & ENTER
026	MOTOR VEHICLE THEFT
	THEFT OVER AND UNDER $200
032 & 037	Bicycles
033 & 038	From a Motor Vehicle
035 & 040	Other
060	ARSON
070	TRESPASS AT NIGHT
071 & 072	WILFUL DAMAGE (Private & Public)

2. The questionnaire has five main parts. The objectives of each part are as follows:

PART 1: - to identify the size of your department and the area served.

PART 2: - to identify the extent of your department's awareness of, and experience with the various EDM strategies.

   - to obtain your department's judgment of the susceptibility of the EDM target crimes to prevention or reduction by the EDM strategies.

PART 3: - to identify the residential areas within your jurisdiction which have relatively high and relatively low rates of the EDM target crimes.

PART 4: - to identify the extent to which the EDM target crimes occur within residential settings and the degree of juvenile involvement in these occurrences.

PART 5: - to identify the extent to which certain types of information useful for EDM-related planning and implementation are collected on a regular basis by your department.

3. <u>You will probably find it helpful to briefly skim through the entire questionnaire before beginning to answer the questions in any particular part.</u> Depending on the size of your department and its administrative structure, you may find it useful to assign different parts of the questionnaire to a number of personnel whose responsibilities and experience are pertinent to the questions being asked. For example:

   ● Parts 1, 4 and 5, concerning the size and jurisdiction of your department, the EDM target crimes, and Occurrence Records System, could be filled out by your Statistical Section;

   ● Part 2, concerning the EDM strategies and crime prevention programs, could be filled out by your Crime Prevention Unit; and

   ● Part 3, concerning high and low crime areas, could be filled out by your Criminal Investigations Branch.

   It may be helpful to review the completed questionnaire in a meeting of the relevant personnel. Since we are interested in the views of your department rather than any particular member, it might also be appropriate for final responses to be reviewed by senior members of the department.

4. The questions have been ordered in logical sequence. If you have been assigned responsibility for answering only one part of the questionnaire, please review the questions (and your department's responses to those questions) in previous parts.

5. If you have any questions, please contact one of the following people:

   Lee Axon - (416) 968-2217 and (416) 922-2011
   Robert Hann - (416) 968-2217

6. Since we realize that a considerable amount of work is required in responding to this questionnaire, we thought that a return date of February 15, 1981 would allow adequate time for its completion. We sincerely appreciate your co-operation and assistance.

PART I - BASIC IDENTIFICATION INFORMATION ON RESPONDING DEPARTMENT

1.1 Name of police department: _____

1.2 Size of department:

    a. Number of sworn personnel   _____ (full-time equivalent)

    b. Number of civilian personnel   _____ (full-time equivalent)

    c. Total number of personnel   _____ (full-time equivalent)

    d. Operating budget (for calendar year 1980 or fiscal year 1980/81 - excluding capital items) $_____

    e. Size of geographical jurisdiction   _____ sq. mi.

    f. Population within geographical jurisdiction _____

    g. Municipalities within jurisdiction

                      _____

                      _____

                      _____

                      _____

                      _____

                      _____

1.3 Person(s) responsible for completing questionnaire:

RANK & NAME	POSITION	PHONE	PRESENT DUTIES & BACKGROUND EXPERIENCE	QUES-TION #
1.				
2.				
3.				
4.				
5.				

1.4 Person to contact regarding questionnaire response, if different from above.

RANK & NAME	POSITION	PHONE	RESPONSIBLE FOR QUESTIONS #

PART 2 - EDM STRATEGIES

Please read the introductory document before answering any of the following questions.

This part of the questionnaire enquires about

    (i) the nature of your department's involvement, if any, in implementing any EDM strategies; and,

    (ii) the extent to which the EDM approach to crime prevention has been implemented in your city;

    (iii) your department's judgment on the "susceptibility" of the EDM target crimes to prevention by the EDM strategies

The chart on p. 4 lists the major EDM strategies according to the following groupings: Hardware Strategies, Physical Design Strategies, and Social Organization and Control Strategies (see pp. 5-12 in the introductory document for an elaboration of these strategies).

2.1 a) We would like to know whether or not your department is directly or jointly responsible for the implementation of any programs that are related to any of the EDM strategies. In the first column of the chart on p. 4, please check those strategies in which your department is directly or jointly involved.

2.1 b) If you have indicated that your department is actively involved in any programs related to the EDM approach to crime prevention, please:

    (i) briefly describe each program in the space below,

        and/or

    (ii) attach an existing description of the program(s) with your completed questionnaire.

2.2 If your department is involved in some other way (e.g. in an advisory or
resource capacity) in EDM-related programs for which other agencies or
municipal departments are responsible, please write in the name of the
agency beside the relevant strategy in the second column of the chart on
p. 4.

2.3 Lastly, we wanted to know if you were aware of any other group (e.g.
police department, other municipal department, citizen organization) in
your general area which is implementing any programs related to the EDM
approach to crime prevention independently of your department's
involvement. Please list these groups, if any, and the programs they
sponsor in the space below.

GROUP OR AGENCY	PROGRAM NAME OR DESCRIPTION

AWARENESS OF AND INVOLVEMENT IN EDM STRATEGIES - RESPONSES TO QUESTIONS 2.1-2.2*

EDM STRATEGIES	DIRECTLY OR JOINTLY RESPONSIBLE (1)	INVOLVED IN SOME OTHER CAPACITY (NOTE AGENCY RESPONSIBLE) (2)
HARDWARE STRATEGIES		
1. Target Hardening (e.g. locks, doors)		
2. Detection Hardware (e.g. burglar alarms, cameras)		
PHYSICAL DESIGN STRATEGIES		
1. Surveillance		
a) Reduction of concealment opportunities		
b) Improved lighting		
c) More visible locations for indoor & outdoor resident service and activity areas		
d) Increased pedestrian or street traffic		
2. Control of Access & Escape		
a) Use of cul-de-sacs & restricted street configurations		
b) Location of residences away from through traffic		
c) Improved layout of pedestrian circulation routes		
d) Zoning space from public to private use		
e) Clarification of intended uses of space		
f) Use of barriers (e.g. fences, landscaping, signs)		
g) Improved identification of dwelling units		
h) Improved access for police/security personnel		
3. Fostering Territoriality/Social Cohesion		
a) Clustering of dwelling units		
b) Decreasing height & size of developments		
c) Distinguishing between resident & non-resident space		
d) Reduction of incompatible or conflicting uses of space		
SOCIAL ORGANIZATION AND CONTROL STRATEGIES		
1. Resident Strategies		
a) Education programs (e.g. talks, newsletters)		
b) Resident or Community Patrols (e.g. Neighbourhood Watch)		
c) Self-help activities (e.g. escort services, hot-line to private security)		
d) Resident or tenant associations		
e) Improved recreational facilities & programs (e.g. for youth)		
f) Improved social services & crisis intervention		
2. Management Strategies		
a) Use of security guards		
b) Improved building maintenance		
c) Rental & eviction policies		
3. Law Enforcement Strategies		
a) Team or Neighbourhood Policing		
b) Security surveys and inspection programs		
c) Operation Identification		
d) Consultation with planning/housing authorities		

* Please return to p. 2 for question 2.1 b) and
    p. 3 for question 2.3 after completing this chart.

2.4 a) We are also interested in your department's opinion regarding the impact each of the EDM strategies has had or is likely to have on each of the target crimes. Although we appreciate that some of the strategies are only remotely applicable or perhaps not at all appropriate to all of the EDM target crimes, we have, for the sake of simplicity, listed all the EDM strategies and all of the target crimes in the chart on p. 6.

Please indicate whether or not you think, on the basis of your department's experience, the strategies listed in the chart would help reduce or prevent each of the target crimes by marking with a check-mark only those strategies which your department considers to be promising.

If you think the strategy is either inappropriate or unlikely to be effective for the target crime in question, please write 'N.A.' in the appropriate space.

If, on the basis of your department's experience, you cannot make a judgment as to the likely effectiveness of the strategy for any given crime, please write 'D.K.' (don't know) in the appropriate space.

2.4 b) If you have tried any of the EDM strategies and found them to be particularly ineffective or counter-productive, please indicate below which strategies and why.

_____
_____
_____
_____
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_____

EFFECTIVENESS OF THE EDM STRATEGIES - RESPONSES TO QUESTION 2.4 a)*

STRATEGIES	Burglary	Robbery	Theft	Motor Vehicle Theft	Indecent Assault	Other Assault	Rape	Trespass	Arson	Vandalism	Homicide & Attempted Murder
HARDWARE STRATEGIES											
1. Target Hardening (e.g. locks, doors)											
2. Detection Hardware (e.g. burglar alarms, cameras)											
PHYSICAL DESIGN STRATEGIES											
1. Surveillance											
a) Reduction of concealment opportunities											
b) Improved lighting											
c) More visible locations for indoor & outdoor resident service and activity areas											
d) Increased pedestrian or street traffic											
2. Control of Access & Escape											
a) Use of cul-de-sacs & restricted street configurations											
b) Location of residences away from through traffic											
c) Improved layout of pedestrian circulation routes											
d) Zoning space from public to private use											
e) Clarification of intended uses of space											
f) Use of barriers (e.g. fences, landscaping, signs)											
g) Improved identification of dwelling units											
h) Improved access for police/security personnel											
3. Fostering Territoriality/Social Cohesion											
a) Clustering of dwelling units											
b) Decreasing height & size of developments											
c) Distinguishing between resident & non-resident space											
d) Reduction of incompatible or conflicting uses of space											
SOCIAL ORGANIZATION AND CONTROL STRATEGIES											
1. Resident Strategies											
a) Education programs (e.g. talks, newsletters)											
b) Resident or Community Patrols (e.g. Neighbourhood Watch)											
c) Self-help activities (e.g. escort services, hot-line to private security)											
d) Resident or tenant associations											
e) Improved recreational facilities & programs (e.g. for youth)											
f) Improved social services & crisis intervention											
2. Management Strategies											
a) Use of security guards											
b) Improved building maintenance											
c) Rental & eviction policies											
3. Law Enforcement Strategies											
a) Team or Neighbourhood Policing											
b) Security surveys and inspection programs											
c) Operation Identification											
d) Consultation with planning/housing authorities											

* Please return to p. 5 for question 2.4 b) after completing this chart.

PART 3 - IDENTIFICATION AND DESCRIPTION OF HIGH AND LOW CRIME AREAS

The purposes of this part of the questionnaire are:

(i) to determine whether your department can identify particular residential areas which exhibit relatively high and low incidences of the EDM target crime, and

(ii) to obtain descriptions of these high and low crime areas.

In asking about "residential areas which exhibit relatively high and low incidences of the EDM target crimes", we mean a number of things. Firstly, residential area may be either an entirely residential area or a mixed residential area (i.e. commercial-residential or industrial-residential). Secondly, residential area may refer to a section of your city, a neighbourhood, a housing development, or, in some cases, a single residential building (e.g. a highrise building). With regard to areas which exhibit "high and low incidences of the EDM target crimes", we mean areas which are known for their relatively (a) high and (b) low incidences of any one or more of the target crimes. In some cases, an area may be considered to be a high-crime area because of the occurrence of several homicides or rapes. Alternatively, another area may be known as a high-crime area because of a large number of motor vehicle thefts and/or B and E's occurring in that area. In identifying high-crime areas, therefore, you may choose to name either kinds of areas so long as these areas exhibit any of the EDM target crimes to such a degree that there is serious concern about these areas in your department. You will have an opportunity for indicating the basis for identifying any given area as a high-crime area in the chart on pp. 8-10.

3.1 a) Can your department identify particular residential areas within your jurisdiction which are known for their relatively (a) high, and (b) low incidences of any one or more of the EDM target crimes? Please check appropriate boxes.

(a) HIGH-CRIME AREAS

☐ NO, can't identify high-crime residential areas

☐ YES, can identify high-crime residential areas

☐ Don't know

(b) LOW-CRIME AREAS

☐ NO, can't identify low-crime residential area

☐ YES, can identify low-crime residential areas

☐ Don't know

3.1 b) If you have answered 'NO' or 'Don't know' to both sections of the above question, please skip to Part 4 of the questionnaire.

3.2 If you have answered 'YES' in either section of question 3.1 a), please list the three residential (or mixed residential areas) with the highest incidences of EDM target crimes and the three residential (or mixed residential areas), with the lowest incidences of EDM target crimes in the table below. Please specify the name by which the area is commonly known in your department, and indicate its location, for example by the nearest street intersections.

HIGH-CRIME AREAS

H1 Name:_____
   Location:_____
H2 Name:_____
   Location:_____
H3 Name:_____
   Location:_____

LOW-CRIME AREAS

L1 Name:_____
   Location:_____
L2 Name:_____
   Location:_____
L3 Name:_____
   Location:_____

3.3 To assist in determining whether high and low crime residential or mixed residential areas in different Canadian cities exhibit similar characteristics, we are asking each department to provide 'area profiles' on those residential (or mixed residential areas) with the 3 highest and 3 lowest occurrence rates of EDM target crimes (i.e. as areas H1, H2, H3; and L1, L2, L3 identified in question 3.2).

The following chart (pp. 8-10) lists the major characteristics of residential environments which are relevant to the EDM approach to crime prevention. Please describe each of the three high-crime areas according to the characteristics listed and any other characteristics your department considers important. If you do not have the necessary information to fill in some of the characteristics, please do not guess; instead leave the box blank.

CHARACTERISTICS OF 3 HIGH-CRIME AREAS - RESPONSES TO QUESTION 3.3

AREA CHARACTERISTICS	RESIDENTIAL AREA		
	H1	H2	H3
1. PREDOMINANT TYPES OF EDM CRIMES (i.e. B & E, Robbery, Theft, Motor Vehicle Theft, Vandalism, Arson, Trespass, Indecent Assault, Other Assaults, Rape, Homicide & Attempted Murder)			
GENERAL CHARACTERISTICS OF AREA			
2. LOCATION IN CITY (i.e. downtown or central core; res'l. area surrounding central core; outlying suburb; res'l. area beyond municipal boundaries; other, please specify)			
3. APPROX. SIZE OF AREA (sq.mi. or number of blocks) (If area is building, please give no. of dwelling units)			
4. TYPE OF USES IN AREA (i.e. residential or mixed residential - e.g. commercial-res'l., industrial-res'l; please specify mix)			
5. GENERAL INCOME LEVEL OF AREA (i.e. lower, middle, upper or mixed; please specify mix)			
SPECIFIC CHARACTERISTICS OF AREA			
6. PREDOMINANT TYPE OF HOUSING (i.e. highrise (5 stories plus), lowrise (under 5 stories), row housing, semi-detached or duplexes, single-detached or mixed; please specify mix)			
7. PREDOMINANT TENURE/MANAGEMENT CHARACTERISTICS (e.g. owner-occupied, private or public rental, condominium, co-operative, non-profit, etc.)			
8. QUALITY OF HOUSING MAINTENANCE (e.g. well-kept, in state of disrepair, etc.)			

CHARACTERISTICS OF 3 HIGH-CRIME AREAS - RESPONSES TO QUESTION 3.3

AREA CHARACTERISTICS	RESIDENTIAL AREA		
	H1	H2	H3
9. POTENTIAL FOR CONCEALMENT IN AND AROUND HOUSING (e.g. alleys, shrubbery, partitions, parked cars, fences blind paths & corridors inside buildings, etc.)			
10. OTHER AREA CHARACTERISTICS (e.g. quality of lighting, frequency or density of pedestrian traffic, other activities in area, e.g. pub, youth hang-outs, etc.)			
11. PARTICULAR POLICING STRATEGIES (e.g. foot/car patrols, fixed/random beats, team policing, saturation policing, specialty squads, etc.)			
CHARACTERISTICS OF RESIDENTS 12. PREDOMINANT EMPLOYMENT STATUS OF RESIDENTS (employed, unemployed, mixed; please specify ratio of mix)			
13. PREDOMINANT TYPE OF RACE OR ETHNICITY OF RESIDENTS (e.g. British extraction, Asian, French, Italian, Native peoples, etc. or mixed; please specify ratio of mix)			
14. PREDOMINANT FAMILY STRUCTURE OF RESIDENTS (i.e. singles, 2-parent families with children, 1-parent families with children, elderly living alone, or mixed; please specify ratio of mix)			
15. Proportion of Juveniles in Area			

CHARACTERISTICS OF 3 HIGH-CRIME AREAS - RESPONSES TO QUESTION 3.3

AREA CHARACTERISTICS	RESIDENTIAL AREA		
	H1	H2	H3
16. Other Descriptive Characteristics			

3.4 Similarly, please use the subsequent chart (pp. 12-14) to describe the three low-crime areas in terms of the characteristics listed and any other characteristics that your department considers important. Again, please do not guess if your department does not have the information requested; simply leave the box blank.

3.5 If possible, please provide a map of the geographical area serviced by your department, and circle and identify (i.e. as H1, H2, H3; and L1, L2, L3) each area listed in the charts on the map.

CHARACTERISTICS OF 3 LOW-CRIME AREAS - RESPONSES TO QUESTION 3.4

AREA CHARACTERISTICS	RESIDENTIAL AREA		
	L1	L2	L3
1. PREDOMINANT TYPES OF EDM CRIMES (i.e. B & E, Robbery, Theft, Motor Vehicle Theft, Vandalism, Arson, Trespass, Indecent Assault, Other Assaults, Rape, Homicide & Attempted Murder)			
GENERAL CHARACTERISTICS OF AREA			
2. LOCATION IN CITY (i.e. downtown or central core; res'l. area surrounding central core; outlying suburb; res'l. area beyond municipal boundaries; other, please specify)			
3. APPROX. SIZE OF AREA (sq.mi. or number of blocks) (If area is building, please give no. of dwelling units)			
4. TYPE OF USES IN AREA (i.e. residential or mixed residential - e.g. commercial-res'l., industrial-res'l; please specify mix)			
5. GENERAL INCOME LEVEL OF AREA (i.e. lower, middle, upper or mixed; please specify mix)			
SPECIFIC CHARACTERISTICS OF AREA			
6. PREDOMINANT TYPE OF HOUSING (i.e. highrise (5 stories plus), lowrise (under 5 stories), row housing, semi-detached or duplexes, single-detached or mixed; please specify mix)			
7. PREDOMINANT TENURE/ MANAGEMENT CHARACTERISTICS (e.g. owner-occupied, private or public rental, condominium, co-operative, non-profit, etc.)			
8. QUALITY OF HOUSING MAINTENANCE (e.g. well-kept, in state of disrepair, etc.)			

CHARACTERISTICS OF 3 LOW-CRIME AREAS - RESPONSES TO QUESTION 3.4

AREA CHARACTERISTICS	RESIDENTIAL AREA		
	L1	L2	L3
9. POTENTIAL FOR CONCEAL-MENT IN AND AROUND HOUSING (e.g. alleys, shrubbery, partitions, parked cars, fences blind paths & corridors inside buildings, etc.)			
10. OTHER AREA CHARACTERISTICS (e.g. quality of lighting, frequency or density of pedestrian traffic, other activities in area, e.g. pub, youth hang-outs, etc.)			
11. PARTICULAR POLICING STRATEGIES (e.g. foot/car patrols, fixed/random beats, team policing, saturation policing, specialty squads, etc.).			
CHARACTERISTICS OF RESIDENTS 12. PREDOMINANT EMPLOY-MENT STATUS OF RESIDENTS (employed, unemployed, mixed; please specify ratio of mix)			
13. PREDOMINANT TYPE OF RACE OR ETHNICITY OF RESIDENTS (e.g. British extraction, Asian, French, Italian, Native peoples, etc. or mixed; please specify ratio of mix)			
14. PREDOMINANT FAMILY STRUCTURE OF RESIDENTS (i.e. singles, 2-parent families with children, 1-parent families with children, elderly living alone, or mixed; please specify ratio of mix)			
15. Proportion of Juveniles in Area			

CHARACTERISTICS OF 3 LOW-CRIME AREAS - RESPONSES TO QUESTION 3.4

AREA CHARACTERISTICS	RESIDENTIAL AREA		
16. Other Descriptive Characteristics			

PART 4 - EDM TARGET CRIMES

This part of the questionnaire solicits information about the extent to which the EDM target crimes occur within residential settings -- i.e. either inside or outside of residential dwellings and their surroundings or in a property (e.g. park, vacant lot, parking lot) within a residential area.
(Note that residential settings may refer to an entirely residential area or a mixed residential area -- e.g. commercial-residential or industrial-residential.) We are also interested in the degree of juvenile involvement in these kinds of occurrences.

4.1 In the first column of the following chart (p..16), please indicate the number of occurrences for each crime type reported in the entire area served by your department during the 12 months of the last full calendar or fiscal year.

4.2 In the second column, please record your best estimates of the percentage of all reported occurrences within each crime type that occured in a residential setting.

4.3 In the third column, please indicate your best estimate of the percentage of juvenile involvement in each of the target crimes in residential settings.

EDM CRIME OCCURRENCES - RESPONSES TO QUESTIONS 4.1 to 4.3

TYPE OF EDM TARGET CRIME (AND UCR CODE)	(1) NUMBER OF OCCURRENCES REPORTED LAST YEAR	(2) PERCENT. IN RESIDENTIAL SETTINGS	(3) PERCENT. JUVENILE INVOLVEMENT
Homicide (001)		%	%
Attempted Murder (006)			
Rape (008)			
Indecent Assault (female) (009)			
Indecent Assault (male) (010)			
Other Assaults: Wounding (013)			
Bodily Harm (014)			
Police (015)			
Other Peace/Public Officer (016)			
Other (017)			
Robbery (Total) (018)			
Residential Break & Enter (024)			
Motor Vehicle Theft (026)			
Theft Over $200: Bicycles (032)			
From a Motor Vehicle (033)			
Other (035)			
Theft under $200: Bicycle (037)			
From a Motor Vehicle (038)			
Other (040)			
Arson (060)			
Trespass at Night (070)			
Wilful Damage: Private (071)			
Public (072)			

PART 5 - AVAILABILITY OF EDM-RELATED OCCURRENCE INFORMATION

You may wish to send this part of the questionnaire directly to your Statistical Section.

From our review of efforts to implement the EDM approach to crime prevention in other jurisdictions, it has become clear that the first step should be to develop a fairly detailed understanding of the crime problem that the approach is supposed to alleviate. To assist in determining how difficult this step would be for Canadian cities, we need to know:

- what types of EDM-related information are currently being collected and stored by police departments, and

- whether or not that information is stored in a manner that makes it accessible to computer-assisted analysis.

As indicated in the Introductory document (enclosed separately), only certain types of residential "target crimes" are considered to be susceptible to the EDM approach. These target crimes and their respective UCR codes are as follows:

Figure 1: List of EDM Target Crimes

UCR CODES	DESCRIPTION
001 & 006	HOMICIDE (murder, manslaughter, infanticide) and ATTEMPTED MURDER
008	RAPE
009 & 010	INDECENT ASSAULT (female & male)
	OTHER ASSAULT
013	Wounding
014	Bodily Harm
015	Police
016	Other Police/Public Officer
017	Other
018	ROBBERY (Total)
024	RESIDENTIAL BREAK & ENTER
026	MOTOR VEHICLE THEFT
	THEFT OVER AND UNDER $200
032 & 037	Bicycles
033 & 038	From a Motor Vehicle
035 & 040	Other
060	ARSON
070	TRESPASS AT NIGHT
071 & 072	WILFUL DAMAGE (Private & Public)

5.1 Do each of your occurrence records identify the type of occurrence in sufficient detail to determine whether or not the occurrence is one of the EDM target crimes listed in Figure 1. (Please check all appropriate boxes below).

☐ YES - Occurrences in each of the EDM target crime categories can be separately identified.

☐ YES or usually, however only the most serious offence is recorded in any occurrence file.

☐ NO, it is not possible to separately identify occurrences within any of the EDM target crime categories.

☐ Other comments (please specify).

_____

_____

_____

_____

5.2 a) Rather than asking for specific information about each of the information items included in your Occurrence Report, we thought it would be simpler for your department to enclose a blank copy of your department's Occurrence Report. We would also appreciate receiving a copy of a filled-out Occurrence Report for each of the two most frequent types of EDM target crimes that occur in residential settings (please strike out any information identifying particular individuals). We would like you to send copies that, as far as possible, represent fairly typical examples of the kinds of information usually provided in completed Occurrence Reports for those target crimes.

5.2 b) Please identify with an 'X' in the relevant spaces in the blank Occurrence Report, those items which, for a variety of reasons, are generally filled out less than 80% of the time for the EDM target crimes.

5.3 We are particularly interested in the kind of information which usually is included in Occurrence Reports to describe the LOCATION of the occurrence. In the following list of LOCATION characteristics, please check those characteristics which are normally (more than 80% of the time) recorded in the Occurrence Reports (where appropriate) for the EDM target crimes.

☐ Specific Address (e.g. street address and number, nearest intersection or block face)

☐ Part of the City (e.g. patrol area, census tract, neighbourhood, etc.)

☐ Land Use (e.g. residential, commercial, industrial; park, vacant lot, etc.)

☐ Type of Residence (e.g. single detached, semi-detached, highrise, lowrise, rowhousing, etc.)

☐ Tenure/Management Characteristics (e.g. owner-occupied, private or public rental, condominium, cooperative, non-profit, etc.)

☐ Quality of Maintenance (e.g. well kept, in disrepair, etc.)

☐ Part of Building or Lot and/or Point of Penetration (e.g. lobby, garage, roof, parking lot, elevator, stairwell, alley, backdoor, basement window, etc.)

☐ Physical Surroundings (e.g. places of concealment, i.e. parked cars, shrubbery)

☐ Surveillance Measures in Operation (e.g. cameras, private security guards, frequency of policy patrols, alarm systems)

☐ Other Location Characteristic(s) (e.g. quality of lighting, frequency of pedestrian traffic, other uses in area). Please give examples.

_____
_____
_____
_____
_____
_____
_____

5.4 a) To determine the difficulty your department would have in extracting and analyzing the EDM-related information from your Occurrence Records, it is also necessary to know whether or not those records are accessible by manual methods only (i.e. are stored on paper or index cards in written or typed form), or are accessible by computerized methods (i.e. are stored on punched computer cards, magnetic tapes or discs). Accordingly, would you please indicate, by writing in M, C or F, beside each item on the blank Occurrence Report whether that item is:

   M ~ regularly collected and stored in a format accessible by manual methods

            or

   C - regularly collected and stored in a format accessible by computerized methods

            or

   F - will be regularly collected and stored in the future (i.e. the next 2 years) in a format accessible by computerized methods.

5.4 b) If your records system is currently computerized, please provide a list, if possible, of the variables contained in your department's computerized files.

We would like to thank you for your cooperation in completing the questionnaire. As a last reminder, we ask you to check that you have completed and enclosed all five parts of the questionnaire and any additional documents which are relevant, such as:

- existing descriptions of the EDM-related programs which your department is actively involved in;

- a map indicating the 3 high and 3 low EDM crime areas;

- the Occurrence Reports: 1 blank (with appropriate comments) and 2 example Reports; and

- a list of the variables contained in your department's computerized files.

Thank you.

END