

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN:
THE STATUS AND PROSPECTS FOR CPTED IN BRITISH COLUMBIA

By

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ABSTRACT

The "Crime Prevention Through Environmental Design" (CPTED) concept promises to reduce the opportunities and fear of crime in neighbourhoods. By reducing the opportunities for crime, it is assumed that people will become less fearful of moving freely about their environment. This assumption requires further study.

This thesis reviews the current status of CPTED in eleven municipalities in the Lower Mainland of British Columbia. Based on a series of interviews with law enforcement and planning officials, the thesis examines the promotion, principles and practice of CPTED.

The findings suggest that the promotion of CPTED is inadequate. Additionally, CPTED may conflict with other planning objectives. Furthermore, since the concept only promises to reduce the opportunities for crime, evaluating its performance is difficult. As a result, only a small number of municipalities have incorporated CPTED into their planning process.

The thesis concludes that in spite of the limited success of CPTED to date, research on the theory and practice of the concept should continue. Recommendations are suggested to facilitate the implementation, evaluation and promotion of CPTED in the future.

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The glories of a free society in which man is likely to have the greatest opportunity to fulfill his destiny are gains which we should and do value beyond words. The excesses on the fringes are the products of that society which is challenged to find civilized answers against the development of delinquency.

John Alderson

"Communal Policing".
Ditchley Conference
on Preventive
Policing---Research
Paper, Devon Cornwall

March 1977.

CHAPTER ONE

INTRODUCTION

General Perspective

"Cities are designed to make crime easy".¹ Urban planners, Patricia Brantingham observes, often manipulate land use controls to affect specific social and economic goals. One prominent social goal, crime reduction, has rarely been considered by planners. Planners "think of parks and noise levels, but not of crime".² Recent research supports these beliefs, and suggests that planners may be unwittingly contributing to urban crime problems by creating environments that promote crime and fear of crime.³

Within the past twenty years, increasing attention has been given by environmental criminologists to the role of the man-made environment in creating opportunities for criminal behaviour. It is clear that many environmental factors influence the creation of fear and the nature and circumstances of a wide variety of criminal events. Programs looking at how the environment, the criminal and the victim interact have been developed under the labels of Defensible Space, Comprehensive Security Planning, Environmental Vulnerability, Turf Reclamation, Environmental Design and Management, and Crime Prevention Through Environmental Design (CPTED). This last concept, CPTED

(pronounced sep-ted), has emerged as the most comprehensive and viable approach to the analysis and design of environmentally-based solutions to crime and fear while, at the same time, preserving the quality of life in the affected environments.

CPTED highlights the interaction between human behaviour and the physical environment in the battle against crime. CPTED aims to reduce the opportunities and fear of crime in neighbourhoods. By reducing the apparent opportunity for crime, people should be less fearful of moving freely about their environment. The assumption underlying these aims is that physical changes can have their maximum impact on crime and the fear of crime only when the user population actively supports and maintains the changes and aids in the detection and reporting of crimes.

Is CPTED effective? The success of CPTED can be judged in terms of the availability of opportunities for its input into the planning process. In British Columbia, such opportunities do exist. Some municipalities have, in the past five years, encouraged the participation of police agencies in community planning. This has been possible through federal government funding of courses conducted by the Royal Canadian Mounted Police (RCMP). Once the police officers complete the course, they assume a position on advisory planning commissions in their respective municipalities. The officers are expected to assess a proposed project's likely impact on crime and human safety.

This thesis examines the promotion, principles and practice of CPTED in the Lower Mainland of B.C. The findings from this study will be useful as a reference for further comprehensive research on crime prevention through environmental design.

Purposes Of The Study

The first purpose of this study is to analyze the current practice of CPTED in B.C. Based on preliminary research, it was learned that ample resources had been devoted to CPTED, but that there is no indication as to its effectiveness in practice.

The second purpose is to create an awareness among planners, in both public and private sectors, because they should consider crime prevention measures in the planning process. A perusal of planning literature, especially neighbourhood plans, will reveal that crime prevention is not a concern for urban planners. The reason for this neglect is rooted in a general lack of knowledge, and the techniques and experience in applying that knowledge to understand the relationship between the built environment and crime.

The third purpose of this study is to examine where, when and how CPTED knowledge is used and by whom. There has been extensive funding for research on CPTED, and many promoters of the concept in B.C., but very little is known

as to how CPTED is being implemented.

The final purpose of this study is that an evaluation of CPTED is needed at this time as a next step towards making the concept fully operational. If CPTED is not being practiced, then reasons must be found as to why this is so in order to rectify the problems.

Statement Of The Problem

The present study reviews the status and prospects for CPTED in community planning in British Columbia. The questions that need to be asked for conducting this evaluation include: Who administers CPTED information and what is contained in the information? How is this knowledge administered? How, where, when and why is CPTED used in the decision-making process in community planning? Furthermore, do planning advisory commissions know anything about CPTED? Is it important to them? If not, why not? Moreover, do the people with CPTED experience have any effect? If so, how? Has CPTED been effective in reducing crimes?

Definition Of Terms

Several terms pertinent to this study should be defined.

"Crime prevention through environmental design", or CPTED, is a label attached to a group of tactics which can

be used in the design of buildings, neighbourhoods and cities to reduce crime opportunities.

"Crime", as used in this study, will refer to 'crime of opportunity'---an act which occurs when a potential offender observes an easy target and decides at that moment that the probability of success is high. This includes crime to both person (robbery and assault) and property (vandalism and burglary).

"Defensible space", a term coined by Oscar Newman, refers to the combination of real and symbolic barriers, defined areas of influence and improved opportunities for surveillance which together bring an environment under the control of its residents. Four levels of space are recognized---private, semi-private, semi-public and public.⁴

"Private space" is under the total control of the occupant or resident and not visually or physically accessible to the public (e.g. the inside of a home, apartment or private office).⁵

"Semi-private space" is under the control of the occupant or resident, but is visually and physically accessible to the public (e.g. yard area).⁶

"Semi-public space" is under the control or within the area of responsibility of a specific group of occupants or residents and is accessible to the public (e.g. hallways and lobbies of apartment buildings, common recreation and parking areas of multiple family complexes).⁷

"Public space" is that area of space to which the

public has access by right (e.g. sidewalk).⁸

Scope Of Study

The scope of the study includes eight municipalities in the Lower Mainland, served by RCMP detachments:

Burnaby
Coquitlam (including Port Coquitlam)
Langley (Municipality)
Maple Ridge
North Vancouver (District)
Richmond
Surrey
White Rock

Additionally, three cities with municipal police forces were chosen. These include:

Delta
New Westminster
Vancouver

Other communities in B.C., including Tumbler Ridge, Matsqui and Langford-Colwood will also be referred to as they have actively employed CPTED principles in community planning.

Secondly, members of advisory planning commissions in these municipalities were interviewed to determine their understanding of CPTED. The plans considered are those relating to public, commercial and residential developments.

Methodology

First, an intensive literature review provided a good understanding of CPTED. The sources of information include books, journal articles, conference notes and general articles obtained through correspondence with Canada Mortgage and Housing Corporation, the Ministry of the Solicitor General and the provincial ministries of Municipal Affairs and the Attorney General.

Second, the people most knowledgeable of CPTED in B.C. were contacted to establish the available sources of information ('channels of communication') for this concept (e.g. university courses, RCMP seminars, information from the federal and provincial governments, conferences, instructional films). This also involved discussions with representatives from the police academy (B.C. Justice Institute), RCMP Headquarters (Crime Prevention/Community Policing Division), Simon Fraser University (Department of Criminology), and federal and provincial government ministries.

Third, interviews were conducted with architects, professors, civil servants and police officers, who are most familiar with the contents of the RCMP course, for the purpose of analyzing CPTED information. Most of this information is covered in the literature review, so those aspects that are not included in this section of the thesis will need further discussion. Additionally, two films produced for police departments and RCMP Crime Prevention

Units (CPU) were viewed. These include: "The Writing On The Wall" (by Oscar Newman, 60-minutes) and "Crime Prevention Through Environmental Design" (Vancouver Police Department, 20-minutes).

Fourth, information from planners, through correspondence, personal interviews and telephone conversations, was gathered for the purpose of learning how plans are approved in each of the selected municipalities.

Fifth, police officers from municipal police forces and the RCMP, who actively promote CPTED, were interviewed. The purpose of the interviews was to determine when, where and how the officers employ CPTED, where they have gained their training in CPTED and how successful they have found the concept to be in practice.

Finally, all of the information gathered was organized and analyzed.

Overview Of Chapters

The first chapter of this thesis presented a brief introduction to CPTED and a statement on the bearing of the present investigation. The second chapter presents a review of the literature on research leading to the emergence of CPTED. Following this review is a description of CPTED and the research currently undertaken in several countries on this concept. The third chapter provides a description of the information available on CPTED and its 'channels

of communication' in B.C. The fourth chapter investigates how CPTED is used in practice in this province. The fifth chapter analyzes all of the research findings, and the final chapter provides a summary of the thesis and presents policy recommendations for future research.

ENDNOTES

¹Patricia Brantingham, 1980, as quoted in "Environmental Design---Added Dimension To Policing?" Liason, Vol. 6, No. 5 (May 1980), p. 2.

²Patricia Brantingham, 1980, as quoted in Liason, p. 2.

³Richard A. Gardiner, "Crime and the Neighbourhood Environment", HUD Challenge, Vol. 7, No. 2 (February 1976), p. 9.

⁴Jack J. Hest (Staff Sgt.---RCMP), "Community Policing: The Environment" (Victoria: RCMP---Directives/Forms Unit, 'E' Division Headquarters, 1982), no page.

⁵Hest, n.p.

⁶Hest, n.p.

⁷Hest, n.p.

⁸Hest. n.p.

CHAPTER TWO

LITERATURE REVIEW

Introduction

"Nanny! It's territory. That's what everything's all about. Territory. Territory".¹

Henry Elliot Howard, the English ornithologist who uttered these words, later became the first person to fully describe the concept of 'territoriality'---behaviour by which an organism characteristically lays claim to an area and defends it against members of its own species²---in his book, *Territory in Bird Life*, published in 1920. Over half a century later, serious thought is being given to his discovery. This concept appears repeatedly when considering the factors of space and human behaviour---a relationship whose clarification may be important for the provision of personal and social security. It is the consideration of territory and its importance to humans that brings together much of the current thinking of those concerned with space, the environment and behaviour.

This is certainly evident in human history when attempts have been made to reduce the risks to survival with whatever means cultures and natural resources have made available. Structures, such as the Great Wall of China, were erected to define territory and defend against

invaders. Medieval castles with moats and towers were used to limit access and enhance observation, and the walled towns of medieval Europe protected populations no larger than a neighbourhood of a modern North American city.³ The nature of the real and potential threats to security may have changed over the centuries, but the goal of security is still a part of our lives.

Today, individuals wage private battles against actual and perceived crime. In Canada, a 1979 survey by Canada Mortgage and Housing Corporation (CMHC) placed the crime situation in perspective. Reducing crime in the community was seen as the number one local priority, and the primary condition for which the respondents stated that they were willing to pay higher taxes.⁴ In terms of real costs, the Insurance Bureau of Canada estimated the total figure of all insurance-related crime in 1981 in Canada at \$1.3 billion.⁵ A large portion of this figure represents property loss and damage, of which only one half of the cases have been solved.

These, and many similar findings have led to a quickening of interest by criminologists, psychologists and planners in the use of environmental design to achieve security. CPTED may be the most effective means of controlling the growth of crime in society. It attempts to prevent crime by changing the situations in which crime occurs. For example, changes might be made to the design of buildings and public places, to the layout of streets and

the planning of cities, and to the way facilities are managed.

This approach is encouraging and yet, at the same time, calls for caution in its application. It is encouraging in that it seems to offer the possibility of a rather direct assault on crime with both immediate and possibly long-term payoffs. Part of its appeal lies in the notable lack of success of the more traditional crime prevention approaches, which have been directed to the social, psychological and economic 'causes' of crime. The rather physical, pragmatic nature of this approach does, however, raise the danger that it will be universally applied, without due regard for its limitations and the needs of the particular situations in which it is being applied.⁶

The purpose of this chapter is to review the research leading to the present-day studies on CPTED. The format will be as follows: (1) a brief presentation of some theories on the relationship between the environment and human behaviour; (2) a discussion of some early planning approaches and models of crime prevention; (3) an explanation of crime as a function of opportunity; (4) a review of the work of Oscar Newman of the Law Enforcement Assistance Administration (LEAA) during the 1970's; (5) a look at some of the arguments presented by Newman's critics; and (6) an overview of recent research on CPTED as it relates to community planning.

The Environment And Behaviour

The environment has for so long been a relatively stable component of human experience that individuals have tended to ignore the interaction between environment and behaviour. However, the fact that the environment is more than merely a context or setting is finally being acknowledged. Psychoanalysts state that behaviour and environment are part of a dynamic process, with the latter having a potentially significant impact on the nature of the former. Harold Searles wrote:

I believe that the actual importance of the environment to the individual is so great that he dare not recognize it. Unconsciously it is felt, I believe, to be not only an intensely important conglomeration of things outside the self, but also a large and integral part of the self.⁷

The interest in the relationship between human and the environment has, in the past twenty years, led to the development of a new academic discipline---'environmental psychology'. This discipline is based on the assumption that there is a consistent relationship between human behaviour and the physical context or environment in which the behaviour takes place. H. Proshansky et al. have put forth a number of principles, based on controlled studies, regarding the nature of this relationship. Some of these are particularly important to consider in later discussions of this approach to crime prevention. Stated briefly, these

assumptions are:

- An individual's physical surroundings exert considerable influence on his behaviour, and this is true even when he is largely unaware of those surroundings.
- If the physical setting is changed in a way which is not conducive to an established pattern of behaviour, that behaviour will be displaced to another location.
- The behaviour which occurs in any physical setting is a function of the physical, social and administrative structures of that setting, and behaviour can be changed by any one of those elements of the setting.
- If a change is made in any component of the physical setting, it will have some effect on all other components of the setting (social, administrative or physical), and this will eventually lead to a change in the characteristic behaviour patterns of that setting as a whole.⁸

From this point of view, it is believed that some types of architectural designs are more likely than others to precipitate certain types of behaviour and result in a greater incidence of crime.

Adherents of this perspective argue that such behaviour is induced through a process in which architectural design influences the quality of relationships that are formed in an area, which in turn are related to the incidence of criminal behaviour. Robert Sommer, a leading scholar of environmental psychology, builds upon the concepts of territoriality and dominance behaviour and makes the link among physical design, human interaction and behaviour. He suggests that certain physical configurations

generate an atmosphere of personal warmth and facilitate communication and productivity, while other arrangements tend to thwart the development and expression of these characteristics.

Applying this perspective to criminal behaviour, a number of authors, such as Richard Gardiner, have suggested that through the use of architectural styles that maximize personal interaction and increase community cohesiveness, crimes may be reduced. The environmental design approach to crime prevention ranges from relatively small modifications to existing structures, to the layout design of whole residential projects or communities. The work being done at the community level owes much to the school of thought which believes that current rates of crime stem from the breakdown in traditional social controls. According to this point of view, current urban forms do not permit the kind of interaction between neighbours which is necessary for the development of a sense of "community"---an essential prerequisite for the existence of informal social controls and maximum effectiveness of formal social controls.

Gardiner, from his case studies, finds that no one physical element or system causes crime opportunities. Instead, a range of physical situations inadvertently set up a causal condition. Seemingly independent elements and separate human activities result in the formation of a 'cause and effect' phenomenon where the opportunity for predatory crime is being encouraged. In other words, the

structure of the physical environment influences how and by whom the environment is being used and, therefore, the resulting use and possible conflict within the environment. This complex phenomenon reflects the dynamic interchange between humans and the environment and is the critical relationship which can allow either positive or negative behaviour and use. There is a direct link between the organization of the environment and the opportunity, and even probability, for crime. When certain elements or uses are no longer appropriate to the scale of the environment, conflicting uses result and provide opportunities for crime.⁹

Such a crime-environment condition can generate additional types of crime opportunities leading to a further deterioration of the neighbourhood. A multiplier effect sets in causing loss of real estate values, a lowered quality of life for the residents, and the eventual abandonment of the neighbourhood by those who can afford to escape for the assumed safety and security of the suburbs.¹⁰ This was one of the reactions by the citizens in large U.S. cities during the 1950s and 1960s, when crime was consistently escalating in the urban neighbourhoods. Other extreme reactions included increased purchase of weapons, the use of guard dogs, and a reliance on an already overtaxed police force. Remedial efforts included rehabilitation programs for offenders and encouragement by the police for installation of alarm systems and dead-bolt

locks.¹¹ This defensive mentality which developed placed the stress on protecting one's property from an offender rather than the previous reliance on apprehension and punishment of the offender. Thus, initial efforts of preventing crime through physical design have led to an analysis of targets. Why is one site more susceptible to crime than another? Some conceptual models have been developed in this century which deal with the design of safe environments. These are the Urban Fortress Model and the Urban Village Model---the predecessors of CPTED.

Early Planning Efforts

The Urban Fortress Model represents a view of crime prevention which, as the name implies, places sole reliance on securing buildings and areas so outsiders cannot gain access without approval. This view gained widespread acceptance because of its practicability and seemingly immediate results. In actuality, the Urban Fortress is much less a product of a developed design philosophy than a marketing strategy of manufacturers and real estate developers.¹² Wealthy neighbourhoods, with strong, high fences, security guards and alarm systems provide an illustration of this model.

The Urban Fortress is a very popular concept because its simplistic approach appears to work. This is not surprising as historical examples attest to this finding.

The design of medieval cities such as Malines, Belgium and the French island abbey of Mont-Saint-Michel were essentially fortified towns that provided a safe retreat for citizens. Contemporary examples of security design have stressed the same defensive approach: the resident is isolated from an environment which is perceived to be hostile to him. It is most effective against burglary and other crimes against residences. However, this model is not without criticism. It is said that the technique eventually raises as many problems as it solves. For instance, it does not promote corrective design concepts and, in general, makes no real attempt to deal with street crimes. The model's underlying assumption is that the streets belong to criminals and are, thus, indefensible. Furthermore, studies have indicated that public space in these neighbourhoods becomes somewhat hostile; there exists among residents little sense of responsibility for the property of others and almost no tendency to socialize.¹³ In addition, the presence of security hardware actually generates more anxiety by presenting a fearful image of potential danger, and by encouraging the belief that the residents are powerless to prevent victimization. The result is that residents relegate responsibility for neighbourhood control to the police. Aside from these social costs, the Urban Fortress Model is expensive because some neighbourhoods may require extensive environmental changes.¹⁴

The Urban Village Model, on the other hand, reflects

an opposite extreme. It was founded in the theories developed by Robert Park from the University of Chicago, in the 1925 essay, "The City".¹⁵ Park believed that the city is not merely a physical mechanism but a product of human nature, and emphasized the human interaction dimension in the organization of cities. The Urban Village Model postulates that the social interaction essential to the achievement of urban safety, harmony, and functionality is partly a result of spatial organization, proximity and accessibility. It identifies social disorganization as a primary cause of crime, defining it as the breakdown in the mechanisms that foster personal relationships, cooperation, recognition and morale. This is best exemplified by ethnic ghettos which appeared in many cities in the mid-1920s. In these communities, inhabitants find protection and familiar lifestyles, as this model makes a strong case for relating physical design to the social mechanisms of recognition, neighbouring and mutual protection.

Unlike the Urban Fortress Model, the Urban Village Model is inexpensive, as it does not involve major design changes. However, this model is based on the assumption that pre-existing resident homogeneity for achieving social interaction and collective responsibility is necessary. It does not consider the social heterogeneous neighbourhoods which are found in modern cities. For this reason, the Urban Village Model has not stood the test of time. In fact, ethnic ghettos of the 1920s have recently crumbled as

new immigrants have settled in scattered neighbourhoods.¹⁶ Furthermore, the model has not recognized the need for a properly structured physical environment which would not only allow social interaction in either a homogeneous or heterogeneous neighbourhood, but also reduce the opportunity for crime in the first place. In this way, residents can better develop a sense of responsibility that would encourage and support their collective intervention. As the now-famous Kitty Genovese murder case so openly demonstrated, natural surveillance by itself does not deter crime.

These conceptual models seem quite different. However, there is a common theme present in each approach: territoriality. The Urban Fortress enforces territoriality through physical security design. The Urban Village creates territoriality through cultural bonds and social behaviour. Each model does see a need for relating the design of the physical environment to acceptable human behaviour, but they do not examine how or why crime opportunities occur in the first place, or what different types of opportunity crimes may result. Each model is suited for a specific situation, but neither provides an approach that is applicable to the vast majority of neighbourhoods where there is a heterogeneous society, mixed land uses, and a limited number of resources. Jane Jacobs, in *The Death And Life Of Great American Cities*, and Elizabeth Wood, in *Housing Design---A Social Theory*, went further in dealing with crime prevention

through physical design by advocating diversity of land uses to provide a kind of constant surveillance capacity, planned loitering areas, and the promotion of social responsibility.

According to Jacobs, the most popular social response to crimes is the use of greater physical security measures and increased police (both public and private) activity, both of which are, in the long run, inappropriate. As she emphasized,

"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."¹⁷

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 high-rise projects, surrounded by undifferentiated areas of open space. Beginning in the 1930s, 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 of this urban development trend was the elimination of informal surveillance as a result of economic and planning policies which (a) restricted mixed uses (and therefore decreased ongoing street activity), and (b) encouraged the development of isolated high-rise housing projects whose

physical design limited 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 CPTED-related ideas.¹⁸

Elizabeth Wood was more directly concerned with the design and management of the residential environment. Wood, a consultant to the Citizens' Housing and Planning Council, developed a social theory of housing design which focused on issues related to the public spaces in high density, high-rise 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".¹⁹ Wood suggested that when designing indoor and outdoor public spaces in high-rise apartment buildings, greater attention should be paid to satisfying the varied needs of the residents and encouraging the development of a cohesive social fabric. She criticized the design of typical high-rise 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".²⁰

In her 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 realized that good design was not the total solution to the problems of high density, high-rise living and emphasized the need for enlightened building management practices and a balanced neighbourhood population.²¹

Throughout the 1960s, researchers from various disciplines began testing the relationship between crime and the urban residential environment in a more rigorous manner (Boggs, 1965; Rainwater, 1968). The investigations were explanatory in nature in their attempts to document the spatial and socio-economic correlates of certain crime types. Schlomo Angel, an architect, was one of the first researchers to propose specific physical configurations that would deter crime. He observed that the Jacobs model for safe neighbourhoods is inapplicable in many cities, particularly to Oakland, a setting representative of more communities than the dense environments of Jacobs' own Greenwich Village. Angel reported that of approximately

1,200 miles of street, Oakland had only 4 miles of total frontage for establishments which remain open at night. He then presented the hypothesis that public areas become unsafe not when there are either just enough people on the scene to attract the attention of potential offenders, but when there are not enough people for surveillance of the area---a condition he labelled the 'critical intensity zone'.²²

Based on this hypothesis, he recommended that physical configurations be altered to channel pedestrian circulation to eliminate critical intensity zones. His idea involved the use of an 'evening square' or a public square equipped with every possible design assurance for maximum safety, that created an optimal density to avoid crime during the night hours when 'street crimes' were most likely to occur. The importance of this notion is the focus on the relationship between population density and crime. Also, it translated an observable set of measurable parameters into an architectural idea.²³ The squares would allow people to congregate in a densely occupied commercial area, while on neighbouring streets the presence of people would dissuade street criminals to lie in waiting. This spatial pattern, he maintained, would reduce criminal offences. The underlying premise is that criminal decision-making is based on a rational process. Criminals try to balance the risk of detection against the potential payoff. In this sense, most and perhaps all crimes are related to the cost of

'opportunity'. Because opportunities for crime are not equally favourable in all environments, certain areas suffer from higher rates of crime than others. The tendency of an individual to commit a crime will at least in part be related to the type of opportunity and the costs (e.g. time spent waiting; risks taken) that are involved.²⁴ This explanation of the distribution of crime is called the 'opportunity hypothesis'.

Angel's study, though, did not offer data to support the assertions regarding the large number of crimes in the 'critical intensity zone'. Furthermore, a later study on robbery in Oakland, by Susan Wilcox, determined that the level of street traffic (both pedestrian and vehicular) did not appear to influence the rate and patterns of street or commercial areas. Thus, the study suggested that application of Angel's ideas would not significantly reduce robbery.

Nevertheless, Angel's findings, at the time, sparked further interest in research on patterns related to crime. He also coined the term 'environmental protection', which in a few years had evolved into 'crime prevention through environmental design'. In subsequent studies, the types of crime found to be open to prevention through environmental design were classified as 'opportunistic' crimes. Opportunistic crimes against the person include robbery, purse-snatching and other thefts as well as some assaults---both violent and sexual assaults. Crimes against property involve burglary

(break-and-enter) and vandalism.

This research has offered some insights into the dimensions of opportunity as perceived by the potential criminal. The next section will discuss the locational factors from the offender's home to his target, the ease of access to the target, the land use mixture to be found at the target area, and the time of day or week when the crime is committed.

Crime As A Function Of Opportunity

Locational Factors

Research into the geography of crime finds that offenders tend to go far enough from their home to commit a crime so that they will avoid recognition. However offenders, in the aggregate, minimize this distance because of convenience, familiarity (with the opportunities there), and knowledge of access and escape routes of nearby targets. There is a consistency in distance travelled to commit a crime based on examples from a large number of cities despite obvious differences in physical makeup of these cities. Studies conducted in the late 1960s and early 1970s (Turner, 1969; Phillips, 1972; Pyle, 1974) show that the average distance travelled by criminals to commit a crime in large cities is between 1.66 and 2.20 miles.²⁵ In general, the average distance travelled to commit a crime depends on the nature of the crime, the age and background (including

race and socio-economic characteristics) of the perpetrators, and the forms of transportation available to the criminals.

Central business districts (CBD) are the primary targets as they feature few residents and a large concentration of opportunities, such as stores, merchandise and untended cars.²⁶ Furthermore, the street-patterning is such that crime is facilitated. Most city streets in the CBD are usually organized linearly with diffuse spatial patterns that drift off into dark lanes and daytime commercial areas that are closed for business in the evening hours. Angel proposed that the squares have a spatially circumscribed format with parking located in the centre of the area so that the band of activity would not get more sparse from the centre to the periphery. It is in this zone, between the centre and the peripheries (parking lots located in remote areas away from the city centre), where pedestrians are most vulnerable to victimization.

Ease Of Access

There is also a relationship reported between the spatial configurations of streets and blocks and their impact on crime. Paul and Patricia Brantingham and Gerald Luedtke show statistically that stores and residences near a corner are more likely to be burglarized than those on the interior of a block.^{27 28} Bevis and Nutter (1977) show that residential burglaries are highest in most accessible

blocks, for example, intersecting streets (+) as opposed to 'T' or 'L' streets. They are also highest in census tracts with the highest auto traffic. Brill's studies (1975, 1977) of public housing crimes reveal that apartments near parking lots, streets and recreational areas that offer escape routes to criminals experience higher crime rates.^{29 30}

Land Use

Certain land uses are also associated with crime. An isolated commercial establishment (such as a grocery store in a residential area) is more vulnerable than a similar establishment in commercial areas.³¹ The same is true of residences close to commercial districts. One study finds a high concentration of residential burglaries in blocks close to commercial streets.³² Most CBDs are not designed for evening use. Because they offer nighttime entertainment opportunities, they are filled with unwary tourists who do not know the reputation of individual streets or zones as intimately as natives. Schools and parks also seem to increase the amount of crime in their vicinity and along their access routes.

Time

Street robberies and stranger-to-stranger assaults occur with greater frequency at night, particularly in the late evening hours in the central business districts. The

CBDs attract single people (older citizens as well as younger office workers) who linger after business hours and are good targets for criminals. Commercial burglaries (e.g. warehouses) occur more frequently on weekends when most of these establishments are closed. Purse-snatching is more common during the middle of the week when housewives tend to do their shopping.³³

The 'opportunity hypothesis' is the basis for crime prevention programs. If crime is significantly influenced by the opportunities available in a particular setting, then it should be possible to affect the crime rate by modifying the opportunity structure. This goal can be achieved either by increasing the perceived risk or effort necessary to commit the crime, or by reducing the number of available targets.

Environmental Uses And Perceptions

The same environmental factors which are seen by offenders as supporting opportunities for crime will probably be seen by legitimate users of the setting as increasing their risk of becoming victims. For example, people tend to be more afraid at night. Although, these perceptions can lead to changes in behaviour intended to reduce the risk of victimization, they may actually work to make the area more dangerous. That is, when people avoid a setting, they remove an element of surveillance from it, and

thereby increase the likelihood that criminals will find it a congenial environment for victimizing those who do not use the area.³⁴

Again the equation is not always straightforward. Citizens may perceive an area to be dangerous while the police regard it as relatively safe. The reason may be 'incivilities'---drunkenness, rowdy behaviour or untidiness---as opposed to actual crime. Or a particular population may feel itself to be threatened by another population: teenagers loitering on street corners, for example, are especially threatening to the elderly.³⁵ A third possibility is that the neighbourhood is undergoing changes in its ethnic or racial composition.

Areas in which social networks are strong seem to have lower levels of crime and fear. Certain environmental features encourage the development of social cohesion and helping behaviour: clearly defined communal areas, for example, tend to promote surveillance and also set the stage for interpersonal contacts. On the other hand, when facilities are shared by too many people they can have the opposite effect, adding to the distrust and anonymity which their users feel.³⁶ Angel found that

"...crime is a function of opportunism, and that areas of high crime density typically are both easily accessible to and well-known by the criminal, are known to offer high likelihood of finding a victim at a given time and involve little risk of police apprehension".³⁷

Crime And Its Prevention

A series of important studies have been performed in the past ten years on the specific buildings chosen by criminals to commit opportunist crimes, such as burglary, robbery, assault, and some kinds of larceny and grand theft. These crimes are typically committed by offenders that have no prior contact with the victim. They are not only strangers to one another, but they typically come from different communities. This accounts for the particularly frustrating and fear-inducing nature of these crimes. The specific site selected is to a great extent a function of a series of cues that are emitted by the area, the city block and its buildings and portions of buildings. There are many examples of houses or stores that are never the target of robbery or burglary, even though they are located on blocks with other stores or residences that have been targeted repeatedly.³⁸ The perception of target characteristics is not always straightforward since one aspect of the setting may make it an appealing target while another militates against that choice. Criminal opportunity is the result of a complex set of evaluations, including not only the weighing of positive and negative factors, but also the experience and motivation of the offender for carrying out his act.

In general, however, crimes are furtive acts committed under high tension. Studies of actual burglaries

show that 50% of residential burglars only enter one room, usually the bedroom, to commit the crime.³⁹ The amount of time spent in the premises is usually kept to a minimum. With this in mind, it should come as no surprise that the offender is searching frantically for a situation that allows easy entry and egress without being observed. This result was also reported for street crimes by researchers from the Law Enforcement Assistance Administration. In the words of one of the researchers:

"By far, the greatest proportion of street crime and burglary is the result of opportunity rather than of careful and professional planning".⁴⁰

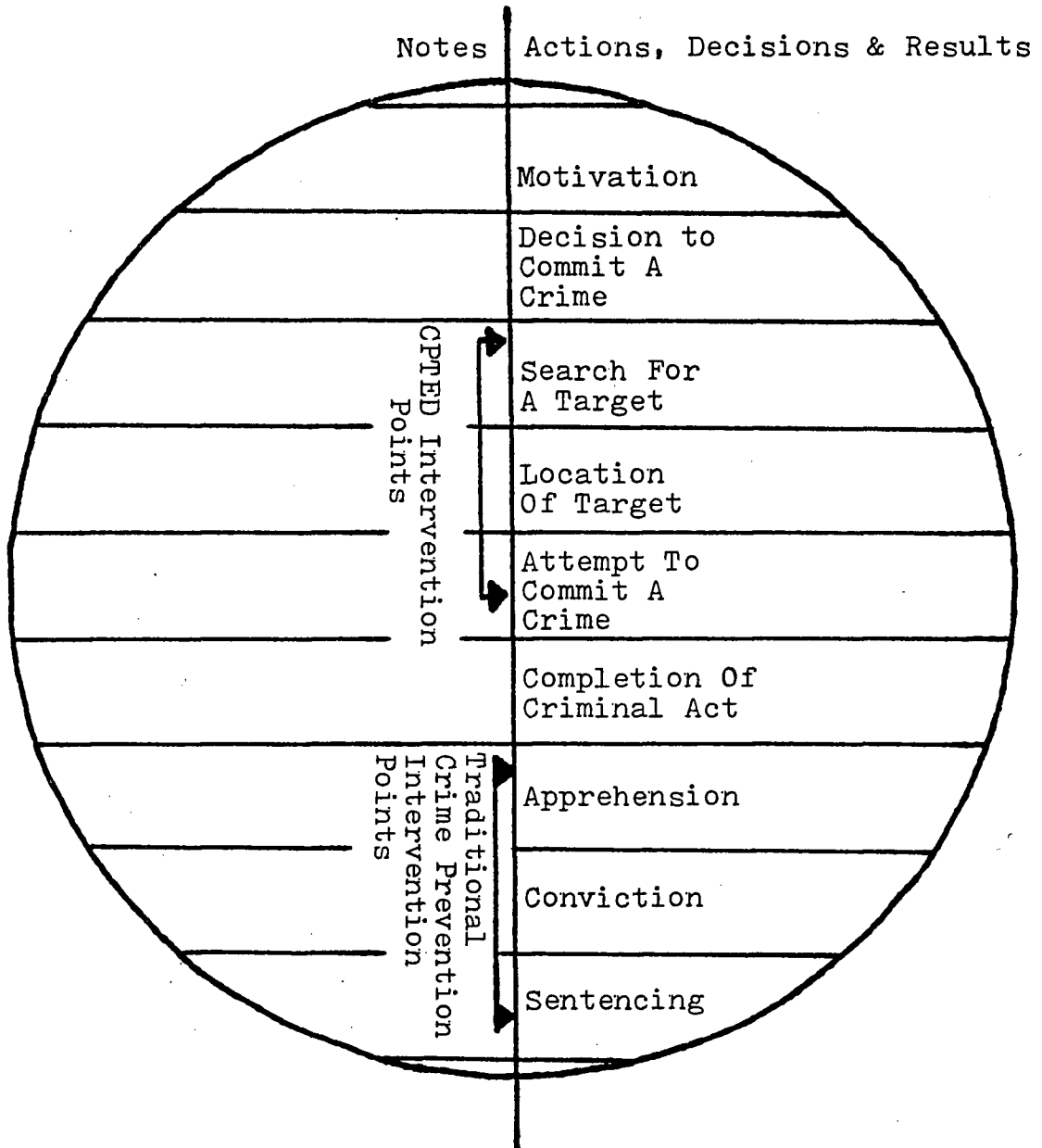
The work of Angel in the late 1960s shed light on the fact that criminal opportunities can be eliminated through the use of sound architectural design and good planning techniques. Though sometimes thought of as a new concept or approach in law enforcement, crime prevention's existence can be traced back to 13th century England, where it became the major component of the British efforts to control crime. The English definition of 'crime prevention' is:

The anticipation, recognition and appraisal of a crime risk, and the initiation of action to either remove or reduce it.⁴¹

The classical correctional system occurs at the sentencing point, where it does not have too much effect because not enough people are sentenced (Figure 1). Crime

Figure 1

MODEL FOR CRIME PREVENTION



FROM "Environmental Design---Added Dimension To Policing?"
Liason, Vol. 6, No. 5 (May 1980), p. 4.

prevention through environmental design, on the other hand, intervenes at the 'search for target' point, where the suspect is searching for a victim for his crime, whether it is a person or the property. The premise is that by reducing the obvious targets, people with low motivation, which are the majority, decide not to take the chance.

From 1969, crime prevention became an issue of consequence in the United States only after the responsible federal agencies had accepted that the traditional apprehension-sentencing focus of the criminal justice system was inadequate as a deterrent or control measure. 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.

The Influence Of Oscar Newman

The first attempts commissioned by NILECJ were intended to document the relationship between the physical design of the neighbourhoods and buildings (usually public housing projects) and citizen fear of, and vulnerability to, crime. Luedtke, for instance, analyzed the crime rates and socio-economic and physical characteristics of Detroit for the purpose of determining what environmental features (e.g.

relationship of adjoining land use and building conditions to crime) caused increases and decreases in the crime rates.. Researchers, at this time, were interested in building upon the information base necessary to make design judgments rather than to make immediate recommendations on appropriate design guidelines for crime prevention.⁴²

However, in 1972, Oscar Newman's work on the physical and social characteristics of several housing projects in New York City and their relationship to crime rates in the respective areas changed the focus of crime prevention studies through urban design. Newman's studies recommended redesigning buildings and neighbourhoods with high crime rates. Through his investigations, Newman, an urban planner and architect, developed his theory of 'defensible space' that he defined as "a model for residential environments which inhibits crime by creating the physical expression of a social fabric that defends itself".⁴³ Defensible space design 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."⁴⁴

Newman's work probably has been the most influential contemporary statement of urban designers. His analysis of the way in which design factors such as high-rise public housing and large undifferentiated open spaces create an impersonal environment conducive to crime has been most compelling. He points out that when large residential complexes are subdivided into smaller components so that each can be controlled naturally, crime goes down. Newman illustrated this point with two adjacent public housing projects in New York City, one low-rise (Brownsville, built in 1947), the other high-rise (Van Dyke, built in 1955). The number of units per acre and the types of families occupying both were virtually identical. But crime in the high-rise was four times higher.⁴⁵

According to Newman, the high-rise, surrounded by wide open spaces, leaves the issue of territorial sovereignty and responsibility open which creates a battlefield for vandals, muggers and gangs. Since mothers cannot be in their apartments and still supervise outdoor play, they do not let their children out at all or allow them to go unsupervised. All too often the children run wild. As a result, residents can feel no sense of identity with anything in their surroundings outside their apartments. The apartment house corridors become littered and fearsome places.

Newman, in a BBC film called "The Writing On The Wall", describes how people respond to intrusions in high-

rise buildings. A tape recorder, hidden in a hallway of the Van Dyke project, broadcasts an argument between a man and a woman. As the argument becomes louder and more violent, residents first bolt their doors, then turn on television sets to block the noise out of their consciousness. The experiment was then carried out at the Brownsville low-rise project, where Newman and his associates had difficulty entering the buildings with a tape recorder. They were noticed and questioned as to their intentions. When the tape recorder was played, Newman found that residents appeared at their doorways to locate the origin of the noise.

According to Newman, the Brownsville project is designed to create 'defensible space'. There are only six or eight units to a complex and in each, windows and doors overlook the street and the inner courtyard. Residents easily recognize each other and, having visual access to the street, can spot strangers and intruders. Since apartments also look onto a courtyard play area, residents can actively supervise their children outdoors.

Ideally, said Newman, if the opportunity to start from scratch exists, family housing should take the form of low-rise units that are easily distinguishable from each other. Doors and windows should look onto streets, and each resident's zone of influence should be brought right up to the sidewalk by means of curbs, landscaping or fences. The subdivision of space, in his opinion, will reinforce the

resident's attitude that he does have a right to prevent intrusion.

But, high-rises need not be all bad, argued Newman. For example, if elderly persons are housed in tall buildings by themselves, the crime rate within the building is virtually zero. The elderly tend to congregate in corridors, providing their own supervision. They go to bed early and can easily be safeguarded with help from one doorman. To a less satisfactory degree, high-rises can also work for single people, and working couples without children.

Newman's work was very much in the spirit of his time. It reflected the growing interest of the architectural profession in the relationship between environment and behaviour, with some influence from rather popularized anthropology and ideas of territoriality drawn from writings on ethnology by authors such as Robert Ardrey. Newman was deeply conscious of the poor condition of many high-rise public housing projects.⁴⁶ At the time that Newman's book *Defensible Space* was published, the dramatic demolition of the infamous Pruitt-Igoe project in St. Louis was taking place. Pruitt-Igoe lacked 'defensible space' characteristics, according to Newman, and together with the depressing socio-economic conditions of the tenants, the buildings easily became crime-ridden and vandalized. He believed that it was possible to design future housing projects in such a way that the residents would be able to

gain control over spaces immediately adjacent to their homes and deter strangers and potential criminals. Instead of emphasizing target-hardening or the Urban Fortress mentality, Newman's theory presented a design-oriented approach for allowing the social interaction of the urban village.

Criticism Of Newman's Work

While the concept of defensible space is noteworthy, its application has been limited to the public housing project which may exhibit an intensity of crime problems but does not represent the complexity of other environments such as neighbourhoods. The theory does not consider the impact from---or on---the surrounding neighbourhood, nor does it deal with the types and frequencies of crimes that might be occurring in the immediate environs which can impact on the public housing project.⁴⁷ Conversely, there is also the danger that the public housing project may have a detrimental effect on the surrounding area. The important point is that the limitation imposed by considering only site boundaries of public housing projects does not consider the possibility and presence of street crimes and the safety and security of the neighbourhood at large. Essentially, the defensible space concept as applied to date, isolates the resident of the public housing project from his surrounding neighbourhood and forfeits the neighbourhood

streets to possible offenders. Looked at in this way, the defensible space concept risks the danger of becoming a fortress within a neighbourhood, further stigmatizing the public housing project rather than making it a part of the neighbourhood.⁴⁸

Newman's work has been criticized on other grounds. Some of the concerns are that (1) Newman does not adequately account for the socio-economic differences between those living in the projects he studied; (2) there are errors in some of his calculations; (3) he does not consider seriously enough possible biases in the crime data he uses; and (4) there is not enough detail given about the design differences between projects which might affect territorial feeling. Moreover, A.E. Bottoms argued that the types of analysis used in Defensible Space---multivariate analysis and the comparison of paired projects---were said to be inadequate in presenting differences between only two housing projects (Van Dyke and Brownsville) which could have been chosen because they provided the best results.⁴⁹

R.I. Mawby presents an important appraisal of the theoretical validity of Newman's concept. In Mawby's opinion, Newman has failed to consider that the four key elements of defensible space might contain contradictions within themselves and might include factors which threaten as well as enhance security. He proposes, for instance, that if opportunities are made to increase surveillance for local residents and neighbours, then the possibility of

crime by residents against other residents may also be enhanced. Furthermore, burglars may not arouse suspicion once they are in private areas and may be given 'cover' there. Isolated and distinctive public estates which Newman sees as 'stigmatized' may not so much attract outsiders as make them feel conspicuous. Additionally, situating public housing next to 'safe' (private) blocks may merely attract the criminal element from the former to the latter.⁵⁰ This last point---crime displacement---deserves some attention because it is a major concern for the proponents of crime prevention through opportunity reduction.

Arguments on displacement are conflicting. Paul Stanley claims that crime displacement is not a significant problem. Peter Engstad reports that creating obstacles through environmental design will result in a nominal amount of displacement.⁵¹ Thomas Reppetto, on the other hand, has suggested that displacement "looms as one of the major obstacles to any strategy for the control of residential crime".⁵²

The most realistic assessment of the possibility of displacement is probably that it is not an 'all or none' phenomenon. Instead, it depends on the type of crime prevention strategy being used, the type of displacement being referred to, the type of crime, the characteristics of the offenders and the characteristics of a given area or surrounding areas. Each of these considerations may operate individually or in conjunction with one another.

According to Reppetto, there are different types of displacement.⁵³

1. TEMPORAL---crimes committed at different times. For example, intensive police patrol at one time may suppress crime at that time, but reappears at a different time.
2. TACTICAL---using different tactics, or modus operandi. For example, the installation of alarms may result in a shift from burglaries involving actual bodily entry towards more 'smash and grab' burglaries.
3. TARGET-RELATED---shifting to different target. For example, an increase in police patrol in the New York subway resulted in an apparent increase in bus robberies.
4. SPATIAL---shifting locations. For example, target-hardening in one building may result in a shift to adjacent buildings.
5. FUNCTIONAL---the offender changes from one type of crime to another; e.g. from burglaries to street robberies and vice-versa.

Of these types of displacement, Reppetto believes that spatial displacement is the most common and, therefore, the most worrisome. In his words:

"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".⁵⁴

The difficulties surrounding the implementation of crime prevention strategies on a sufficiently widespread basis so as to avoid spatial displacement are considerable. Newman acknowledges this problem and asks whether a pattern of uniformly distributed crime is preferable to one in which crime is concentrated in particular areas. For him, the second alternative is more desirable and he would like to see crime displaced, if it is inevitable, to the commercial and industrial sectors of the city---areas which are more easily served by formal police protection. He recognizes, however, that this would be both difficult to accomplish and would entail moral implications.

Despite these criticisms, Newman's ideas have had great appeal. For academics, they fit in happily enough with a current emphasis on the importance of the environment in determining behaviour. For a wider audience, too, Newman's writings are highly persuasive and have the respectability of being backed by extensive empirical research. Moreover, in choosing to concentrate mainly on building form, his suggestions appear more feasible than those of Jacobs or Angel, which would involve massive urban dislocation and changes in existing patterns of business activity.⁵⁵ The fact, too, that Newman gave detailed instructions for achieving defensible space was an unusual bonus for practitioners normally given only vague suggestions as to how to deal with crime. This may explain why he subsequently received additional federal sponsorship

for an extensive program of 'action' research called 'Crime Prevention Through Environmental Design'.

CPTED And Related Research To The Present

The Concept Of CPTED

During the mid-1970s, the Westinghouse National Issues Center conducted four major CPTED demonstration projects with NILECJ funding assistance. These projects---in Hartford, Connecticut; Minneapolis, Minnesota; Portland, Oregon; and Ft. Lauderdale, Florida---were implemented to evaluate the effectiveness of defensible space concepts, previously applied exclusively to public housing projects, in other environments---residential areas, commercial districts and schools. These projects involved a more balanced mix of design and management strategies than had been implemented before in the United States, 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.⁵⁶ These projects aimed primarily at crimes such as homicide, rape, robbery, assault, burglary, larceny, auto theft, arson and vandalism. Excluded from this list were white collar crimes, such as fraud and embezzlement, crimes against the government, organized racketeering, morals offenses, family offenses and disorderly conduct.

As described by Newman, CPTED is based on four components: access control, surveillance, activity support and motivation reinforcement. Access control means preventing unauthorized people from entering buildings or neighbourhoods. This can be done by limiting the use of streets, paths and corridors to their regular and legitimate users. Real and symbolic barriers---such as locks and hedges, respectively---can inform outsiders that the environment is restricted. Regardless of its form, the objective is to put offenders at greater risk of detection and apprehension if they should attempt to engage in crime. The primary aim of surveillance---as in Newman's 'defensible space' theory---is to put the offender under threat of being observed and, therefore, identified and apprehended. Surveillance can be formal (as when police and private security guards perform regular checks of an area), mechanical (through electronic devices used to monitor public streets) and informal (as when the legitimate users take note of strangers). All three forms of surveillance can occur simultaneously, supporting one another. Surveillance can also be enhanced by improved street lighting, the elimination of visual barriers such as fences, shrubs and walls, and by appropriate site design. Activity support involves increasing human use of an area by making it more attractive. It might be as complex as building a recreation center or as simple as placing benches outside a housing project. Activity support enhances surveillance

because it increases the number of people in an environment. Activity support does not consist of physical changes alone but can also include activities that foster a spirit of community among residents, thus encouraging legitimate users to develop a sense of proprietary 'right' to an area---the same feeling as Newman's notion of territoriality.

Motivation reinforcement has two goals: to encourage residents and users of an area to have and enact positive attitudes about their living and working environment and to discourage potential offenders by increasing the risk of apprehension and by reducing the payoff of crime. Altering the scale of a large, impersonal environment to create one that is smaller and more personalized is thought to give residents more of a sense of community and security.

Improving the quality and attractiveness of houses or changing management policy in housing projects are some other examples. Additionally, economic and social incentives---such as reduced insurance premiums for those who accept certain security measures---are included in this category. Research has shown that a positive neighbourhood image from outside the area is a significant deterrent to criminal behaviour.⁵⁷

CPTED Research In The United States

The diversity of ideas that went into the demonstration projects was their downfall from the research standpoint. Undoubtedly, many of CPTED's components can

contribute to a reduction in crime in the appropriate setting, but when they are all bundled together in the same demonstration project it is almost impossible to decide those tactics which are the most effective and those which should be applied elsewhere. Thus, even though the results showed some encouraging signs, all four projects presented major problems of interpretation, and very few clear findings have emerged.

The most noted of these projects, conducted at Asylum Hill, which is a residential area near the business and insurance centers of Hartford (Connecticut), included a combination of physical and social changes aimed at increasing the residents' sense of control over, and responsibility for, what occurred in their area. The physical design changes were mainly directed to changing automobile and pedestrian traffic routes and densities through street narrowing and closings. The social changes referred to the implementation of Neighbourhood Watch. The Hartford project is now viewed by NILECJ as being terribly expensive for what was obtained.⁵⁸ The project took several years to research, implement and evaluate and the results did not satisfy the high expectations with which the study had been initiated. The evaluation which took place during the year following 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 rates of robbery and purse snatching had been

halted. However, this initial success was questioned because crime reduction was attributed primarily to increased resident involvement. In the end, the Hartford project and the other projects proved unsuccessful as research designs were considered inadequate, statistical analyses were often inappropriate and the findings produced were not statistically significant.

Due to the problems and the costs of these projects, NILECJ decided in the late 1970s that there was a need for more fact-finding research similar to the Luedtke and Newman studies that it had commissioned ten years earlier. The reasoning was that more comprehensive and detailed information on the physical and social characteristics of the urban environment was required before recommendations and guidelines could be established as to where CPTED strategies should be applied. NILECJ, in the 1980s, is funding studies on what factors facilitate or discourage citizen involvement in anti-crime activities. This clearly represents a shift from the initial emphasis of the research programs on physical and design changes to a more comprehensive or holistic treatment of the total environment in which environmental design and management strategies might be implemented.⁵⁹

In the mid-1970s, the Department of Housing and Urban Development (HUD) was also involved in CPTED research, but its role was limited to the distribution of relevant crime information to municipal housing authorities. This

changed in 1978 when HUD and the U.S. Department of Justice cooperatively funded a publication by Richard Gardiner, which drew on the findings resulting from the major demonstration projects to develop "a comprehensive planning process for analyzing and understanding neighbourhood crime problems and generating environmental solution".⁶⁰ This manual is oriented toward the community planning and urban design professions and is concerned with the total design and operation of neighbourhoods, as opposed to individual buildings or housing developments.

HUD's major involvement came after 1978 when it put together a comprehensive Urban Initiatives Anti-Crime Program directed at reducing crime and fear of crime in public housing. This was the outcome of several studies conducted by William Brill for HUD during the mid-1970s. Brill's comprehensive "Approach to Security Planning" illustrated an increasing emphasis 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 of 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 defences. HUD's Anti-Crime Program was fueled by the implementation of the Urban Initiatives Program set up by the Carter administration, which promoted the development of comprehensive programs fostering citizen self-help activities for improving the general quality of urban life---including elements contributing to crime and fear of crime.⁶¹

The Urban Initiatives Anti-Crime Program was a seven-point program, mainly focusing on management of the environment, in a new wave of crime prevention techniques called Environmental Design and Management (EDM). Other concerns expressed by HUD included tenant anti-crime participation, youth employment and additional law enforcement personnel. The entire program, at a cost of \$43 million,⁶² was funded through inter-agency agreements at the federal level by HUD, the Department of Labour, the Department of Justice, Department of Health, Education and Welfare, and the Department of Interior. The program clearly illustrated the shift in the U.S. approach to crime prevention from a physical design focus to a balance of design and management strategies. In all, thirty-nine public housing projects had been chosen for taking part in the program. An outside agency was to have extensively monitored and evaluated the process and product of the program. Unfortunately, this never came about as the Anti-Crime Program itself was terminated mid-stream in the summer

of 1981 by the Reagan administration. This situation is exemplary of the CPTED experience in the U.S. The programs have required much funding, which implies federal assistance and yet, the assistance at this level of government is very sensitive to political priorities.

However, concern for CPTED at the federal level has had a positive spin-off effect. The States of California and Minnesota have established crime prevention institutes which promulgate some CPTED and EDM components for crime prevention and occasionally undertake research. Police forces and municipal planning departments in cities such as Arlington (Virginia), Chicago and Oakland have developed building security codes as well as formal working relationships (on design panels and planning commissions) to ensure that crime prevention concerns are addressed in new urban design and development. These activities are likely to continue and increase as CPTED's potential becomes more widely recognized. However, the treatment of crime problems in existing environments is more complex and problematic and only the federal government has accepted a clear responsibility for addressing these problems. The economic and political priorities established at the federal level will therefore determine whether or not crime prevention activities will be encouraged throughout the U.S. and, if so, what their direction or emphasis will be.⁶³

Crime Prevention In Britain

At the time that demonstration projects were being developed by Westinghouse in the U.S., the Home Office Research Unit in London was undertaking a number of carefully designed research studies. R.V.G. Clarke and P. Mayhew in *Designing Out Crime* (1980), suggest that 'situational' crime prevention is the best approach to take as the most positive results to crime prevention have emerged from studies of factors related to environmental design and management. Clarke and Mayhew explain that much crime is rational action performed by fairly ordinary people acting under particular pressures and exposed to specific opportunities and situational inducements. Therefore, crime can best be prevented by manipulating opportunities and inducements.

Clarke and Mayhew conclude that the form of the urban environment creates opportunities for crime. For example, the use of large multi-unit design forms for public housing projects creates more opportunities for crime than single-family homes or row houses. Similarly, modern school designs which sprawl across a large campus also create more opportunities for crime than traditional, concentrated forms of school design.

Barry Poyner, in *Design Against Crime*, asks whether differences between design forms in the U.S. and Europe have a bearing on the types of crimes committed in different

continents. For instance, a modern suburban house in the United States is detached and has unfenced access all around whereas in Britain, terraced and semi-detached houses are more common with back gardens fenced with locked, or bolted, side accesses. These cultural differences in design have not been researched, but it does seem possible that they could explain at least some of the differences in crime patterns for different countries.⁶⁴ This may indicate why Britain has less of the robbery and assault crimes prevalent in the U.S., but more vandalism, which has been a widespread problem in both urban and rural areas.

In 1973 Colin Ward, in *Vandalism*, provided both new perspectives on the nature of vandalism and various design guidelines for preventing its occurrence. The total design of the environment was considered, along with guidelines related to appropriate material finishes and construction details, because of the 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."⁶⁵

Thus, some of the design considerations noted, particularly regarding the provision of surveillance opportunities and the encouragement of the residents' sense of territoriality, can be seen to relate to the design guidelines laid out by Newman in *Defensible Space*. However, even with such design guidelines, the concept of

effectively managing the environment encourages territoriality and ensures the attractiveness and proper maintenance of the total environment.

At present, the British position on the design and management approach is best explained by 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."⁶⁶

British criminologists, thus, adhere more to EDM than to the CPTED approach. While Mawby and other researchers have examined the relationship between physical characteristics of the housing environment and the occurrence of crime, such investigations have often been undertaken in reaction to the 'crude' methodology and research techniques used by Newman in developing the 'defensible space' concept.⁶⁷ Newman's theories, while they received a great deal of attention in Britain, generally left the British "conspicuously under-awed". The reason for this, according to Reyner Banham, is that 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".⁶⁸

The Canadian Experience

In Canada, CPTED has received considerable attention at the federal level by the Ministry of the Solicitor General, which has commissioned research studies and has actively promoted the dissemination and testing of CPTED-related ideas through lectures, seminars and courses for law enforcement officers. The ministry has also incorporated CPTED tactics in the planning of Tumbler Ridge (B.C.), drawing on the combined expertise of Paul and Patricia Brantingham of Simon Fraser University, the B.C. Ministry of Municipal Affairs and the Royal Canadian Mounted Police (RCMP). The RCMP, through its Crime Prevention Centre in Ottawa, has played a key role in promoting CPTED within the organization, to municipal police forces and to municipal planning departments.

The Solicitor General's commitment to CPTED is apparent in its extensive study of the subject called *The Environmental Design and Management (EDM) Approach to Crime Prevention in Residential Environments*, which was co-sponsored by the Canada Mortgage and Housing Corporation. This publication takes the British approach to crime prevention and gives equal importance to both design and management strategies.

However, interest in CPTED and EDM-related concepts does not appear to be extensive in the academic field in Canada and has generally been manifested in criminology and

other social sciences. In the architectural and planning disciplines there is little evidence that CPTED has gone beyond the discussion stage of Defensible Space.⁶⁹

Municipal planning departments have long insisted that public safety is a concern that is considered within various mandates (e.g. Provincial Planning Acts) together with other social planning and physical design objectives. A typical response from the planning departments, in this regard, is that provided by the Sudbury Planning Department: "many facets of effective [CPTED] correspond to conventional land use planning methodologies".⁷⁰ Planning departments claim that crime prevention is considered when judgments are 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.

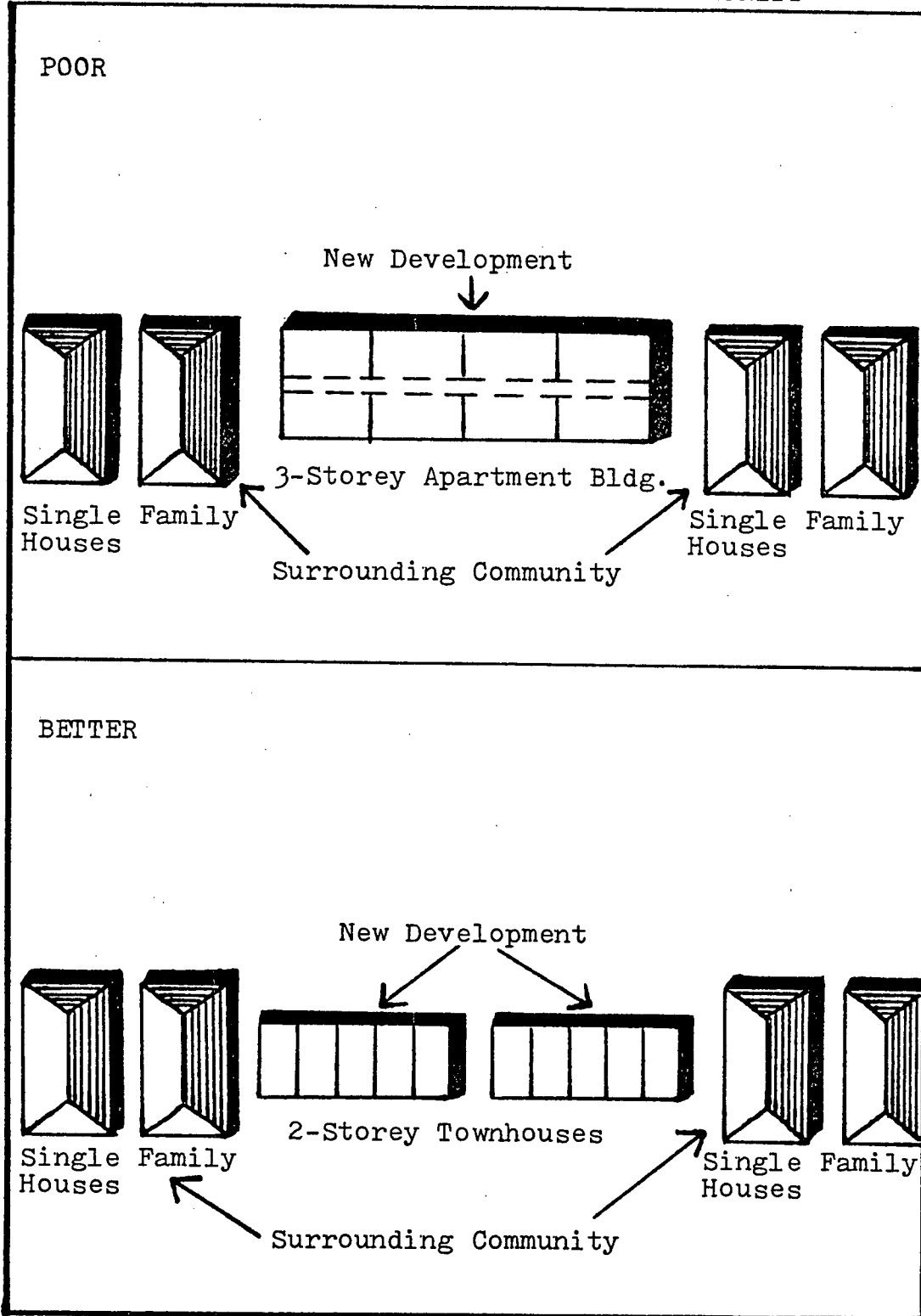
These features are considered, to a large extent, for multi-family (i.e. high density) developments---not for single-family developments. Furthermore, reducing differentiation between high-density developments and the surrounding area is an important concern in the plan-review process. Such recommendations can be found in the publication co-sponsored

by the Solicitor General and CMHC. Figure 2 illustrates how new development should be integrated into the existing community.⁷¹

Some Canadian cities have treated crime prevention as a major concern. The City of Edmonton 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".⁷² The Vancouver Planning Department has also developed a bylaw relating to the restriction of access to underground parking garages. However, in most cities, the issue of crime prevention is not raised as a major public concern because there has been no perceived need (i.e. major crime problems) for such action. As a consequence, there has been little cooperation and consultation between law enforcement and planning departments. From the point of view of the police, more cooperation and sharing of knowledge between organizations concerned with the safe design and operation of environments---residential, commercial and industrial---will help avoid major crime problems.⁷³ The RCMP in B.C. have been actively trying to 'bridge the gap' between these organizations through courses on CPTED.

Figure 2

GOOD AND BAD EXAMPLES OF INTEGRATING NEW RESIDENTIAL DEVELOPMENTS INTO THE SURROUNDING COMMUNITY



FROM Consortium of Urban Design Consultants and the Research Group, The Environmental Design and Management (EDM) Approach to Crime Prevention in Residential Environments. Report Prepared for the Solicitor General of Canada and CMHC (Ottawa: Queen's Printer, March 1982), p. 131.

Summary Of Literature Review

There are several important conclusions which can be drawn from the experiences of these countries with crime prevention through environmental design. First, environmental design by itself will not effectively reduce criminal opportunities. In Britain and Canada, criminologists realize the importance of the role of management in crime prevention. This is a result of the much criticized demonstration projects which took place in the U.S. in the mid-1970s. Second, law enforcement and planning departments in these countries agree that while the CPTED approach makes sense on its own terms, it usually takes its place in line with a number of other concerns and priorities (at the federal level). For example, while municipal planning departments appear to be interested in CPTED and how it reinforces other planning objectives, they also have many other design and performance criteria which must take precedence. Unlike CPTED strategies, the other initiatives are defined and required by the Provincial Planning Act or municipal bylaws. Third, effective application of the approach is not a simple matter. It requires careful analysis of the existing or potential crime problem and of the relevant environmental factors, and it demands the involvement of a range of individuals and organizations, especially the residents. Fourth, CPTED builds on the acknowledgement that every environment is

unique in terms of its crime problem and contributing factors. Therefore, the selection and application of appropriate crime prevention tactics must vary from one environment to the next. Finally, the EDM study in Canada concludes that design modifications in the interest of security need not imply high or even additional costs if they are implemented in the initial stages of construction.

Having completed a general review of the evolution and current research on CPTED, it is now appropriate to look at the concept in greater detail and evaluate how it is practiced in the province of British Columbia.

ENDNOTES

¹Henry Eliot Howard, British birdwatcher, to his children's nurse circa 1904, as quoted in U.S. Institute of Law Enforcement and Criminal Justice, *Residential Security* (Washington, D.C.: U.S. Government Printing Office, 1972), p. 31.

²E.T. Hall, *The Hidden Dimension* (New York: Doubleday, 1966), p. 7.

³Barry Poyner, *Design Against Crime: Beyond Defensible Space* (London: Butterworths, 1983), p. 5.

⁴Two other issues, inflation and unemployment, ranked higher overall but are not susceptible to local control.

Gary Paget, "Crime Prevention Through Environmental Design: A Local Government Perspective", (Victoria: Ministry of Municipal Affairs. Prepared for B.C. Crime Prevention Association, Annual Workshop and General Meeting, October 25-26, 1983), no page.

⁵Nigel Dunn, Insurance Bureau of Canada, February 4, 1982, as quoted in Consortium of Urban Design Consultants and the Research Group, *The Environmental Design and Management (EDM) Approach to Crime Prevention in Residential Environments*. Report Prepared for the Solicitor General of Canada and CMHC (Ottawa: Queens's Printer, March 1982), p. 271.

** Henceforth called *The Solicitor General's Report*.

⁶Paul R.A. Stanley, "Crime Prevention Through Environmental Design: A Review" (Ottawa: Solicitor General of Canada, Research Division, 1977), pp. 2-3.

⁷Harold F. Searles, *The Nonhuman Environment in Normal Development and Schizophrenia* (New York: International Universities Press, 1970), p. 335.

⁸H. Proshansky, W. Ittelson and L. Rivlin, "The Influence of the Physical Environment on Behaviour: Some Basic Assumptions", in *Environmental Psychology*, ed. by H. Proshansky, W. Ittelson and L. Rivlin (Toronto: Holt, Rinehart and Winston, 1970), pp. 27-37.

⁹Richard A. Gardiner, *Design For Safe Neighbourhoods* (Washington, D.C.: Law Enforcement Assistance Administration, 1978), p. 30.

¹⁰Gardiner, p. 30.

¹¹Gardiner, p. 11.

¹²Gardiner, p. 14.

The name, 'Urban Fortress', has been coined in this century although the concepts have existed for many centuries.

¹³Sgt. R.E. Moffatt, "Crime Prevention Through Environmental Design---A Management Perspective", Canadian Journal of Criminology. Vol. 25, No. 1 (January 1983), pp. 24-25.

¹⁴Moffatt, p. 25.

¹⁵The term, "Urban Village", was drawn from Herbert Gans, *The Urban Villagers* (1962).

¹⁶Moffatt, p. 24.

¹⁷Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961), p. 31.

¹⁸*The Solicitor General's Report*, p. 61.

¹⁹Elizabeth Wood, *Housing Design, A Social Theory* (New York: Citizens Housing and Planning Council, 1961), p. 6.

²⁰Wood, p. 5.

- ²¹The Solicitor General's Report, p. 61.
- ²²Schlomo Angel, Discouraging Crime Through City Planning (Berkeley: Center for Planning and Development Research, 1968), p. 16.
- ²³George Rand, "Crime and Environment: A Review of the Literature and Its Implications for Urban Architecture and Planning", Journal of Architectural and Planning Research, Vol. 1, No. 1 (June, 1984), p. 5.
- ²⁴Rand, p. 5.
- ²⁵Rand, p. 6.
- ²⁶An early study that reported this finding was S. L. Boggs, "Urban Crime Patterns", American Sociological Review, Vol. 30 (1965), pp. 899-908.
- ²⁷Paul J. Brantingham and Patricia L. Brantingham, "Residential Burglary and Urban Form", Urban Studies, Vol.12 (1975), pp. 273-284.
- ²⁸Gerald Luedtke, Crime and the Physical City: Neighbourhood Design Techniques for Crime Reduction (Detroit: Gerald Luedtke and Associates, June 1970), pp. 20-21.
- ²⁹William Brill and Associates, "Victimization, Fear of Crime and Altered Behaviour: A Profile of Four Housing Projects in Boston" (Washington, D.C.: Law Enforcement Assistance Administration, Department of Justice, 1975).
- ³⁰William Brill and Associates, "Comprehensive Security Planning: A Program for William Nickerson Gardens" (Los Angeles: Department of Housing and Urban Development, Office of Policy Development and Research, 1977).
- ³¹Luedtke, pp. 20-21.

³²Allan Wallis and Daniel Ford, *Crime Prevention Through Environmental Design* (Washington: U.S. Department of Justice, 1980), p. 10.

³³Wallis and Ford, p. 10.

³⁴Wallis and Ford, p. 11.

³⁵Arthur H. Patterson, "Fear of Crime and Other Barriers to Use of Public Transportation by the Elderly", Journal of Architectural and Planning Research, Vol. 2, No. 4 (Dec. 1985), pp. 277-288.

³⁶Oscar Newman, *Defensible Space: Design For The Improvement of Security in Urban Residential Areas* (New York: MacMillan, 1972), p. 195.

³⁷Schlomo Angel, as quoted in Stanley, p. 12.

³⁸Rand, p. 7.

³⁹Barbara B. Brown, "Territoriality, Defensible Space and Residential Burglary", M.A. Thesis, Department of Psychology (Utah: University of Utah, December 1980).

⁴⁰"Community Crime Prevention: An Overview", Law Enforcement Assistance Administration Newsletter, Vol. 4, No. 3, 1974, as quoted in Stanley, p. 12.

⁴¹Home Office Crime Prevention Program, Home Office Crime Prevention Training Center, Stafford England, p. 20, as stated in B. Windham and G.K. Maenius, "Environmental Design---Specialized Environmental Design Course For Crime Prevention Officers" (San Marcos, Texas: Texas Crime Prevention Institute; Southwest Texas State University, 1975), p. 1-2.

⁴²*The Solicitor General's Report*, p. 62.

⁴³Newman, p. 3.

⁴⁴Newman, p. 50.

The Defensible Space Theory:

- (1) Territoriality---the sub-division and zoning of communal space in and around residential buildings to promote proprietary attitudes among residents.
- (2) Natural Surveillance---the positioning of apartment windows to allow residents to naturally survey the exterior and interior public areas of their living environment.
- (3) Image---the use of building forms and idioms to avoid the stigma of public housing (which Newman sees as a specifically American problem).
- (4) Milieu---locating residential projects to face onto areas of the city considered safe (such as heavily-trafficked streets, institutional areas and government offices).

⁴⁵Van Dyke has had 66% more total crime incidents, over 2.5 times as many robberies (264%), 60% more felonies, misdemeanors and offenses, and 72% more repair maintenance work than Brownsville.

Oscar Newman, "Alternatives to Fear", Progressive Architecture, Vol. 53, No. 10 (October 1972), p. 102.

⁴⁶Poyner, p. 8.

⁴⁷Gardiner, p. 15.

⁴⁸Gardiner, p. 15.

⁴⁹A.E. Bottoms, "Review of 'Defensible Space'", British Journal of Criminology, Vol. 14, No. 2 (April 1974), p. 203.

⁵⁰R.I. Mawby, "Defensible Space: A Theoretical and Empirical Appraisal", Urban Studies, Vol. 14 (1977), pp. 169-179.

⁵¹Peter Engstad, paper presented at the American Society of Criminology, October 30---November 2, 1975, as quoted in *The Solicitor General's Report*, p. 37.

⁵²Thomas A. Reppetto, *Residential Crime* (Cambridge, Mass: Ballinger, 1974), p. 87.

⁵³Thomas A. Reppetto, 1976, as quoted in *The Solicitor General's Report*, pp. 37-38.

⁵⁴Thomas A. Reppetto, 1976, as quoted in *The Solicitor General's Report*, p. 39.

⁵⁵P. Mayhew, "Defensible Space: The Current Status of a Crime Prevention Theory", Howard Journal of Penology and Crime Prevention, Vol. 18, No. 3 (1979), p.152.

⁵⁶*The Solicitor General's Report*, p. 65.

⁵⁷At the Clason Point garden houses, Oscar Newman and George Rand transformed the spatially ambiguous array of blocks of 400-apartment units into an architecturally-integrated neighbourhood by:

(1)creating public walking streets through the project site to specify, architecturally, which areas were meant to be used by the general public and which areas were reserved for use by residents and their visitors;

(2)creating large fenced backyard areas shared by 8-15 residents and accessible only from within the individual garden apartment units;

(3)refacing the buildings to reduce their uniformity; residents selected colours and patterns of brickwork on their units to reduce the stigma of public housing and to provide a sense of individual control over individual housing units.

After these modifications, a study showed that the design manipulations appeared to have an effect on crime:

(1)a net reduction in burglary, robbery and larceny rates;

(2)a fifty percent reduction in evening felonies, and the location of crimes shifted from a uniform distribution throughout the project to certain areas of the project that remained unsecured.

(3)residents' reports of feelings of safety increased markedly in survey results.

Rand, p. 10.

⁵⁸The Westinghouse research contract for all of the CPTED demonstration projects totaled \$4 million; additional funds of approximately \$1 million were expended directly by NILECJ on implementation.

The Solicitor General's Report, p. 65.

⁵⁹*The Solicitor General's Report*, p. 66.

A good example of the new approach to crime prevention with regard to the Neighbourhood Unit is "Neighbourhood Design and Crime", by Stephanie Greenberg and William M. Rohe. Journal of the American Planning Association. Vol. 50, No. 1 (Winter 1984), pp. 48-61.

⁶⁰Gardiner, p. 1.

⁶¹The Solicitor General's Report, p. 67.

⁶²The Solicitor General's Report, p. 68.

⁶³The Solicitor General's Report, p. 70.

⁶⁴Poyner, p. 14.

⁶⁵Alan Leather and Antony Matthews, "What An Architect Can Do: A Series of Design Guidelines", in *Vandalism*, ed. by Colin Ward (London: Architectural Press, 1973), p. 119.

⁶⁶Alison Ravetz, 1979, as quoted in *The Solicitor General's Report*, p. 59.

⁶⁷Mawby, p. 175.

⁶⁸Reyner Banham, "Parkhill Revisited", Architecture Plus, Vol. 2, No. 3 (May/June 1974), p. 109.

⁷³The Solicitor General's Report, p. 278.

⁷⁰The Solicitor General's Report, p. 286.

⁷¹This figure is redrawn from a drawing which originally appeared in *Security Guidelines for Residential Developments* (1979) by the Dept. of Planning for the City of Chicago.

⁷²The Solicitor General's Report, p. 286.

⁷³The Solicitor General's Report, p. 300.

CHAPTER THREE

DESCRIPTION OF AVAILABLE INFORMATION ON CPTED

Introduction

The information available on CPTED in British Columbia is reported in this chapter, which is organized in the following manner: (1) a description of the 'channels of communication'---who administers CPTED information and how this information is conveyed---and (2) an explanation of what is included in the information.

Channels Of Communication

In British Columbia, information on crime prevention through environmental design is available from a number of sources.

The University of British Columbia (UBC) offers courses in psychology and architecture that cover some aspects of CPTED. Simon Fraser University (SFU), in the recent past, has offered undergraduate and graduate courses in criminology dealing almost exclusively with this topic (See Appendix 1 for course description).

The RCMP has also offered courses¹ to its members, to municipal police officers and, occasionally, to other municipal employees, including planners. According to

Inspector J.W. Quinn, Officer-In-Charge of the Community Policing/Crime Prevention Section,

"the Crime Prevention Through Environmental Design (CPTED) course was developed in 1982 by the Training and Development Branch at RCMP Headquarters in Vancouver, British Columbia. To date there have been three courses, September 13/24, 1982, September 19/30, 1983 and November 26---December 06, 1984. They were all held at Fairmont Academy, 4949 Heather St., Vancouver, B.C., which is also the location of the RCMP Training Academy for British Columbia. The course is sponsored by the Royal Canadian Mounted Police and was designed to provide Crime Prevention Coordinators with the skills and knowledge to become actually involved in community planning as it relates to preventing crime through the physical environment".²

This two-week course, with instruction by professional architects, planners, landscape architects and professors, offers classroom lectures, field work, student presentations and final examinations (See Appendix 2 for course description and syllabus). The course, which provides instruction to a maximum of 20 students, is very expensive. RCMP Staff Sergeant Jim Bramhill stated that the total cost for a CPTED course is approximately \$60,000.³

Upon completion of the course, students must:⁴

1. demonstrate a good working knowledge of the principles of CPTED;
2. participate in the community planning process as members of advisory planning groups;
3. interpret basic plan drawings which are used in community development proposals;
4. interpret landscaping plans and relate landscape architecture to crime prevention;

5. make recommendations for the best use of lighting to prevent crime;
6. make recommendations involving the application of the principles of CPTED to community development;
7. actively promote CPTED in their communities within established guidelines.

This course was temporarily discontinued after 1984 because of other priorities, such as special training in preparation for the 1986 World's Exposition in Vancouver.

The RCMP policy for CPTED is also documented in its Operational Manual.

"All Community Policing/Crime Prevention Coordinators in "E" Division [British Columbia] will be trained in the basic principles and practical methods of Crime Prevention Through Environmental Design. Our Force through our Detachment Commanders and their coordinators, has an obligation to ensure community planners are fully aware of the implications environmental design can have on crime occurrences, demands for police service and community lifestyles. Community Policing/Crime Prevention Coordinators will fulfill this obligation by:

- making their special training in CPTED known to municipal officials;
- actively promoting liason with municipal planners;
- seeking representation on municipal planning committees;
- responding to requests for assistance in community planning as it relates to crime prevention (e.g. actively assisting in conducting a crime analysis, and making special recommendations);

-expressing the official police perspective on any proposed environmental changes which may adversely affect the incidence of crime in the community.

In conducting these activities outlined or any other activities related to CPTED in their communities, CP/CP Coordinators must keep paramount in their minds that they will be acting as police officers giving advice and assistance only, and will not in any way interfere with the official functions of planners, architects and municipal officials."⁵

This last point is important to remember. Although RCMP officers can sit on advisory planning commissions after successfully completing the course, "their recommendations are not compulsory or binding upon the party who submitted the plans".⁶

Additionally, the RCMP has sponsored seminars. The Richmond Detachment hosted a CPTED training programme for mayors, planners and local police of surrounding municipalities. The purpose of the programme was to educate planners, mayors and police in order to facilitate communication between these groups.⁷ Similarly, a workshop on CPTED, hosted by the RCMP "E" Division (Headquarters), was held at the British Columbia Institute of Technology in July 1980, as part of a phone-in, community television program.

Literature information from the RCMP is also available. Staff Sergeant Jack Hest, stationed in Colwood (Vancouver Island), has written several papers on CPTED which are now used by officers to promote the concept. Sergeant R.E. Moffatt, of the RCMP Crime Prevention Centre

in Ottawa, has also produced documents for CPTED instruction, and was the originator of the concept in Canada for the RCMP.

The B.C. Justice Institute offers a four-day elective course, called the Crime Prevention Practitioners' Course, which briefly covers CPTED principles on landscaping, lighting and access to and from schools. The course is offered to municipal police officers, in crime prevention units across B.C., who later undertake public relations duties. The officers are expected to talk to citizens with regard to such crime prevention information as security systems, locks and break-and-enter. For municipal police officers, though, the RCMP-sponsored course has been the best source of information on CPTED.

The Vancouver Police Department has been active in the area of CPTED. The department produced a 20-minute slide show which illustrates 'good' and 'bad' CPTED design features. Spokesmen from the police department have also met with representatives from the School of Architecture at UBC to promote crime prevention awareness and with Vancouver city planners to discuss the role of CPTED in the planning process. Additionally, Vancouver Police officials attended planning meetings for the development of B.C. Place and the Expo site.⁸

Crime prevention institutes in California and Texas have also offered courses and seminars to law enforcement personnel and planners in B.C. (See Appendix 3 for course

contents). In fact, the idea for a CPTED course in this province came from a course that had been offered in Sacramento by the California Crime Prevention Institute, and was attended by Constable Ron Elm (Maple Ridge RCMP) and Ron Boyes (Director of Planning for the Municipality of Maple Ridge). There is, however, a difference in terms of how the courses in California and in B.C. have been oriented. The course in Sacramento focuses on the "theoretical aspects" of CPTED, whereas the RCMP course has stressed the "application" of CPTED strategies to the local environment.⁹ The California and Texas crime prevention institutes today conduct seminars in Canada for police officials and planners.

Federal and provincial government ministries are also actively involved. The ministries of the Solicitor General and Municipal Affairs promote CPTED primarily through literature on the topic. The provincial Ministry of the Attorney General, on the other hand, has acted in conjunction with the RCMP and other government (provincial and federal) ministries in their endeavours. Norm Brown, from the Police Commission of the Ministry of the Attorney General, took part in developing a set of CPTED guidelines to be included in the Provincial Building Code in February 1981. By 1985, nine of the fourteen recommendations, pertaining mostly to target-hardening strategies such as dead-bolt locks and solid-core doors, were approved by the B.C. Building Standards Branch.

Conferences are yet another means for disseminating CPTED information. CPTED gained the support of the RCMP in Canada through the Banff and Victoria conferences (1980).¹⁰ The Banff conference was sponsored by the Ministry of the Solicitor General and presented by the California Crime Prevention Institute. Seminars were designed to

"provide law enforcement and city planners with the practical skills needed to apply crime prevention theory to the design review planning process, so as to effect meaningful impact on community planning".¹¹

The Victoria conference was also sponsored by the Ministry of the Solicitor General, but was intended primarily for B.C. police chiefs to alert them to the possibilities of environmental design in preventive policing.

Private enterprises have also covered CPTED at their conferences. In the summer of 1986 in Vancouver, the Canadian Society for Industrial Security (CSIS) introduced CPTED as part of the corporate crime prevention programs for assisting business, government and industry. Talks were given by Jim Wise (professor), Charles Richardson III (Chief of Protective Services and Investigations, Public Utilities Commission, San Francisco, Calif.), Jane Durante (Landscape Architect) and Roy Hughes (Lighting Consultant, B.C. Hydro).

The B.C. Hydro Corporation has actively supported CPTED. The corporation produces documents with guidelines on lighting for safety and security. These technical documents, available to the public upon request, are used by

lighting consultants for instruction in the CPTED course held by the RCMP. B.C. Hydro lighting consultants are also invited to lecture at conferences, such as at the CSIS conference in Vancouver (1986).

Additionally, planners are made aware of CPTED in B.C. through literature material. James W. Wilson has written "Planning Safer Communities: An Exploration in Burnaby, B.C." (1984) and an article dealing with CPTED, called "Planning Safer Communities" (1986), which appeared in Plan Canada. In 1977, the Burnaby Detachment of the RCMP, in collaboration with the Burnaby Planning Department, conducted an analysis of select aspects of crime in the municipality for the years 1971 to 1975. The Cornerstone Planning Group, in a 1981 Burnaby case study, attempted to address aspects of the crime prevention through environmental design and management of residential areas. Octagon Consulting Services, with the assistance of the Richmond RCMP, analyzed CPTED in multi-family housing in Richmond in 1984.

Information On CPTED

Planning Policies

Patricia Brantingham, in CPTED courses and workshops, identifies three levels of territoriality:¹²

1. High-Level Territoriality---developing a sense of territory within the home

2. Medium-Level Territoriality--developing a sense of territory outside the home in the yard or in the hallway in front of the apartment
3. Low-Level Territoriality---developing a sense of territory for the street in front of the home or for the neighbour's home.

In her opinion, sliding glass patio doors, low windows, networks of back lanes, combined with the residents' desire for privacy and anonymity, create the perfect open, indifferent environment for delinquency. "These amateur criminals are lazy", she argues. "If we could discourage or redirect them, we could eliminate most of the minor offences".¹³ CPTED tries to increase feelings of territoriality to make people feel, about the street in front of their home, the way they feel about their own yard, or to make them feel more responsible and concerned for areas immediately outside the homes. "CPTED uses design techniques to make control and surveillance easier".¹⁴ At the same time, Brantingham believes, CPTED makes potential criminals feel uncomfortable and less likely to commit offences.

This feeling of not belonging can be used in the design of apartment complexes. If the apartments are designed around a common courtyard and only a narrow entrance is provided to the court, most people will pull back at the entrance and be reluctant to enter (Figure 3). The residents also, because few strangers enter the courtyard, develop stronger feelings of territoriality.¹⁵

Surveillance and territoriality are increased by positioning buildings for easy watching (Figure 4). Surveillance can also be improved by limiting the number of people using a residential area (increases residents' identification of other residents) or, in the case of non-residential areas, by increasing the number of people passing through the area.

Brantingham believes that planning must play an active role in the prevention of crime. In her opinion, planners should look at who commits offenses, where they come from and where they go to commit crimes. In her words:

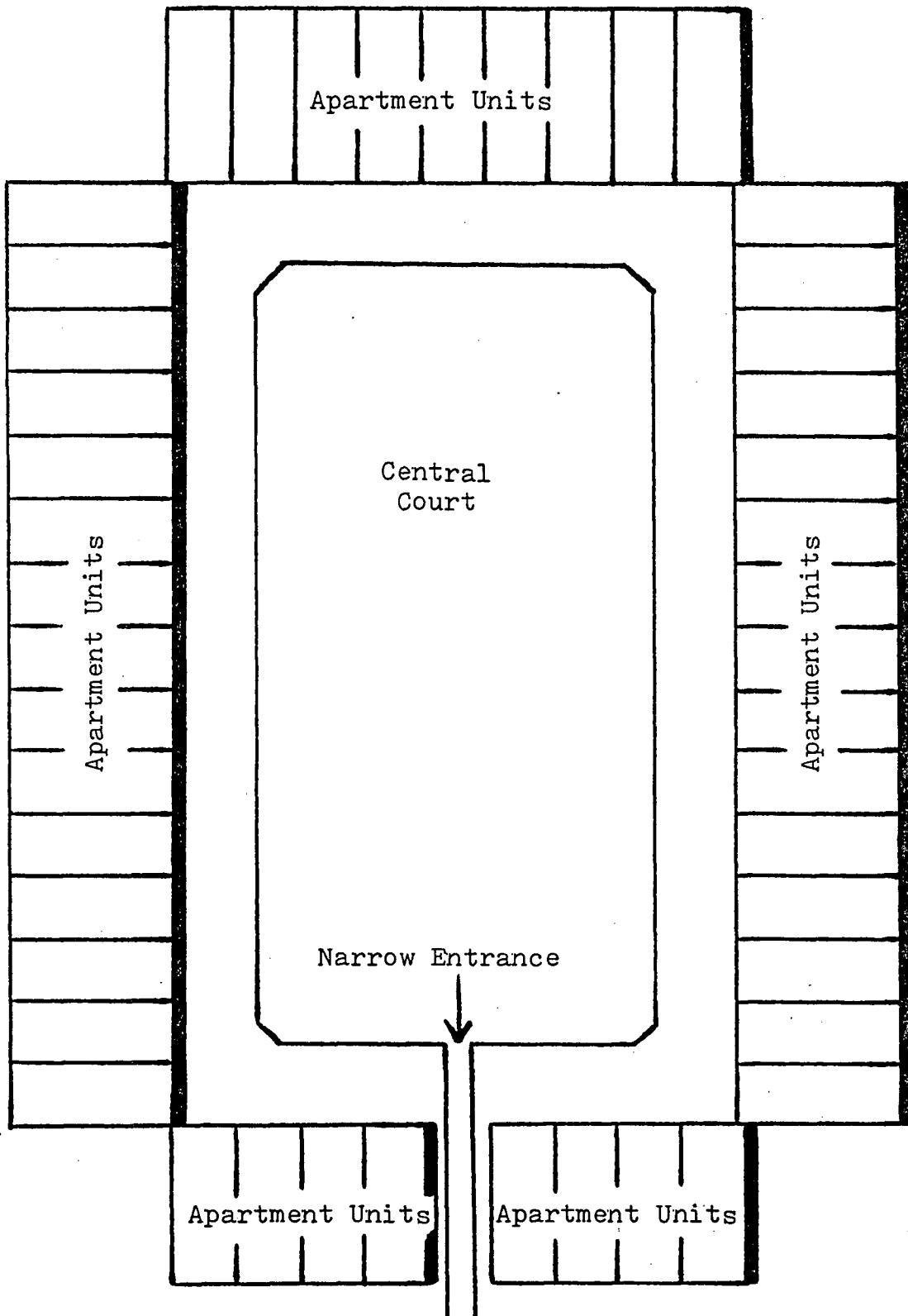
"...most criminals, as most people, have a restricted knowledge of a city. They know the area around home, work, school, shopping and entertainment areas. They are also familiar with the paths between these areas".¹⁶

Crimes cluster around these activity nodes and along paths in between (Figure 5).

Brantingham recommends the following planning principles in reducing opportunities for crime:¹⁷

1. Design roads to minimize through-traffic in residential areas. Road design can be used to funnel non-residents away from the residential area, and to restrict movement on a street primarily to residents of the street. This funneling away will help keep non-resident criminals out of the area.

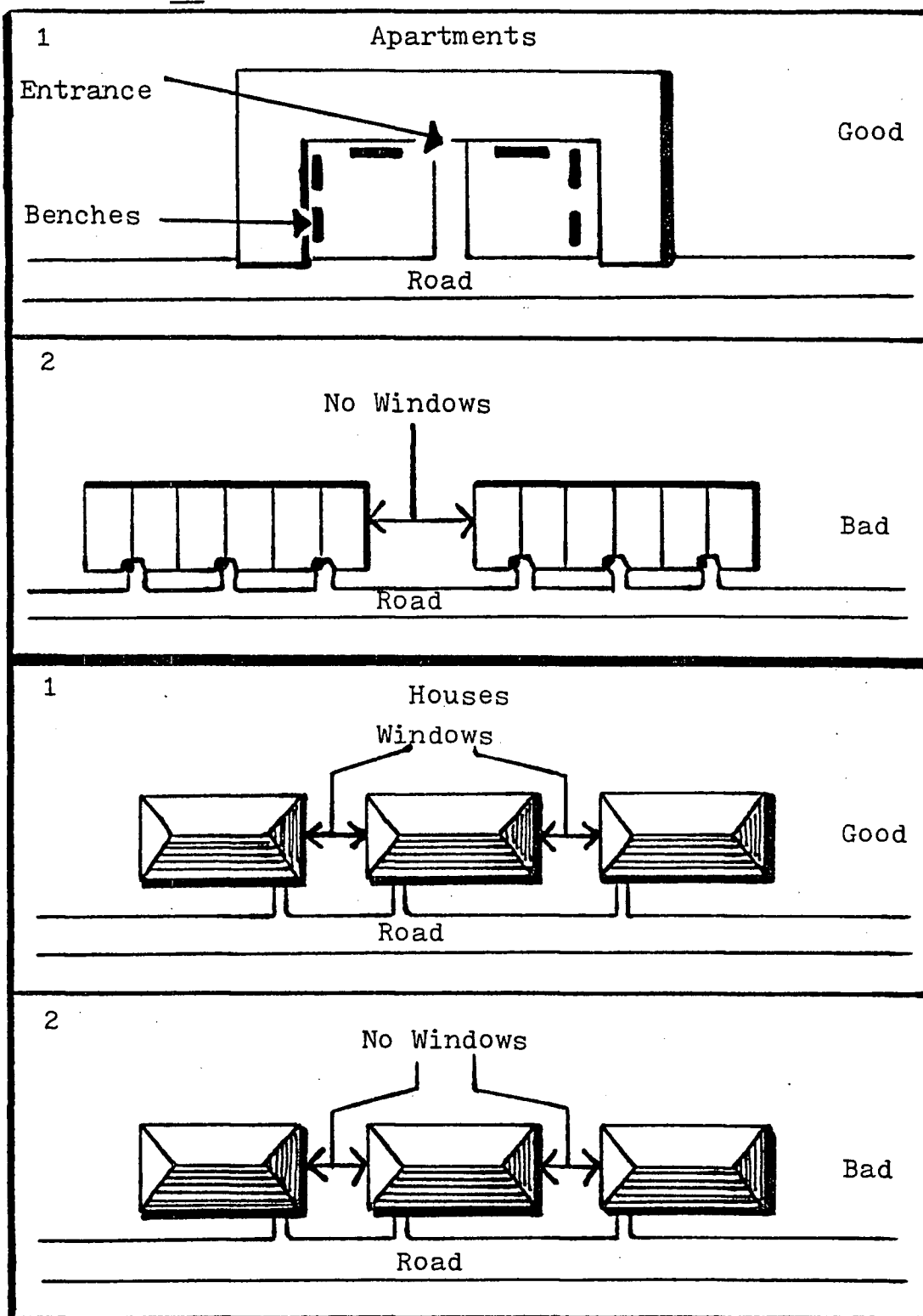
Figure 3

EXAMPLE OF INCREASING SURVEILLANCE AND
TERRITORIALITY FOR APARTMENT COMPLEXES

FROM British Columbia Seminar, "Crime Prevention Through Environmental Design".
Proceedings of the British Columbia Seminar in Victoria, BC. March 1980. Page 17.

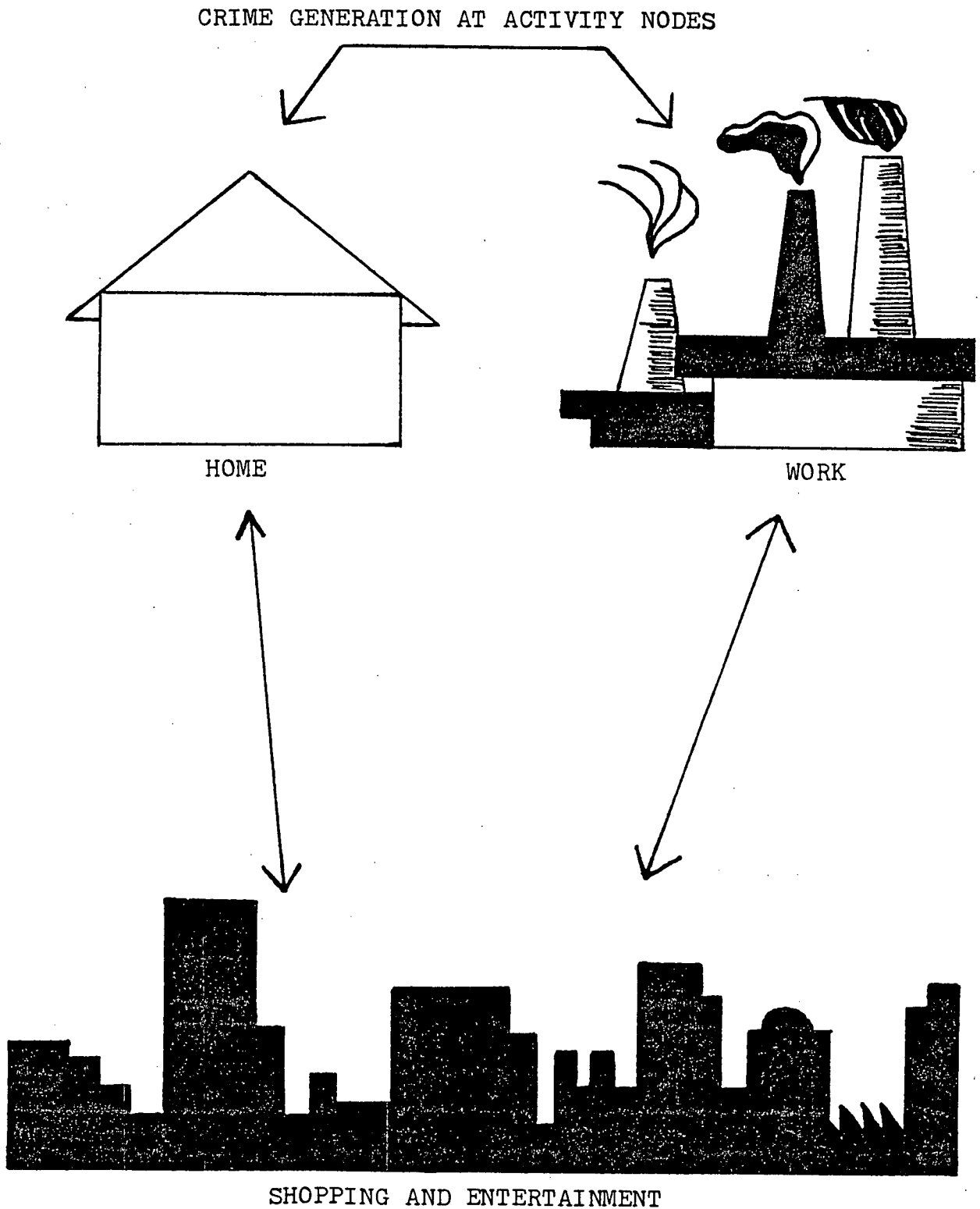
Figure 4

GOOD VS BAD DESIGN FOR APARTMENTS AND HOUSES



FROM Proceedings of the British Columbia Seminar in Victoria, BC. March 1980.
Page 19.

Figure 5



FROM Proceedings of the British Columbia Seminar in Victoria,
BC. March 1980. Page 42.

2. Locate schools so students do not filter through residential areas. Design roads so the flow towards school is natural, controlled and limited. Architectural design techniques can be used along the pedestrian flow paths to provide additional protection.
3. Remember parks will always be crime generators, so care must be taken with design. Some separation between park and surrounding residences should be provided. Possibly the park should be surrounded by a street. Backs of houses with highly vulnerable sliding glass doors should not back on to parks. Paths should be provided so that children and teenagers do not filter through surrounding residential areas.
4. Night time commercial activities should be clustered. With street crime, high activity and low activity (no stores open) are safer than mid-range activity areas. In the mid-range, potential targets are present, but activity is not high enough to produce a sense that someone might intervene or even might witness the crime. A particular problem occurs when parking for a sporting complex or entertainment area spills over in an industrial or office area. People walking to an from these cars (and the cars themselves) are at risk. There are no "watchers", no surveillance potential, but a reasonable supply of "targets".
5. Reduce the amount of strip development. Strip development provides high access to potential criminals. Strip development also has no natural surveillance and is particularly vulnerable if there are back lanes. Stores in strip developments often experience crime rates far higher than stores in clustered developments.

Information From The Vancouver Police Department

The Vancouver Police Department's major contribution to CPTED is its 20-minute slide-tape presentation. This presentation is a concise, well-organized introduction to

the principles of CPTED, suitable for use as part of a community information program.¹⁸ The concept of defensible space is defined and is illustrated with respect to private homes, apartments, streets and entire residential and commercial areas in Vancouver. Viewers are introduced to the notions of public, semi-public, and private space, with their corresponding differences relevant to crime prevention.

The fact is emphasized that some trade-offs between privacy or aesthetics and security from crime may be necessary, and viewers are shown that existing environments can be adapted to promote greater security. For example, landscaping modifications, such as symbolic barriers, can increase a sense of territoriality among inhabitants of high-density residential areas. Alterations to pedestrian traffic in and out of commercial areas can also be easily affected to promote increased observation and control.¹⁹

One interesting CPTED possibility demonstrated is that commercial and residential activities can be melded so the interests of each group safeguards the other.²⁰ The audience is shown an existing Vancouver apartment complex with commercial establishments on the ground level. During the day, as shopkeepers exercise their normal responsibility for their own areas they generate a show of occupancy that deters potential interlopers into the apartment complex. Similarly, at night, the well-designed bay windows of the high-rise apartments afford unimpeded

surveillance of the streets below, discouraging prowlers who might be tempted by the then-deserted stores.²¹

The Contributions Of The Provincial Government And Public Agencies

The Ministry of Municipal Affairs has actively promoted CPTED at the annual workshops and general meetings of the B.C. Crime Prevention Association. At the annual general meeting of the Association in 1983, Gary Paget stated the following with regard to CPTED:

"On the one hand, I'm asking for more research and on the other hand I'm saying we should be humble about what it is we know. Let's not oversell beyond our capabilities to deliver. There is promise, but let's proceed on a step-by-step basis."²²

CPTED, according to Paget, is one component of a strategy which will permit individuals, neighbourhoods and communities to police themselves to a greater extent. In his writings, he alludes to police cooperation with neighbourhood groups, community planners, social workers, community developers and others.

"Good planning", Paget writes, "is planning with a sensitivity to human needs".²³ Since security is a basic human need, planning which is socially sensitive helps prevent crime, he argues. While the concept of structuring identifiable neighbourhoods and properly designed shopping areas is not a new one, it is one which has all too often been implemented improperly in the past.

Along with Paget's numerous papers, the ministry has prepared a resource package to provide information to local governments interested in knowing more about CPTED.

The Attorney General's involvement (through the B.C. Police Commission) with CPTED has been to co-produce the slide-tape film with the Vancouver Police Department, to co-sponsor the RCMP course on CPTED, and to make literature material available. Additionally, the Ministry has been represented at CPTED conferences, such as the one in Victoria.

Reaction to that conference was mixed. Some officers remarked that policing was sufficiently complex without adding a further complication to their task. "Sooner or later", Gordon Dalton of the B.C. Police Commission pointed out, "policemen are going to have to stop and say, 'Look, this isn't our business'. Otherwise, you're going to need more money for policemen".²⁴

Dave Cowley of the RCMP in Ottawa, noted that police services were in a highly transitional state and that the destiny of police services was in the hands of the police themselves. "Is this what we really want?" he asked. "We need to examine all the alternatives to enforcement".²⁵

Tony Hulme of New Westminster felt that such consideration was imperative in preventive policing. "I'm convinced that the future of crime prevention lies in environmental design",²⁶ he stressed, while Bob Peterson

suggested:

"If we can demonstrate that there is profit in preventing crime, we will have success. This is not always easy. CPTED is costly to introduce in areas already built up, so the key is to become involved before the building has been completed".²⁷

"Where have we been?" Chief Jim Stewart asked. "Up to now, it has been the firemen who have taken the initiative in building code issues".²⁸ Stewart, who has been actively involved with both developers and town council in Matsqui, pointed out that the community can influence developers by using property taxes as a bargaining tool.

"We have a mandate as police managers", Stewart concluded,

"to have input into the design of our communities and in Matsqui we're going to put together a tour every four months for developers and real estate people to show them good and bad environmental design. The development permit can be the tool to control what development comes in".²⁹

Another public agency, B.C. Hydro, has been actively involved in disseminating CPTED information. B.C. Hydro uses research findings, from studies in the U.S. conducted by Westinghouse and General Electric, to instruct at the RCMP course and to lecture at CPTED conferences. The literature available from B.C. Hydro also includes definitions of technical terms that will be useful to students of CPTED, lighting standards for different environments---streets, garages, parking areas, commercial

and industrial areas, paths, parks, bikeways---and guidelines on the many uses of lighting including surveillance, protection and safety.³⁰

In general, the type of lighting required depends on the environment in question, especially with regard to indoor and outdoor facilities.

Where interior spaces are visible through doors or windows, improved lighting will enhance opportunities for casual or formal surveillance. Lighting should be even, without deep shadows in which an intruder might hide. Store windows should not be blocked by advertising or other displays. Where lighting fixtures are accessible to passers-by (as for schools and housing projects), these fixtures should be vandal-proof.³¹

Street lights, perimeter lights along fences and walls, and the illumination of outdoor facilities all serve to increase opportunities for surveillance. In addition, lighting may encourage the use of outdoor areas and help channel pedestrians along selected paths. For example, the sickly glow of low-pressure sodium lighting in public places keeps people moving. "It's good for pedestrian tunnels and outside corner stores", states Constable Ron Elm of the Maple Ridge RCMP and former member of the 'technical development committee' in this municipality, "because it makes people uncomfortable to stay there".³²

Improved lighting also takes into consideration local concerns and opinions of the users of the environment.

Where citizens are fearful of crime, high-intensity lights are favoured. In a neighbourhood where the fear is less---though the crime rate is the same---residents may object to the colour or intensity of the lights. Fixtures are available which provide good colour balance and make efficient use of electricity.³³

ENDNOTES

¹RCMP officers, as well as municipal police officers, must take courses during their careers as credit for promotion purposes.

²Personal correspondence with RCMP Inspector J.W. Quinn, OIC Community Policing/Crime Prevention Section. 7 August 1986.

³Interview with RCMP Staff Sergeant Jim Bramhill. Fairmont Academy, RCMP Headquarters, Vancouver, B.C. 28 August 1986.

⁴Royal Canadian Mounted Police, Course Training Standard: Crime Prevention Through Environmental Design Course (Ottawa: RCMP, Training and Development Branch, August 1982), p. 2.

⁵Jack J. Hest (Staff Sergeant---RCMP), "Promoting The Concepts of Crime Prevention Through Environmental Design" (Victoria: RCMP, "E" Division, Community Policing/Crime Prevention, August 1983), pp. 6-7.

⁶Quinn, personal correspondence. 7 August 1986.

⁷Marilyn Ashmore, "Police Involvement and their Major Needs in the Area of Crime Prevention Through Environmental Design in British Columbia" (Vancouver: Consultation Centre, Ministry of the Solicitor General of Canada, 1982), p. 3.

⁸Ashmore, p. 20.

⁹Bramhill, interview. 28 August 1986.

¹⁰Bramhill, interview. 28 August 1986.

¹¹Information gathered from the Official Conference application document.

¹²Patricia Brantingham, 1980, as quoted at the British Columbia Institute of Technology Workshop (on the Knowledge Network), "The Building Code: Crime Prevention Through Environmental Design". Burnaby: "E" Division RCMP, July 17, 1980.

¹³Patricia Brantingham, 1982, as quoted in Eleanor Wachtel, "Toward the Perfect Crimeless Town", Maclean's, Vol. 95, No. 10 (March 8, 1982), p. 52.

¹⁴Patricia Brantingham, as quoted at BCIT workshop, July 17, 1980.

¹⁵Patricia Brantingham, as quoted at BCIT workshop, July 17, 1980.

¹⁶Patricia Brantingham, 1980, as quoted at British Columbia Seminar, "Crime Prevention Through Environmental Design". Proceedings of the British Columbia Seminar, in Victoria, B.C. March 27 and 28, 1980. Page 41.

¹⁷Patricia Brantingham, 1980, as quoted at BCIT workshop, July 17, 1980.

¹⁸Brian D. Burke, "Crime Prevention Through Environmental Design", Prevention, Vol. 1, No. 3 (Dec. 1983), p. 18.

¹⁹Vancouver City Police Department, "Crime Prevention Through Environmental Design". A 20-minute slide-audio presentation prepared by the Department of Criminology, Simon Fraser University. Vancouver, British Columbia.

²⁰Vancouver City Police Department, slide-audio presentation.

²¹Burke, p. 18.

²²Tom Gies, Prevention, p. 8.

²³Gary Paget, "Crime Prevention Through Environmental Design: A Local Government Perspective". Prepared for B.C. Crime Prevention Association, Annual Workshop and General Meeting (Victoria: Ministry of Municipal Affairs, October 25-26, 1983), no page.

²⁴Gordon Dalton, 1980, as quoted in "Environmental Design---Added Dimension To Policing?" Liason, Vol. 6, No. 5 (May 1980), p. 7.

²⁵Dave Cowley, 1980, as quoted in Liason, p. 7.

²⁶Tony Hulme, 1980, as quoted in Liason, p. 7.

²⁷Bob Peterson, 1980, as quoted in Liason, p. 7.

²⁸Jim Stewart, 1980, as quoted in Liason, p. 8.

²⁹Jim Stewart, 1980, as quoted in Liason, p. 8.

³⁰Definitions of different lighting uses:

SURVEILLANCE LIGHTING---lighting to detect and observe intruders.

PROTECTIVE LIGHTING-----to discourage the potential acts of criminals.

SAFETY LIGHTING-----to permit safe movement of guards and other authorized persons.

Notes from B.C. Hydro on Lighting Design and Application for Crime Prevention, 1986.

³¹Allan Wallis and Daniel Ford, Crime Prevention Through Environmental Design (Washington: U.S. Department of Justice, 1980), p. 82.

³²RCMP Constable Ron Elm, 1982, as quoted in Wachtel, p. 53.

³³Wallis and Ford, pp. 82-83.

CHAPTER FOUR

FINDINGS FROM INVESTIGATION

Introduction

This chapter examines when, where, how CPTED is implemented in the community planning process, who uses the concept and why. The format is as follows: (1) a discussion of the current status of CPTED in the Provincial Building Code and the Municipal Act; (2) an examination of the practice of CPTED in the eleven municipalities through interviews and correspondence with community planners, architects, landscape architects and law enforcement officials (See Appendix 4 for questionnaire); and (3) a summary of major CPTED projects and studies in British Columbia.

CPTED Legislation?

The local government is responsible for ensuring a safe environment for the residents of a community. The role played by this government is significant because of its control over the planning function for the entire municipality. Whether or not planning takes CPTED into consideration is highly dependent on the wishes of city council.

In terms of creating a 'safe' environment, the Charter gives Vancouver the authority to include technical regulations related to the construction of buildings, where the safety of persons or property is concerned.¹ As with other municipalities, Vancouver follows the Provincial Building Code---a document similar to the National Building Code of Canada²---but the city has occasionally made changes and additions to it. An example is the design of underground parking stairwells. Ten years ago the City of Vancouver, in response to a major crime committed in the Pacific Centre underground parkade,³ required that stairwells be visibly accessible from the parking garages. As a result, stairwells must now be made of wired-glass.⁴ A number of other bylaw requirements have contributed to safer parkade environments. The requirements stipulate

- that all unattended parking facilities in commercial and residential buildings must be secured with doors or regular security surveillance;
- that lighting be improved to meet minimum standards;
- that access doors to the garage and related entry ways have increased glazing to improve visual surveillance for users and security personnel;
- that there be barrier-free design to the greatest extent possible;
- that there be perimeter landscaping to create growth of greenery for a safe well-lit environment.⁵

These requirements are not in the present Provincial

Building Code.

Municipalities, on the other hand, are governed by the Municipal Act, and do not have the right to regulate the construction of buildings by introducing additional construction requirements over and above those outlined in the Provincial Building Code. Safety concerns in zoning, for example, are addressed by the Municipal Act:

"In making regulations under this [zoning] section, the Council shall have due regard to health, safety, convenience and welfare of the public".⁶

The act gives the municipalities the authority to make building bylaws, but such bylaws do not deal with the regulation of the construction of buildings as this is covered in the Provincial Building Code. These bylaws are essentially administrative bylaws, dealing with matters such as development permit fees and required building inspections. In some cases, such as for subdivision control, the Municipal Act gives the Approving Officer both the authority and discretion in determining "the public interest".

Additionally, provincial paramountcy allows the province a right

"to authorize municipal councils to pass bylaws against nuisances hurtful to the public health as incidental to municipal institutions and this power is not incompatible with that of Parliament to enact a general law of nuisance as incidental to its right to legislate on criminal law".⁷

Some municipalities have asked for increased powers in order to combat crime. The suggestions put forward include the control of business licences, the provisions of incentives (possibly through reduced insurance premiums) for developments which include approved CPTED measures in the design, and the expansion of the building code to include CPTED-related strategies.

Expansion of the Provincial Building Code involves the cooperation of the Ministry of Municipal Affairs, through the Building Standards Branch. The interest of Municipal Affairs in CPTED is consistent with the Ministry's mandate to act as "the medium of communication between the LGIC (Cabinet) and local governments in the province".⁸ In this sense, the Ministry is acting as a bridge between a provincial interest in security and order represented by the Ministry of the Attorney General and municipal governments.

CPTED is of interest to municipal councils and administrators for one important reason: municipal costs. CPTED concepts incorporated in new or existing developments can reduce the amount of policing, and costs required for the area. In 1983, Kelowna Alderman Elise Clark stated:

"If the environment is adapted so that the opportunity and the temptation to commit crimes are lowered, we may see positive results in lower crime rates and lower policing costs...The cost to implement the CPTED program would be low and the potential returns to the city are high...Our community has people trained in CPTED. We should use this knowledge and training on our design

panel and on our technical planning committee so we do not continue to make the same mistakes in building and environmental design over and over again".⁹

The Ministry of Municipal Affairs can do much to help fight crime because CPTED is consistent with the department's responsibilities. The Ministry has been successful in encouraging community planning by municipalities. Through local initiative and provincial support (e.g. revenue sharing), the number of official community plans in place has increased dramatically in the past decade.¹⁰ The planning effort, in many respects, can shift from getting the plan in place to planning. The planning process---review, evaluation, updating and refinement of plans---can be adjusted to include CPTED principles.

Municipalities have also exercised their powers, through the Municipal Act, for implementing CPTED. The Act permits councils to establish advisory planning commissions (APC) or advisory design panels (ADP)¹¹ in order to advise council members on planning-related matters such as zoning, subdivision control and building regulation. By involving the municipal police and RCMP officers with CPTED training on the committee, councils will be given more accurate information on the impacts of developments with regard to crime.

Investigation of Eleven Municipalities in British Columbia**Burnaby**

Burnaby (See Map in Figure 6) has an advisory planning commission---made up of ten people including a School Board member, a Parks and Recreation Commission member and interested persons chosen by the mayor from the community at large.¹² The APC looks at land use only, not plans of individual buildings. More importantly, the RCMP does not have any input in the APC, or the planning department. Furthermore, it is purely by chance that someone with a security background sits on the APC.¹³

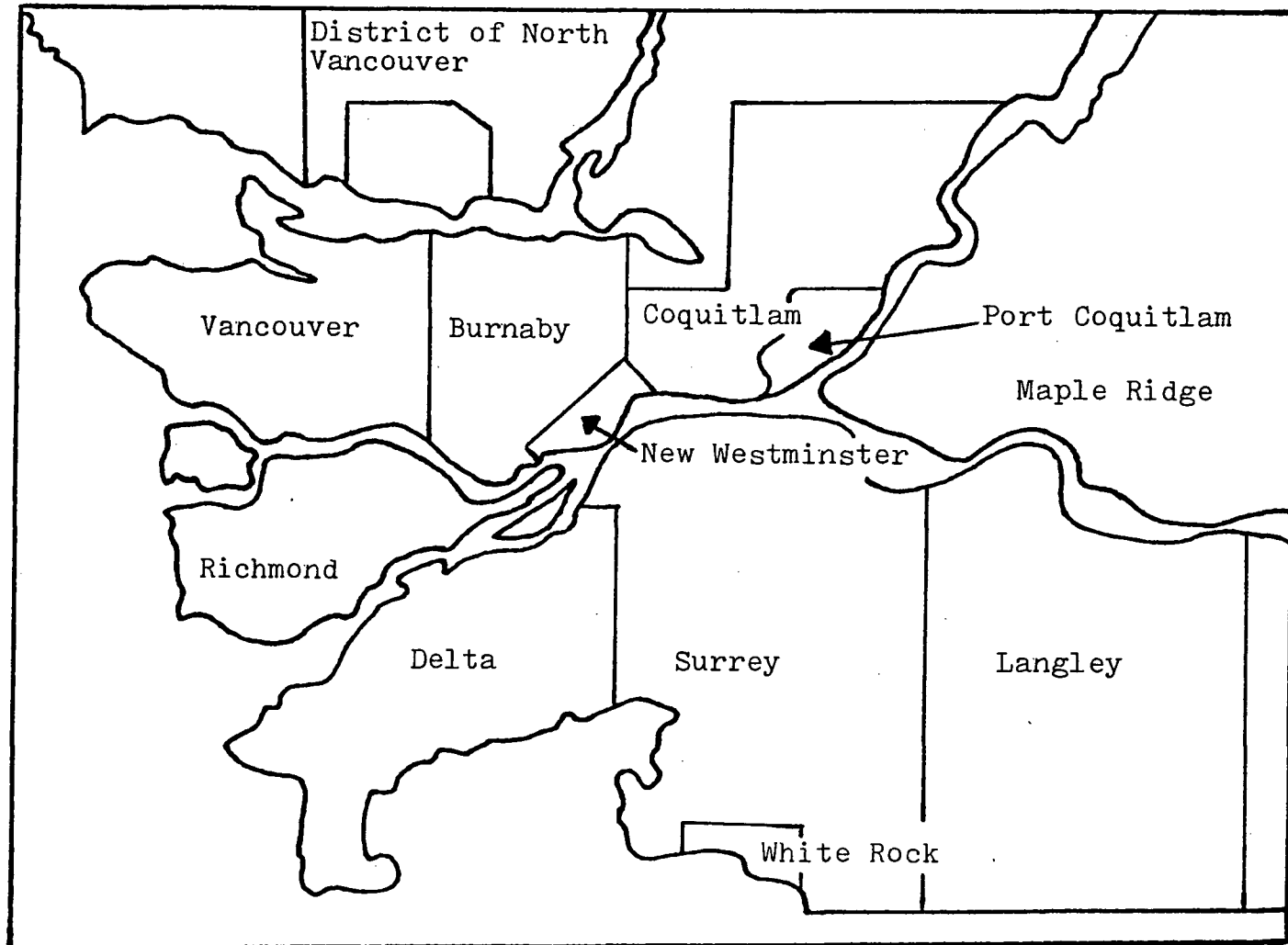
Though not trained in CPTED, Burnaby planners are aware that crime prevention programs exist and are available to them. If a particular development, such as a bar or discoteque, is recognized by planners as a potential 'crime generator' given its location, the planning department will request suggestions and recommendations from the RCMP. Otherwise, according to planner Jack Balhouse,

"the city council goes on the assumption that the planners are knowledgeable of crime prevention matters".¹⁴

The Burnaby RCMP, though, wants to take part in planning for the community and is willing to train planners in CPTED. Sergeant Ron Khlon, who is very familiar with CPTED concepts, has occasionally been approached by the municipality's engineering and planning departments for

Figure 6

MAP OF SURVEYED MUNICIPALITIES IN BRITISH COLUMBIA



suggestions on security matters. The builder proposing his development (e.g. apartments) will first apply for a building permit through the municipality. Permits are reviewed by the planning department, and plans for the developments with potential crime problems are forwarded to the RCMP, who make their recommendations. The recommendations, though, are rarely put in practice, according to Khlon, because of some additional costs involved in making the necessary changes. He argues:

"To be effective, crime prevention must be implemented from the start. It is going to be expensive, but not as expensive as it normally would be if prevention were needed later".¹⁵

At present, crimes committed in underground parking garages are a serious problem in Burnaby. The fault, according to Sergeant Khlon is with

"improper safety measures at the project's implementation and the fact that people are convinced that insurance companies will cover the damages".¹⁶

The planners' reluctance to let the RCMP get involved in the planning process has relegated CPTED into the Neighbourhood Watch program, no longer a home-to-home service because it is too expensive.

Sergeant Eric Ledwon believes that CPTED suffers the same problem as other crime prevention programs. That is, it is difficult to evaluate its effectiveness. Reduced crime rates for an area where CPTED strategies have been

implemented may mean that certain crimes have been displaced to other areas.¹⁷ Corporal Les Forsythe agrees, and maintains that CPTED's main goal should be "awareness" of crime opportunities on the part of all of the community's citizens.¹⁸

Coquitlam

Coquitlam and Port Coquitlam have one advisory design panel, but the RCMP does not take part. Instead, all rezoning applications received by the licencing inspector for Coquitlam and Port Coquitlam are sent to the Officer-In-Charge of the Coquitlam detachment of the RCMP, Constable Paul Desbiens.

Desbiens, who took the Crime Prevention Practitioner's Course offered by the B.C. Justice Institute (in 1982), will look at the rezoning applications and accompanying plans for new developments, and make security recommendations in a notebook. When looking at architectural drawings, Desbiens does not concern himself with technical data, such as measurements. He offers advice on design features that should be incorporated into the development. His recommendations, based on the CPTED course training and practical law enforcement experience, will include suggestions for

- core doors
- one-inch deadbolt locks
- chain-link fences in order to establish a sense of territoriality
- garage doors in good working order and with

- appropriate locks
- good lighting throughout the development
- prominently placed trees, shrubs, etc.
- good, visible access to entrances.¹⁹

Desbiens will also visit the location for the proposed development and conduct a site survey, according to land-use zoning for the location (e.g. residential---RM-1, RM-2; commercial---CS-2, etc...). Included in the survey are comments on crime risks---whether the proposed development will be located in a high, medium or low crime area, based on crime statistics kept by the Coquitlam RCMP. In Desbiens' view, this type of RCMP input is especially important for commercial development.²⁰ He then sends the completed forms back to the licencing inspector and his comments are eventually relayed to the developer. For Desbiens, "this process may be anti-productive because the police recommendations will not always be put to use".²¹ But he is optimistic of CPTED's future. On occasion, developers have directly asked him, at the design stage, about to the important design features that should be considered for specific developments, such as better doors, the best types of fences to use, and the clearing of trees and shrubs.

Sergeant Dave Alderson, formerly stationed in Coquitlam, also shares Desbiens' concerns. A Coquitlam engineering and consulting firm approached then Corporal Alderson and requested that he comment on the landscaping plans for a warehouse which the firm was building in the

Coquitlam area. Corporal Alderson suggested that a number of the landscaping proposals would facilitate crime and subsequently made recommendations. Corporal Alderson then forwarded his comments, only to discover that the recommendations would be ignored, as Coquitlam Council had already approved the project 'as is' for development.²²

"The RCMP can only subjectively say that CPTED is effective in cutting down on crime", states Desbiens. He recalls incidents of rowdy youths vandalizing a neighbourhood in Coquitlam. The problem stemmed from a pool hall with a small alley beside it. After drinking, the youths became unruly outside the hall and the RCMP were called to the scene. The youths, upon spotting the police cars, would dash down the alley. Thus, two police cars were needed to cordon off the alley. The incidents were repeated several times before the RCMP approached the owner of the pub and nearby homeowners with the idea of a steel fence placed at one end of the alley. The fence was torn down by the youths soon after it was installed. The next suggestion was to build a high concrete wall at one end of the alley. Now there is no longer a problem of unruly youths in that area.²³

"Planners are afraid of sacrificing aesthetics and marketability", states Desbiens. "If people want huge trees, huge trees are given to them. But is this responsible planning?"²⁴ He believes that creating

surveillance opportunities may run against aesthetics and, thus, become an obstacle for planners.

In Desbiens' opinion, there are a lot of benefits for preventing crime opportunities from the outset. He argues:

"When planning for a new development, there are a host of problems, such as pollution, noise, fire and health. But the police have no voice. The recommendations are very basic and understandable, yet not taken to heart".²⁵

The example Desbiens uses to illustrate this point is of Coquitlam's Medical Centre, built behind a 7-Eleven convenience store and near a school and park. The hospital was built, despite the RCMP's argument that there were no surveillance opportunities for the area, at the end of a dead-end street. Youths, who would assemble outside the convenience store, threw beer bottles and stones towards the hospital, breaking its windows, and littered the 7-Eleven parking lot. Operators of the convenience store, in consultation with the RCMP, erected a tall, cement wall in order to displace the litter problem and, thus, prevent youths from throwing debris in the direction of the medical centre. The litter problem moved to a townhouse development site after it was built close to the convenience store. The RCMP then stepped in to recommend the opening up of the roadway in order for through-traffic to act as a surveillance factor. "Band-aids are possible", says

Desbiens, "but the problems only grow. Mistakes do not have to be made, but they are".²⁶

Delta

Delta has an advisory design panel but police input is not requested by the panel. According to Special Project Technician Peter Repin, the planning department is concerned to a certain degree with CPTED, such as the location of children's play areas in apartment zones, but is more interested in compatibility---how a new development will fit in with the surrounding area.²⁷

At present, a member of Delta's crime prevention unit (CPU) sits on a staff coordinating committee, which also includes planners, engineers and the fire chief, in order to give recommendations for both residential and industrial settings. The recommendations, based on the law enforcement experience of the police officer, usually deal with target-hardening measures and suggestions for traffic flow improvements to the site. The Delta CPU receives plans for development from the planning department, and a police officer who has completed the Crime Prevention Practitioner's Course, goes to the location and makes recommendations based on personal experience.

Delta Police Chief George Angus states that the police department has had success in working with the planning department in the past, but he believes that planners should take more initiative and interest in crime

prevention.²⁸ The police force invited senior municipal personnel, members of council and crime prevention officers to view Newman's film, "The Writing On The Wall". Police officers and planners supported the CPTED concepts presented, but agreed that more information on CPTED must be made available before other programs can be developed.²⁹ Constable Jim Ingram argues that CPTED is successful in making people more aware of ways to prevent crime.³⁰

Municipality Of Langley

Langley, a rural community, has an advisory planning commission, with two RCMP officers, two aldermen, and five civilians from the community at large. But the APC is not part of the plan-approval process. The members of the committee are mainly concerned with the needs of the community. Designs for development are approved by planners, engineers and the fire chief.

Senior planner John Gerhearty insists that "crime is not a concern for the municipality because it is not a major problem".³¹ In his opinion, security aspects such as improving parking lot safety are non-quantifiable actions. In other words, they are a subjective appraisal on the part of the law enforcement official. Planners in Langley have attended seminars on security, presented by the Langley RCMP, and with their experience in site planning, Gerhearty believes that his department has ample knowledge of CPTED.³²

He contends that design panels would add costly time delays to the plan-approval process. He also believes that crime prevention measures will be ignored by the public because a trade-off between crime prevention and privacy is not desired. At present, a Langley bylaw states that there should be no screening of the front of a premise by trees or tall bushes. Only landscaping (grass) is permitted for front yards in order to improve opportunities for surveillance and fully display home addresses (to assist emergency vehicles). However, Gerhearty has found that people will generally do the opposite by planting trees and bushes, on the sides of their homes, which eventually grow to screen out part of the front view of the homes.³³

Constable Doug Hadley, of the Langley RCMP, had been a CPU member in Richmond, where he was responsible for overseeing the plans that were sent to him by the municipality's planning department. He was particularly concerned with access to building entrances, darkened areas and the crime rate for the locations in question. His recommendations were based on a combination of personal experience, personal knowledge of certain areas of town and the knowledge he gained from the CPTED course. The key, he believes, is to visualize the future impact that the development will make in the community. "Plans that come in may look good, but the person in CPU has to visualize how the development will look now and forty years from now",³⁴ he states. In Richmond plans for every new development are

submitted to the planning department and forwarded to the RCMP. Hadley is disappointed that this is not done in Langley and feels that community safety and security is ignored in the planning process.

Hadley admits that measuring the success of CPTED is very difficult because the RCMP officer in CPU can only advise. The final decision rests with the developer (or builder) and the municipality. Ideally, measuring CPTED would involve reviewing all approved rezoning applications and proposals for new development, investigating whether or not recommendations have been carried out, and checking the crime rate for areas where CPTED has been extensively incorporated in the design of buildings.

There is no record of success with CPTED in Langley. In Hadley's opinion, this is rather unfortunate because Langley is a growing community---a good example of where CPTED, if utilized, could yield the best results.³⁵

Maple Ridge

Maple Ridge is a rapidly growing municipality east of Greater Vancouver. In the early 1980s, city council was concerned with preventing crime because it was a young municipality with good opportunities to implement CPTED. The council minutes from the Mayor-In-Council meeting for May 12, 1980 bear this out:

Alderman Bates noted, that from the service committee meeting [of this date] it was pointed out, that there is need for

environmental protection in designing buildings and that the committee hoped that the architect engaged for the development of the town-core be cognizant of this information.

The Director of Planning, in company with Constable Elm, recently attended a seminar in Seattle on Environmental Design and Crime Prevention and brought back considerable information on the subject.

Moved by Alderman Bates, seconded by Alderman Franklin, that the architect for the municipal hall and/or any other municipal building be required to meet with the Director of Planning and a representative from the RCM Police in the preliminary stages of such design.³⁶

Subsequently, Maple Ridge Council approved the formation of a 'technical development committee' (TDC), chaired by the district's director of planning and attended by council members, engineers, planners and an RCMP officer. This multi-agency group reviewed all major proposed developments and advised the District on the implications for the community. However, the TDC was disbanded after a few years because its members lost interest. Since most of the concerns dealt with engineering and planning matters, the TDC was replaced by daily meetings between city engineers and planners. At present, any proposed development plan that requires the attention of law enforcement personnel is sent to the municipality's RCMP crime prevention unit as soon as the plan is submitted to the planning department by the developer. City council is responsible for approving all designs for proposed developments and if there are any further crime concerns that council members may have, the plan will again be

reviewed by the RCMP. Finally, the planning department is responsible for advising the developer on the recommendations forwarded by the CPU. For example, if the play areas for a proposed townhouse development cannot be easily surveilled, the developer will be informed.

According to the Director of Planning for Maple Ridge, Ron Boyes, "RCMP recommendations have nearly always been adhered to".³⁷

Boyes believes that planners have a knee-jerk reaction to the role that the police play.

"They think the RCMP is interested only in alarms, locks and lights. But this is not their approach at all. They look after some of the planners' duties".³⁸

For this reason, Boyes thinks that a course on CPTED for planners is a good idea.

Boyes attended the one-week course on CPTED in Sacramento (California) on the advice of Constable Ron Elm, who spearheaded CPTED in Maple Ridge. Elm felt that municipal planners, and certainly the Director of Planning, need to be knowledgeable of crime prevention. The course seemed "interesting" and the discussions were "lively", Boyes recalls, but the planning community was not well represented. Only Boyes, and two other planners attended the course. Nevertheless, he feels he has gained valuable knowledge from his experience in that he is now more aware

of the planning tasks that the RCMP are trying to accomplish.³⁹

Constable Elm, who was one of the instructors for the CPTED course offered by the RCMP, was also the police representative on the TDC. While on the TDC, his main concerns were 24-hour businesses, storefronts and gas stations, and paid particular attention to building location and use. He believes that architectural features are of secondary importance. As an RCMP officer for Maple Ridge, Elm is also responsible for policing the area of Pitt Meadows. He states that he is frequently asked to give recommendations for developments in Pitt Meadows. He recalls one example of a major proposed complex that was to house families in townhouses, senior citizens in a building closeby and single people in another building. The problem for Elm was how to best ameliorate interaction between these groups.⁴⁰ Elm believes that CPTED, which was openly discussed during the TDC meetings, has been successful in Maple Ridge. Not only were his recommendations adhered to by developers, but other members of the TDC became so knowledgeable on CPTED that Elm usually did not have to say a word at the meetings. Other members knew beforehand what the crime concerns were and what police recommendations would be. Elm states that

"...when the RCMP member only sits in his office and gives recommendations, it is not effective because he is not getting the message out to other people on the board. The situation for the RCMP in Coquitlam and

Richmond is mere tokenism. It is not effective because there is no ongoing discussion. It is a narration".⁴¹

Since there is no longer an ongoing liason between the crime prevention coordinator and the planning department in Maple Ridge, many applications for development are pre-screened from a CPTED perspective by the planning department's front-counter secretary, who had gained knowledge of the concept through her attendance of TDC meetings. A similar spin-off effect was reported by Corporal George Lein, Officer-In-Charge of the Prince George Detachment of the RCMP:

"My presence on the [advisory design] panel is very well received to the point that if I miss a meeting for some reason, other panel members consider CPTED problems".⁴²

Elm argues that the major goal of CPTED is "consciousness raising". The educators should present and educate the skill of CPTED awareness".⁴³ Furthermore, he does not think that the police should act in an authoritarian manner, or have specific CPTED legislation to back up their recommendations. "I have managed to operate without an act",⁴⁴ he reiterates.

Finally, in Elm's opinion, CPTED training for planners and law enforcement officers should occur separately, with subsequent joint-seminars in order to establish a better association between the professions and a good understanding of crime prevention planning.

New Westminster

Although there are no police officers taking part on New Westminster's Planning Advisory Commission, police personnel are, from time to time, approached by the planning department on matters related to crime prevention. In one case, statistics were needed from the police department for correlating the nature of crimes occurring in the city's downtown to the distance travelled by the city offender from his home to the scene of the crime. No direct correlation was found as many criminals came from Surrey and Coquitlam, with crimes taking place in underground garages. In another case, the New Westminster Police Department was asked to consult planners and project managers with regards to the multi-million dollar development along the city's waterfront, and recommend changes to the development plans consistent with CPTED principles. However, council members subsequently ignored the recommendations and refused to believe that the proposed changes would save tax dollars and reduce crime.⁴⁵

Community planner Al Ing states that a planner's priorities should be concerns over aesthetics, cost, transportation networks and compatibility of a proposed major development.⁴⁶ In this way, it is hoped that citizens will take pride in their city and not engage in criminal activity. He adds that even though planners are not trained in CPTED, they feel as if they have enough planning

experience to be cognizant of crime prevention measures. He uses the example of the planners' lack of attendance at a CPTED presentation sponsored by the police department three years ago, to characterize the planning department's lack of commitment to CPTED. In his view,

"CPTED has now, it seems, been pushed on to the police department. As a result, the police are left with trying to convince others of the importance of grouping buildings, lighting, open spaces, etc...⁴⁷

Constable Bob Reilly, of the city's police department, states that the police would like to have some authority for approving building plans, similar to the authority given to the fire chief. He maintains that there should be some legislative criteria for deadbolt locks, types of doors, hardware and closed-circuit television surveillance systems. Being responsible for reviewing building permits would allow the police to contribute their law enforcement experience.⁴⁸ He firmly believes that police-recommended changes to a site after the development of the project, are a mistake because they will be too expensive. Changes after-the-fact may require shifting the locations of trees, lighting and access to entrances.

"Planners should know more about CPTED", states Reilly, "but at the same time, CPTED still requires police input in the planning process".⁴⁹ He believes that the problem for the RCMP at present is the high turnover rate

within the law enforcement agency.

"The RCMP course [on CPTED] is considered to be a good course, but if you do not make use of the knowledge all the time, it may be useless."⁵⁰

District Of North Vancouver

In 1983, in North Vancouver, the mayor of the city wanted someone on the municipal staff to be trained in CPTED. Community planner Paul Hallum expressed an interest and, along with Corporal Don Jette of the North Vancouver RCMP, completed the intensive RCMP course. In the following year, two more planners (on a staff of twenty) were trained in CPTED. When a new mayor was elected, CPTED was no longer of interest to the local government. Additionally, the director of planning, Hallum states, "is not enamoured with CPTED and, thus, gives little input and backing on the matter".⁵¹ Community planners are uncertain whether the Director would like them to know more about crime prevention.

Currently, plans submitted to the planning department by developers are reviewed by Hallum and further reviewed by Corporal Jette on the Advisory Design Panel (District of North Vancouver), before they are sent to the Advisory Planning Commission (City of North Vancouver), where Jette is also a member. Both planner and RCMP officer try, albeit subjectively, to make improvements to lighting,

surveillance, fencing , landscaping and pedestrian accesses in order to prevent criminal opportunities. Opportunity crimes, states Hallum, account for 75 to 85 percent of all crimes in North Vancouver.⁵²

One example that Hallum uses to illustrate CPTED is the Indian River Cooperative housing project, where development has been ongoing for two years. The Cooperative, with tall trees and bushes around it, was properly planned, according to CPTED principles, except for pathways connecting the houses. Even though pathways are not part of the accepted principles of CPTED, Hallum and Jette decided to use them. Their reasoning was that if someone wants to hide behind the bushes, it will not matter that there are pathways to the site. Thus, "there is a limit to CPTED". Planning must be done "according to what the environment prescribes", states Hallum.⁵³ But, he and Jette made changes to the entrances of the homes by moving them to the opposite side so that they did not face the bushes.

Hallum believes that in order for CPTED to be successful, it must be continually used as a planning program. The results, however, are never instantaneous.

"When you replace entrances [for Indian River Co-op], you then have to play a game of 'wait and see'. You need to wait quite a few years to see the [crime] trends".⁵⁴

The planning department and the RCMP in North Vancouver currently keep an "I-told-you-so-file" for a future review of specific developments, where CPTED principles have been incorporated, in order to analyze trends in the crime rate. Hallum believes that "CPTED will never cure the crime problem. If it keeps displacing crime, maybe it will displace it until it is totally removed".⁵⁵

Additionally, he maintains that what CPTED needs now is more interest shown by the private sector and universities to encourage municipalities to learn more about crime prevention. There does not necessarily need to be police input in CPTED, he stresses.

Corporal Jette, who can only recommend changes to plans, saw the need to take the CPTED course because of his role in the crime prevention unit. The course was extremely useful to him, because he is responsible for reviewing applications for rezoning, building permits and plans for renovation and landscaping. He feels that CPTED has taught him to look at buildings from a different point of view. Before, he had knowledge of target hardening through his experiences in crime prevention. Now, he is "more aware of environmental aspects, including the little things such as changing the paving material for pathways".⁵⁶

However, it took time for Jette to gain the credibility and approval of the design panel and commission, because of his lack of experience in planning. "Planners do not appreciate policemen coming in and telling them what to

do and how to do their jobs", he says.⁵⁷ For this reason, he would like to see CPTED training take place at the university level for planners, architects and landscape architects.

Although he admits that the success of CPTED is difficult to measure, he has also noticed that CPTED knowledge creates crime prevention "awareness", which can work to reduce the fear of crime. The engineers, architects, landscape architects, developers, building contractors, and representatives of the business community whose plans are reviewed by Jette, will get to know more about CPTED. In his example he states how a local architect, after having his designs rejected a number of times for security reasons, is now implementing practical CPTED principles into his own original drawings. "This will eventually make the plan approval process much easier for the community", states Jette.⁵⁸ He also notes that landscape architects are now more concerned about how lighting levels, shrubbery and landscaping relate to crime prevention.

Richmond

The municipality of Richmond has an advisory design panel, made up of thirty citizens chosen from the community at large, but the RCMP is not represented. Rather, when applications for rezoning and development plans are received by the Richmond planning department, they are sent to Constable Rick Bouter in CPU. The applications, complete

with CPTED recommendations, are later returned to the planning department. "The police are most concerned about multi-family developments", states planner Wayne Robertson.⁵⁹

Bouter was interested in taking the CPTED course because, as member of his detachment's CPU, it was important for him to have this training. He states that there are two processes present for reviewing plans. First, he receives the proposals from the planning department and personally inspects the site. For each application, he must also check the crime statistics, kept by the CPU, and review the crime trends dating back several years. From his site inspection and crime data, he then reviews the proposals and, paying particular attention to accesses, fencing, shrubs and lighting, makes his recommendations, which the developer need not necessarily follow. Secondly, when a homeowner or entrepreneur proposes a new development or is experiencing crime problems at his home or business (e.g. break-and-enter), Bouter may be approached directly by him in order to recommend appropriate crime prevention measures. This often leads to his involvement with Neighbourhood Watch and other public relations programs which have been offered by the RCMP over the past ten years.⁶⁰

According to Bouter, people are not concerned about crime, or protecting themselves, until they have been

victimized. In his words:

"It is frustrating sometimes that my recommendations are not followed up, but you cannot force the developer to make the changes. When crime does occur, then the developer comes calling on the police".⁶¹

As a possible solution, Bouter would like to see that all recommendations not honoured by developers be reviewed by insurance companies to stipulate certain conditions (e.g. higher premiums) on insurance policies.

Bouter likes the CPTED course because he has learned the technical terms for dealing with experts in the field of lighting, landscaping and architecture. He believes that although a lot of what CPTED has to offer is common sense, the course has made him much more aware of the physical design problems. The Richmond RCMP have also been active in CPTED by sponsoring seminars to members of the local government from Richmond and the surrounding municipalities and inviting guest speakers, such as Jim Wise and Richard Gardiner, to promote CPTED.

Surrey

In Surrey, an RCMP representative on the advisory design panel is involved in overseeing safety and security aspects, such as proper target-hardening measures and adequate lighting. Surrey planner Andrew Malczewski states that it is very difficult to accomplish an evaluation of

CPTED. In his words:

"Technical committees are well aware of 'defensible space', lighting and fencing. However, nobody has done any research on whether crime preventive recommendations of the past have been effective".⁶²

Malczewski believes that although it is very important for planners to know about CPTED, it would only be one of the matters that planners must deal with. In his opinion, CPTED is better handled through technical committees.

RCMP Sergeant Mike Clark, as a former member of the Surrey ADP, reviewed plans for all structures that were to be built in the municipality. His recommendations then needed to be approved by council. On rare occasions, Clark was also asked directly, by developers, for crime prevention analyses of their proposals.

Clark finds that the course has helped him identify potential planning problems at the blueprint stage. He states:

"The course does not give a 'cook book' approach to solving problems. This is done by engineers and planners. The course is also effective in that it will show the RCMP officer that crime does have patterns and that it is predictable. It will alert the officer on the generators of crime and force him to back track to the blueprint, the root of a problem".⁶³

Additionally, he feels that CPTED has been successful for giving credibility to the officers sitting on the advisory design panel. Police officers, in his opinion, will make more convincing arguments because of their knowledge of

technical terms for lighting and landscape architecture, and their ability to converse with 'experts' in these fields. Thus, the major hurdle that the person trained in CPTED must overcome is becoming familiar with the technical aspects of the concept.

Clark believes that CPTED will not lead to a large decrease in crime.

"What tends to happen is that crime becomes displaced. What it does do effectively is it makes the potential victim less likely to be the burden of opportunistic crimes. It definitely has an impact on the target".⁶⁴

Vancouver

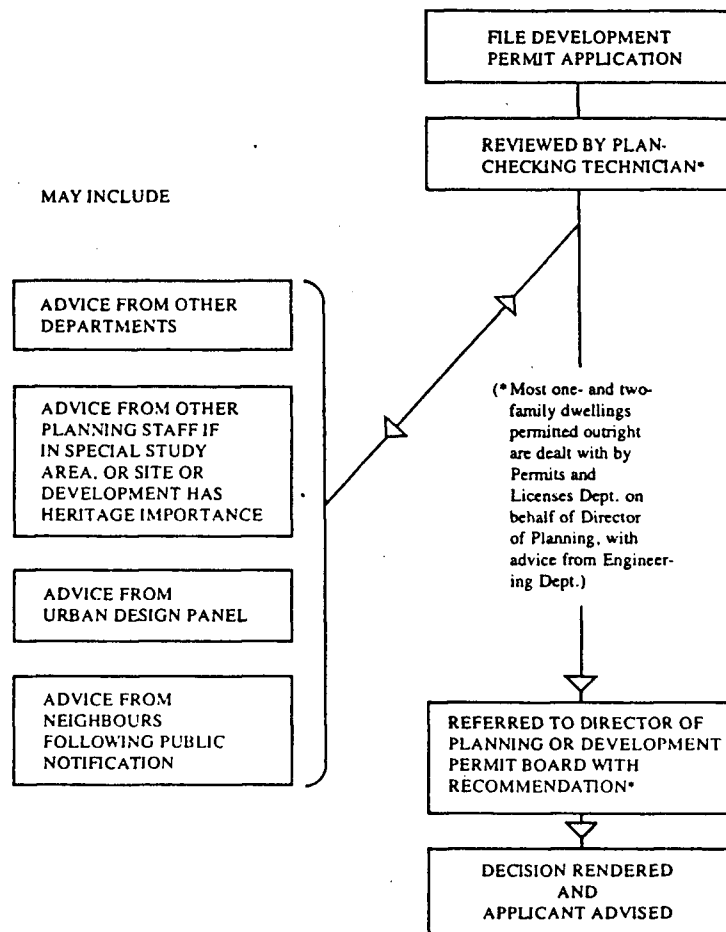
In Vancouver, the process which most zoning and development permits go through is shown in simplified form in Figure 7.

For applications regarding small development, the plan-checking technician (or plan checker) conducts most of the review process. The plan checker:

- considers the proposed use(s) and all applicable regulations, plans, policies and guidelines;
- reviews the dimensions and calculations shown on the drawings;
- obtains advice from other city departments, planning staff, Urban Design Panel and the public as required; and
- refers the application, with recommendations, for decision.⁶⁵

Figure 7

VANCOUVER'S APPROVAL PROCESS FOR ZONING AND DEVELOPMENT PERMITS



(*Many simple applications are referred directly to the Supervisor, Development Permit Group, for decision (on behalf of the Director of Planning). Certain of these applications, including simple changes of use not requiring parking or loading relaxations, are expedited through the process. Applications for large-scale or contentious developments are referred to the Development Permit Board for decision).

FROM City of Vancouver, Zoning and Development Permits in Vancouver (Vancouver: City of Vancouver, May 1985), n.p.

Such applications are ordinarily decided by the Director of Planning or the Supervisor, Development Permit group or, in the case of most one- and two-family dwellings, the Director of Permits and Licences.

Applications involving large-scale or contentious developments are ordinarily decided by the Development Permit Board, although the Board, once having given approval in principle to a preliminary application, may, on occasion, delegate the final decision on the complete application to the Director of Planning.⁶⁶

According to Douglas Purdy, Deputy Director of Social Planning, security standards---as for underground parkades---have been incorporated into the bylaw and enforced by plan-checkers, development staff, the Development Permit Board and Permits and Licenses staff through the development permit process. In a letter he states:

Technically, further police involvement is not necessary. [Police involvement] apply to commercial and residential buildings. However, the one gap in the process is in the inspection process. Changes occur between the development permit and building permit stages. A developer can, and I presume does on occasion, slip through this net of approvals to avoid doing what he is required to do.⁶⁷

Purdy goes on to say that if it is recognized that potential criminal opportunities may be present in a plan, plan-checkers will notify an officer in the police department, who is responsible for giving recommendations on

development plans. This occurs frequently for developments such as liquor outlets, pubs and night-clubs.

The police department is also consulted on planning for larger projects or areas, such as Expo and B.C. Place (North Park). Purdy states:

"Their input at the macro-level is important and does occur. At the micro-level of development by the development approvals, safety and security provisions are built into the bylaws...Police also have brochures they provide to commercial and residential developers on how to create a safer, more burglar-proof environment. Some are bylaw requirements, others are advice to be taken or ignored.⁶⁸

In his concluding remarks, Purdy notes that

"...security provisions in the planning process seem to be adequate and are reasonably well addressed. That is not to suggest that improvements cannot be made or are unnecessary. I believe the major security issues have been or are being addressed in a reasonably coordinated fashion. I am unaware of a hue and cry from the public or the architectural or development community seeking more stringent or additional measures".⁶⁹

Purdy's beliefs are indeed shared by some architects and planning consultants in the city. Ron Dies, an architect with Zoltan Kiss and Harrison, states that the "perception of crime in Vancouver is not great", but acknowledges that in general architects and planners are responsible for the rise in crime.⁷⁰ Dies claims that his firm has, on occasion, used private consultants to oversee the security matters for proposed building development. He believes that although he is quite aware of security

considerations, he must do what his client wants, even if it means trading off security for privacy or aesthetics.

Jim Moodie, a planning consultant, similarly feels that he knows enough about 'surveillance' strategies, and is not in favour of a CPTED-trained person reviewing plans "because there are already too many steps in order to obtain plan approval". He states:

"There are too many concerns with fire and engineering aspects that cause enough problems already. Besides, the social planning department reviews the development permits and is concerned about crime".⁷¹

In his work, Moodie maintains that he is considerate of a particular environment, but not to the point of finding out what the crime rate is for the area. "Personal perceptions and knowledge of the area plays a key role".⁷²

Wilfred Buttjes, the senior partner of Buttjes and Associates, argues that as an architect he is not forced by federal, provincial or municipal laws to implement CPTED in his work. Since the National Building Code of Canada only deals with health, fire and structural safety, he does not feel compelled to use CPTED strategies unless his clients request them to be implemented.⁷³

On the other hand, those in the design profession, and with knowledge of CPTED, prefer a security review of plans. Jane Durante, a landscape architect, states that although she uses CPTED principles in her work (real and symbolic barriers, surveillance strategies, good lighting),

she favours a CPTED review of her plans as part of the plan-approval process.⁷⁴ Don Vaughn, who is also a landscape architect and instructor of the RCMP course on CPTED, believes that

"...if you give an architect some room, it will allow him to be an artist. He will be innovative and forget about security".⁷⁵

In his opinion, there is a problem with the lack of knowledge of CPTED on the part of architects and planners. This problem, he says, stems from a lack of communication between the police and RCMP departments in Vancouver and the city's planning department.

White Rock

In White Rock, an RCMP officer presently takes part on the advisory design panel and overlooks the security considerations in development plans. "This review occurs generally late in the planning process", states planner Dan Janczewski. "After the RCMP have made their recommendations, planners will need to review those recommendations".⁷⁶ He believes that planners do know about CPTED, but are not immediately familiar with the principles of the concept. In his words:

"It would be useful for planners to know more about the content of CPTED. Then the planner and policeman can understand each other much better".⁷⁷

However, he remains skeptical that community planners will immediately accept the concept because, in his view, it still remains to be seen whether CPTED is effective in preventing crime.

Staff Sergeant Stan Nowicki states that his main duties, while on the design panel, are to review plans in terms of "the vulnerability of an area to crime", and then to "give his suggestions based on the type of area it is".⁷⁸ The plans he sees are for the construction and renovation of apartments and commercial buildings. He believes that the course offers a lot of common sense strategies, for preventing crime, that the officer may already be familiar with from his law enforcement experience. However, CPTED does serve to make the officer more aware of the opportunities for crime in the existing or proposed environment. Additionally, Nowicki presently discusses CPTED strategies as part of his public relations duties.

Summary Of CPTED Projects Around The Province

Tumbler Ridge

In November 1984, the title of an article appearing in the Journal of Commerce read: "Crime Prevention Through Environmental Design Gaining Acceptance".⁷⁹ It featured a story on the implementation of CPTED in the planning of a town in British Columbia, called Tumbler Ridge. Tumbler Ridge was founded in early 1981 in response to mining

operations in the northeast area of the province. Federal, provincial and municipal agencies, developers, planners and members of the RCMP, and Simon Fraser University formed a planning committee to determine the feasibility of designing and constructing the new town incorporating CPTED principles.⁸⁰

In planning the town, peoples' needs were given priority consideration. Thought was also given to the effects of rapid growth on the future residents of the community and the placement of social facilities such as daycare centres and recreational areas. CPTED strategies, including access control, street layout, surveillance opportunities and target-hardening were taken into account in planning the town site. The concept of community-based policing was also applied. RCMP personnel were asked to identify crime problem areas and make recommendations on how to reduce or eliminate opportunities for crime.⁸¹

Due to immediate construction demands and the high cost of some recommendations, not all facets of the community were constructed using CPTED principles. As a result, evaluation of the effects of the CPTED principles on the town's crime rate will be more difficult than initially envisaged. Since no other community could be found to provide comparative data and because the RCMP did not receive sufficient funding, it was decided to forgo the evaluation and have a summary report prepared. This report will be completed and released at a later date.⁸²

Langford-Colwood

Langford and Colwood are two incorporated communities located on the urban fringe of Greater Victoria. The Capitol Regional District has demonstrated its concern for community security by the appointment of an RCMP representative to the Langford-Colwood Advisory Planning Commission four years ago. The principle duties of this commission include making recommendations to council on the implications of planning-related issues, specifically development permits and zoning bylaws. The influence of the police representative on other board members has been noticeable; they have integrated CPTED principles with their concerns for design quality and appropriateness.⁸³

Other communities in B.C. where the RCMP have actively promoted CPTED to advisory planning commissions are Prince George, Nanaimo, Victoria, Vernon, Kamloops, Cranbrook and Saanich.⁸⁴

Matsqui

Matsqui was one of the first communities in B.C. to initiate police input in community planning. Planners, in consultation with the police, have revised zoning drafts and plans for multi-family housing, and proposed amendments to the zoning bylaw, mainly for security and safety purposes.

The changes include:

- (1) improved lighting for above ground and underground parking;
- (2) security of underground parking areas through the installation of automatic sliding doors;
- (3) play areas for children living in apartment buildings (These areas must be isolated from traffic thoroughways and must be located in such a manner as to allow for casual surveillance).⁸⁵

These changes, which follow CPTED principles, have yet to be approved by Matsqui Council.

Burnaby

Although there is currently no active RCMP involvement in planning for Burnaby, several studies on the Environmental Design and Management (EDM) approach to crime prevention have been conducted in the municipality. In 1981, the Cornerstone Planning Group concluded an extensive EDM analysis of crime data. The data were collected through interviews, field observation, and a review of available report and RCMP file material. Case study crime locations were then selected on the basis of police perceptions of high and low areas. The conclusions reached suggested that

"...high crime areas have the following factors in common:

- they are located adjacent to major traffic arteries;
- they are divided by traffic arteries or traffic flows;
- they have easy access into the area from any

direction and easy movement through the areas---the street pattern in all areas is based on the grid; and
 ---they have traffic generators---malls, commercial streets, liquor outlets, etc...

As well, [these] areas have high population densities coupled with high transiency pockets".⁸⁶

On the other hand, features common to the low crime areas are:

---"socio-economic uniformity;
 ---lack of easy access to the residential core; and
 ---no commercial developments".⁸⁷

Broad crime prevention programs, such as Block Parents, Neighbourhood Watch and police involvement in city planning were then suggested. Furthermore, results from a questionnaire administered to RCMP personnel suggested that the following EDM strategies are considered to have the greatest effectiveness against the listed crimes:

---Hardware strategies are effective against Break-and-Enter, Vandalism and all thefts.
 ---Physical design strategies are effective against Break-and-Enter, Assaults and all thefts.
 ---Social organization strategies are effective against Break-and-Enter, Vandalism, Assaults, all Thefts, and Assistance occurrences.⁸⁸

Three years later, Professor James W. Wilson, from SFU, supervised a student project on the same areas in Burnaby as were analyzed by the Cornerstone Planning Group. The study concludes with some recommendations for applying EDM strategies to existing environments. Wilson's approach

is as follows:

1. Analyze the crime situation: Who is doing what to whom? Where, and from what points or origin (generation)? At what times? Approaching and escaping how?
2. What physical elements (land uses, buildings, streets, alleys) are involved and what is it about them that permits the crime to take place?
3. What solutions are available to change the physical environment?
4. How would these solutions support or facilitate management by police and others?
5. Evaluate the solutions/changes in relation to other urban objectives. For example, accessibility, appearance, privacy and cost-effectiveness, recognizing the various parties involved in these considerations.
6. Consult parties affected by changes.
7. Make recommendations.⁸⁹

He then argues that if EDM is to have any effect, the mechanisms available for implementation would include:

- (1) building inspection (the applicable strategies are target-hardening, vandal-proofing and detection hardware).
- (2) subdivision control (the applicable strategies are those governing street-cum-lotting patterns, and it is noted that the Municipal Act gives the Approving Officer both authority and a degree of discretion in determining 'the public interest').
- (3) land use planning (zoning bylaw, community plan, comprehensive development, maintenance bylaw).
- (4) Other Powers (control of business licences, provision of incentives---e.g. fee reduction---for developments which include approved EDM measures in their design).⁹⁰

Richmond

In 1984, a study by the Octagon Consulting Services attempted to investigate the relative impact of environmental/structural housing features and the socio-demographic character of the development on crime by examining thirty-four housing developments selected from high, medium and low crime areas of Richmond. For each development, data was collected on housing type and site characteristics, vehicle and pedestrian patterns, type of parking, landscaping features, lighting type and quality, surveillance opportunities, privacy barriers, type of management, type of resident population (age, SES, density, length of occupancy) and type of security and management policies employed. Data were obtained from the Richmond RCMP on the exact number and type of crime problems experienced by each development during the period February 15 to December 31, 1983. Contingency analysis was conducted between each variable and total number of crimes per 100 units per development.

The findings of this study are inconclusive primarily because the multitude of environmental and socio-demographic factors are complicated and highly inter-related. Thus, it is impossible to depict predictive relationships between any single factor, or couple of factors, with crime.⁹¹

The strongest statistically significant

relationships are found between socio-demographic factors and crime. Age and type of resident are correlated with the crime rate per 100 units per housing development. Buildings with young adult residents have a higher crime rate than buildings with seniors or families. The environmental design features such as lighting, defensible space and use of symbolic barriers (CPTED) are not significantly related to the overall crime rate per building. However, the study shows a very strong relationship between theft from autos and the type and surveillability of the parking areas".⁹²

CPTED In B.C. Has Generated Interest Across Canada

Despite the inconclusive evidence produced by studies on Crime Prevention Through Environmental Design in B.C., the RCMP course on CPTED has been so popular among law enforcement officers that the police forces in Calgary, Edmonton and Regina have requested positions, for their own members, on the course. Furthermore, because of the CPTED research that has taken place in B.C., more interest has been generated on the topic in other parts of Canada. For example, some universities---University of Alberta, Carlton University and the University of Ottawa---have recently offered CPTED courses. Additionally, more cities have experimented with CPTED principles in community planning.⁹³

The Regina Police Service, in cooperation with the Regina City Planning Department, has been implementing CPTED

since January 1984. Proposals for renovations or new buildings, submitted to the planning department by developers and builders, are forwarded to CPU. The police are also invited to participate at selected city planning meetings, to ensure that safety, security and crime prevention considerations are implemented into designs at the planning stage.

ENDNOTES

¹Vancouver Charter, S.B.C, c. 55, Part IX, s. 306(a), 1953. P. 93.

²Steven Gertsman, as quoted at British Columbia Institute of Technology workshop (on the Knowledge Network), "The Building Code: Crime Prevention Through Environmental Design". Burnaby: 'E' Division (RCMP), Ministry of Municipal Affairs (Building Standards Branch), and British Columbia Housing and Management Commission, July 17, 1980.

³Personal correspondence with G. Douglas Purdy, Deputy Director of Social Planning for the City of Vancouver. 27 August 1986.

⁴Purdy, personal correspondence. 28 August 1986.

⁵Purdy, personal correspondence. 28 August 1986.

⁶British Columbia Municipal Act, R.S.B.C., c. 290, s. 716(2), 1979. P. 201.

⁷Ian Rogers, The Law of Canadian Municipal Corporations (1959), as quoted in "Selected Readings in Law for Local Public Administrators", ed. by William T. Lane (Vancouver: University of British Columbia, 1986), p. VI-8.

⁸Gary Paget, "Crime Prevention Through Environmental Design: A Local Government Perspective" (Victoria: Ministry of Municipal Affairs. Prepared for the B.C. Crime Prevention Association, Annual Workshop and General Meeting, October 25-26, 1983), no page.

⁹Elise Clark, Kelowna Alderman, "CPTED---To Lower Policing Costs", The Daily Courier, November 26, 1983. P. 1.

¹⁰Paget, n.p.

¹¹An Advisory Planning Commission (APC) oversees the development of the community, area by area. All community plans, such as schools, parks, and recreation facilities are reviewed by the APC to determine the location for such developments.

The APC can have a major impact on 'paths of convenience'--- the route travelled by people to and from drawing points (schools, arcades, recreation centres, dance halls, stadiums, etc.).

An Advisory Design Panel (ADP) oversees the final plans on all buildings and subdivisions. The ADP is not as effective as the APC as the scope tends to be much narrower--- analyzing specific single buildings.

From notes of Sergeant M. J. Clark (RCMP), "Basic Knowledge of CPTED Concepts". Notes on presentation of CPTED to students of the RCMP course on CPTED (Vancouver: Royal Canadian Mounted Police, Headquarters, 1984), no page.

¹²The Corporation of the District of Burnaby, Bylaw No. 7600, "Burnaby Advisory Planning Commission Bylaw, 1980". A Bylaw to establish an advisory planning commission pursuant to section 715 of the Municipal Act, R.S.B.C., 1979. 1 December 1980. Page 1.

¹³Interview with Jack Balhouse, Planner for Municipality of Burnaby. 7 August 1986.

¹⁴Balhouse, interview. 7 August 1986.

¹⁵Interview with Sergeant Ron Khlon. Burnaby Detachment of the RCMP. 25 August 1986.

¹⁶Khlon, interview. 25 August 1986.

¹⁷Interview with Sergeant Eric Ledwon. Burnaby Detachment of the RCMP. 27 August 1986.

¹⁸Interview with Corporal Les Forsythe, Officer-In-Charge of the Burnaby Detachment of the RCMP. 27 August 1986.

¹⁹Interview with Constable Paul Desbiens. Officer-In-Charge of the Coquitlam Detachment of the RCMP. 12 August 1986.

²⁰Desbiens, interview. 12 August 1986.

²¹Desbiens, interview. 12 August 1986.

²²Marilyn Ashmore, "Police Involvement and their Major Needs in the Area of Crime Prevention Through Environmental Design in British Columbia" (Vancouver: Consultation Centre, Ministry of the Solicitor General of Canada, 1982), p. 7.

²³Desbiens, interview. 12 August 1986.

²⁴Desbiens, interview. 12 August 1986.

²⁵Desbiens. interview. 12 August 1986.

²⁶Desbiens, interview. 12 August 1986.

²⁷Interview with Peter Repin, Special Project Technician for the Municipality of Delta. 6 August 1986.

²⁸Interview with George Angus, Police Chief for Delta. 11 August 1986.

²⁹Ashmore, pp. 22-23.

³⁰Interview with Constable Jim Ingram, Delta Police Department. 11 August 1986.

³¹Interview with John Gerhearty, Senior Planner for the Municipality of Langley. 6 August 1986.

³²Gerhearty, interview. 6 August 1986.

³³Gerhearty, interview. 6 August 1986.

³⁴Interview with Constable Doug Hadley, Langley Detachment of the RCMP. 13 August 1986.

³⁵Hadley, interview. 13 August 1986.

³⁶Minutes from the Mayor-In-Council meeting in Maple Ridge for May 12, 1980 read by Constable Ron Elm, Maple Ridge RCMP, at the BCIT workshop on July 17, 1980.

³⁷Interview with Ron Boyes, Director of Planning for the District of Maple Ridge. 5 August 1986.

³⁸Boyes, interview. 5 August 1986.

³⁹Boyes, interview. 5 August 1986.

⁴⁰Interview with Constable Ron Elm, Maple Ridge Detachment of the RCMP. 22 August 1986.

⁴¹Elm, interview. 22 August 1986.

⁴²Personal correspondence with Corporal George D. Lein, Officer-In-Charge of the Crime Prevention and Community Policing Unit of the Prince George Detachment of the RCMP. 25 August 1986.

⁴³Elm, interview. 22 August 1986.

⁴⁴Elm, interview. 22 August 1986.

⁴⁵Ashmore, p. 22.

⁴⁶Interview with Al Ing, Community Planner for the City of New Westminster. 6 August 1986.

⁴⁷Ing, interview. 6 August 1986.

⁴⁸Interview with Constable Bob Reilly, New Westminster Police Department. 14 August 1986.

⁴⁹Reilly, interview. 14 August 1986.

⁵⁰Reilly, interview. 14 August 1986.

⁵¹Interview with Paul Hallum, Planner for the Corporation of the District of North Vancouver. 12 August 1986.

⁵²Hallum, interview. 12 August 1986.

⁵³Hallum, interview. 12 August 1986.

⁵⁴Hallum, interview. 12 August 1986.

⁵⁵Hallum, interview. 12 August 1986.

⁵⁶Interview with Corporal Don Jette, North Vancouver Detachment of the RCMP. 25 August 1986.

⁵⁷Jette, interview. 25 August 1986.

⁵⁸Jette, interview. 25 August 1986.

⁵⁹Interview with Wayne Robertson, Planner for the Municipality of Richmond. 6 August 1986.

⁶⁰Interview with Constable Rick Bouter, Richmond Detachment of the RCMP. 18 August 1986.

⁶¹Bouter, interview. 18 August 1986.

⁶²Interview with Andrew Malczewski, Planner for the Municipality of Surrey. 5 August 1986.

⁶³Interview with Sergeant Mike Clark, RCMP member of the British Columbia Justice Institute. 20 August 1986.

⁶⁴Clark, interview. 20 August 1986.

⁶⁵City of Vancouver, *Zoning and Development Permits in Vancouver* (Vancouver: City of Vancouver, May 1985), no page.

⁶⁶City of Vancouver, *Zoning and Development Permits in Vancouver*, n.p.

⁶⁷Purdy, personal correspondence. 27 August 1986.

⁶⁸Purdy, personal correspondence. 27 August 1986.

⁶⁹Purdy, personal correspondence. 27 August 1986.

⁷⁰Interview with Ron Dies, Architect with Zoltan Kiss and Harrison in Vancouver. 9 July 1986.

⁷¹Interview with Jim Moodie, Planning Consultant with Jim Moodie Consultants in Vancouver. 10 July 1986.

⁷²Moodie, interview. 10 July 1986.

⁷³Interview with Wilfred Buttjes, Architect with Buttjes and Associates in Vancouver. 14 July 1986.

⁷⁴Interview with Jane Durante, Landscape Architect with Vaughn and Durante Landscaping in Vancouver. 8 July 1986.

⁷⁵Interview with Don Vaughn, Landscape Architect with Vaughn and Durante Landscaping in Vancouver. 20 August 1986.

⁷⁶Interview with Dan Janczewski, Planner for the City of White Rock. 5 August 1986.

⁷⁷Janczewski, interview. 5 August 1986.

⁷⁸Interview with Staff Sergeant Stan Nowicki, White Rock Detachment of the RCMP. 11 August 1986.

⁷⁹"Crime Prevention Through Environmental Design Gaining Acceptance". Journal of Commerce. November 19, 1984. P. A5

⁸⁰Royal Canadian Mounted Police, *Reduction of Opportunity for Crime: Handbook for Police Officers* (Ottawa: Royal Canadian Mounted Police, 1985), p. 22.

⁸¹RCMP, *Reduction of Opportunity for Crime: Handbook for Police Officers*, p. 22.

⁸²RCMP, *Reduction of Opportunity for Crime: Handbook for Police Officers*, p. 22.

⁸³Ministry of Municipal Affairs and the Royal Canadian Mounted Police, "Crime Prevention Through Environmental Design: References for Local Government" (Victoria: Province of British Columbia. Prepared for Municipal Officers Association of B.C. Annual Conference, Prince George, June 1-3, 1983), no page.

⁸⁴Ashmore, pp. 3-29.

⁸⁵Ashmore, p. 33.

⁸⁶Cornerstone Planning Group, "Crime Prevention Through Environmental Design and Management: Case Study, Burnaby, B.C." (Vancouver, B.C.: Cornerstone Planning Group, April 1981), p. 48.

⁸⁷Cornerstone Planning Group, p. 58.

⁸⁸Cornerstone Planning Group, p. 82.

⁸⁹James W. Wilson, "Planning Safer Communities: An Exploration in Burnaby, B.C." (Burnaby: Simon Fraser University, 1984), p. 44.

⁹⁰Wilson, "Planning Safer Communities", p. 44-46.

⁹¹Octagon Consulting Services, "Crime Prevention Through Environmental Design in Multi-Family Housing, Richmond, B.C." (Ottawa: CMHC External Research Program, August 1984), p. 38.

⁹²Octagon Consulting Services, p. 38.

⁹³Interview with Norm Brown, Crime Prevention Coordinator for Police Services Branch, Ministry of the Attorney General in Vancouver. 31 July 1986.

CHAPTER FIVE

ANALYSIS OF FINDINGS

From the main findings presented in the two preceding chapters, this chapter critically analyzes the study and practice of CPTED in British Columbia.

The Study Of CPTED

Problems With The Theoretical Aspects

According to architect Richard Rabnett, CPTED principles have gone...

"almost as far as they can until additional research is carried out. We're at a crossroads now with regard to some of our basic generalizations. We are not totally sure they are correct. We need some new tools, some new approaches to the problem".¹

But, present conditions suggest that the theoretical aspects of CPTED are not immediately acceptable to planners. The perceived problems can be summarized as follows:

1) There is no evidence that changing a neighbourhood's physical environment will successfully reduce the crime rate. "Evaluation is tricky", admits Rabnett. For a town built with crime prevention principles in mind, "you would have to build a new town without CPTED principles and compare them".²

2) CPTED objectives often conflict with planning concerns, a point which is seldom brought up by CPTED enthusiasts. CPTED principles may run contrary to concerns over aesthetics, access and mobility, fire safety and cost-efficiency, as mentioned by planners in this study. Furthermore, examples used in CPTED courses are usually not presented with the argument that priorities must be established between crime prevention and other planning concerns.

3) There is a low level of perceived need and a lack of detailed data on the actual need of CPTED in the province. Although supporters of CPTED maintain that design principles to reduce crime opportunities will be worthless if crime becomes a serious problem, the general belief among those in the planning and design profession is that there is little need for crime prevention because the seriousness of crime in Canadian cities is not comparable to the levels of crime in large U.S. cities.

4) The effective application of the approach is difficult. CPTED requires not only a careful analysis of the existing or potential crime problem and of the relevant environmental factors, but it also demands the involvement of a range of individuals and organizations---especially citizens and the police. Moreover, many of the design strategies can be expensive to implement in existing structures.

5) Planners and architects argue that standards,

such as residential building guidelines, are needed before the concept can be given some recognition.

6) Planners have mistaken CPTED as focusing on a 'fortress' mentality, because the concept has been strongly supported by law enforcement agencies.

7) CPTED has often been presented and interpreted as a 'single approach' to the prevention of crime.

For all the noted reasons, CPTED information continues to gain minimal attention by planning schools and professional planners.

Insufficient Channels Of Communication

Although CPTED is supposed to function as an "awareness" program, the communication channels in B.C. are not sufficient at the present time. There are many reasons which help to explain the insufficient education of CPTED for planners in B.C.

1) There is a serious lack of commitment on the part of the traditional knowledge sources, such as public educators. At UBC, the School of Community and Regional Planning and the School of Architecture rejected proposals, from the RCMP, the Vancouver Police Department and the Ministry of the Attorney General, for introducing a CPTED course in the university curriculum.³ The explanations given for the rejection were inadequate funding and resources. The RCMP, though, speculate that public educators remain unconvinced of the merits of CPTED and cite

the void in university research on the concept as proof.

2) Funding shortages have minimized CPTED education. In the past two years, the RCMP have not been able to offer the CPTED courses because of budget constraints. Other programs, such as security training for Expo 86, decreased the priority given to CPTED in the allotted budget. This problem, coupled with the fact that there are very few local resource persons with enough expertise to lecture in the course, has led to the RCMP's inactivity in CPTED since the fall of 1984. This has not only halted education for the police officers, but has also stopped CPTED research.

3) CPTED programs have not been designed for planners. Some instructors of the RCMP course experienced considerable difficulty with the planners, who were already familiar with the planning issues discussed. Planners were disruptive in classes and tended to lead the group exercises. Furthermore, there were problems in obtaining commitments from planners as candidates for the course. Most had budget problems, while many others saw little or not value in attending the course.

4) Education has been incomplete because results from local CPTED studies are inconclusive. The Richmond study and the two Burnaby studies serve as examples. These three studies suffered from the multitude of environmental and socio-demographic factors which were complicated and highly inter-related. Furthermore, because evaluations of CPTED strategies implemented in Tumbler Ridge did not take

place, CPTED lost some of its appeal and credibility, even among the planners, architects, landscape architects and police officers that participated in the planning processes. Staff Sergeant Jack Hest explains:

"A lot of people are coming up now and saying 'Your Crime Prevention program sure isn't working in Tumbler Ridge'. Obviously they have not read all the reports where every phase of these related problems is documented. I have volumes of reports that predict verbatim what is happening now. You cannot take it in any slice of time and say the program's a failure. You have to look at the whole picture. Down the road in 15 years Tumbler Ridge may be enjoying a lot less community crime per capita than another community that was designed in a completely different way. It is a gamble but if you do not take these risks now you won't be ahead in the future".⁴

For all these reasons, CPTED research in B.C. is now at a standstill.

How CPTED Has Been Misinterpreted By Planners

From these findings, it is clear that CPTED has been misinterpreted by planners.

CPTED's inherent fallacy is that it promises the prevention of criminal opportunities, yet it is difficult to measure whether or not this objective can be achieved. Patricia Brantingham foresaw such dangers that CPTED could encounter at the inception of the RCMP course. In her words:

"There is a danger that crime prevention will be oversold in the way social welfare programs were oversold as 'cures' for crime in the

1960s, and then abandoned when its performance fails to match fully the promises that were made. There is a danger that communities will be pressed to mount inappropriate, or poorly conceived, or even counterproductive programs which needlessly raise community fear levels, or which even make the crime problem worse, simply because they are called 'crime prevention' programs. Finally, because crime prevention is a new field, we do not fully understand the conditions under which particular types of programs will be effective in particular communities. There is a danger that our evaluations will be too crude, sometimes missing effective programs within a broader field of ineffective programs, sometimes making spurious claims of effectiveness out of enthusiasm and misinterpretation of the data".⁵

But, even though a true measurement of CPTED's success is difficult to achieve, planners should realize that CPTED serves another purpose: to reduce the fear of crime, which is perceived as being just as important as reducing crime itself. The rationale for giving 'fear' equal emphasis with crime has two main elements: fear can affect everyone, whether or not victimization occurs, and fear is often exaggerated, bearing little relation to the level of crime. When an unreasonably high fear of crime is experienced in the community, it is necessary to analyze fear, and its reduction, independently of the success in reducing crime. Clearly, planners must take into account that their knowledge of CPTED will be beneficial not only in determining whether their decisions for the development of a proposed project will result in increased or decreased crime opportunities, but also in understanding whether or not there is an increase in citizens' fear of crime.

Additionally, the implementation of CPTED is based on the acknowledgement 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. While CPTED includes 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. In fact, it may be necessary to depend largely on the management strategies in the case of existing facilities (especially multi-family housing) because design strategies for existing crime-ridden structures are expensive to implement.

CPTED's objectives have also been misinterpreted by planners. The promoters of CPTED maintain that the goal of this approach is to reduce opportunities for crime that exist in neighbourhoods, especially those with blind alleys, unlit streets and dense shrubbery. It is by making the environment seem attractive and safe that it gives the people who have a legitimate connection with that space a feeling of peace and tranquillity. Taking this argument one step further, CPTED attempts to build prevention into the design so that people do not have to think about it all the time. Although target-hardening is a component of CPTED, it only plays a small role in the overall approach. Indeed, the distinction between CPTED---the probability

of crime occurring---and target-hardening---the possibility of crime occurring---should be made. When the probability of crime is reduced, prevention is being addressed. When the possibility of crime is reduced, controlling crime already accepted as occurring in the area is being addressed.

Moreover, planners are of the opinion that CPTED is a single approach to the prevention of crime. Obviously, this is not the case. CPTED only offers design features that permit citizens to feel responsible and protective of their part of the neighbourhood. But this approach rests on a major assumption: that it is only with the conscious and active support of the residents of a neighbourhood in maintaining the physical changes in their neighbourhood and in detecting and reporting crimes that crime prevention through environmental design can work. For this reason, formal residential crime prevention activities should be encouraged in conjunction with CPTED principles. Neighbourhood Watch and Operation Identification are two of the most common. A close liason between the police and the community is also essential. The Crimestoppers television segments highlight the need for the public's assistance in reporting crimes. The Crimestoppers program encourages people, who have witnessed a crime, with a reward for anonymously calling the police department and disclosing important information that will lead to arrests and convictions. In essence, Crimestoppers can be regarded as a

part of the 'motivation reinforcement' component---the public's involvement in crime prevention---of CPTED. Such policing strategies which increase interaction with residents enhance the setting of security priorities in response to community concerns.

Richard Rabnett has openly criticized RCMP policy in Tumbler Ridge for putting off public education programs. He argues:

"Along with applying CPTED principles, [the RCMP] were to institute a community policy project whereby the senior officer would stay in the community for a long term, become fully integrated, be placed on boards, etc... But this has not happened to the extent it should have. Part of making CPTED work is through public educational programs such as Neighbourhood Watch. Obviously the RCMP want to make the programs work and their ideals are correct. But they are understaffed. I think they have lost 80 percent of their potential to integrate.⁶

The point to be made here is that CPTED itself will not lead to the prevention of opportunity crimes, as is sometimes interpreted by planners. The successful application of CPTED principles in a community, in fact, implies that the future cooperation and assistance of citizens and the police is necessary for reporting and preventing crimes. CPTED is no more a panacea for improving the quality of life of citizens and communities than any of the other crime prevention programs. It is, however, a valuable approach in bringing together the people who plan, live in and regulate the community.

CPTED In Practice

Legislation

Experience reveals that when the design of certain aspects of the built environment is deemed to be critical to the health, safety and well-being of people, 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 bylaws and national, provincial and local building codes. Some have suggested that many CPTED strategies should be treated in a similar way. Law enforcement officials interviewed in the research for this study agreed that the building codes should be amended to deal with the security of the public on matters such as intrusion control, for two reasons. First, police officers believe that the building codes should address security standards just as they regulate health, fire and structural safety. Second, the officers believe that for architects and developers to incorporate CPTED guidelines into their buildings requires the inclusion of CPTED standards in the building codes.

In British Columbia, crime prevention is not given sufficient emphasis by planners and architects of new private and public developments because elected officials have, in general, not found the need to adopt security code provisions or to make informal suggestions in this regard to

developers in early design-review stages. The primary reason for this is that there is no generally accepted approach to legislative policy on CPTED. The nature of CPTED's application is environment-specific and therefore standardizing strategies is next to impossible. In the absence of legislation in the national and provincial building codes, architects and planners consequently do not feel compelled to incorporate crime prevention measures in their work. Additionally, because the essential role of the designer in security planning has not been widely recognized, clients are given the impression that security is something to be reconciled after construction. Clients, therefore, become disinterested in security matters and do not request that designers plan for security. Furthermore, as Michael Liechenstein has argued,

"even with good intentions and early planning for security on the part of the architect and his client, when construction budgets begin to overrun, adequate security measures are often the first to be abandoned or relaxed".⁷

Concerns With Investigation Results

Emerging from the investigation of the practice of CPTED in B.C. are several findings which can now be critically assessed.

- 1) Although one of the purposes of CPTED has been to create "community awareness" in crime prevention, the program's objective has often been misinterpreted to be the

reduction and eventual elimination of 'opportunity' crimes. This, however, is not the case. Even CPTED enthusiasts can only proclaim that their goal is to reduce and eliminate the opportunities for crime. The problem which arises is that it is difficult to prove whether opportunities for crime have been reduced until a crime is committed. Thus, CPTED remains untested until then, and after a crime is committed the approach is criticized for not having been successful. At the same time, though, it is not appropriate to simply reject this approach because it is difficult to prove its merits. An effort should be made to research how CPTED can better be implemented and evaluated in practice. RCMP suggestions, such as lower insurance premiums for those developers who adopt CPTED principles in their work and keeping an "I-told-you-so" file so that planners and police officers can check the effectiveness of the approach, provide a useful beginning.

2) There are two different systems of CPTED implementation emerging within the RCMP. In Richmond and Coquitlam proposals for development are sent to the RCMP crime prevention units in those detachments for police input, whereas in North Vancouver and White Rock (and formerly in Surrey and Maple Ridge) the police officers actively take part on APCs and ADPs. Although both of these methods may yield similar recommendations, the latter process is superior because the setting for crime prevention concerns voiced by police officers allows for the education

of other members of the commissions or design panels, and provides a forum for debate. In this way, the "community awareness" of crime prevention is further enhanced.

As well, in North Vancouver and Maple Ridge, police officers have been involved with planners in the implementation and monitoring of CPTED in the communities. But, in other municipalities where the CPTED approach is used, only the police officers have been actively involved. Despite this position, some police officers have asked that more authority be given to law enforcers over the plan-approval process. This view, though, is not shared by Staff Sergeant Jim Bramhill, who believes that a monitoring system would then be needed to review the RCMP recommendations.⁸ In Bramhill's opinion, more involvement in CPTED on the part of planners would alleviate some of the planning responsibilities now shouldered by the police officers.

3) No matter how knowledgeable planners become of CPTED, police input will always be required because of the officers' crime prevention experience. Furthermore, CPTED has proven to be beneficial to police officers who claim that they become more aware of the impact of the environment---and thus help them in carrying out other regular duties---after completing the RCMP course. But it is not suggested that both the planner and police officer be trained concurrently. In fact, results from an RCMP course evaluation indicate that separate courses for planners and police officers are needed so that the

curricula can better be organized to suit the specific needs of the students.⁹

4) Instituting a course for planners or asking them to work alongside police officers in the plan-approval process is not an easy task because the differences in the objectives of these two professions does not facilitate communication. Of the eleven municipalities studied, it was found that only planners and RCMP officers in the District of North Vancouver and Maple Ridge had maintained a good, working relationship with regards to CPTED. In White Rock and Surrey, where RCMP officers have taken part on the ADPs, less communication has occurred between planners and officers. Although CPTED has been practiced by the RCMP in Coquitlam and Richmond, information was not shared in an educational setting by planning departments and crime prevention units. In the remaining municipalities, planners and police officers accuse each other of having a lack of planning knowledge. Whereas law enforcers believe that more CPTED input is required for planning in municipalities, planners argue that such an approach might produce 'fortress communities' governed by fear.¹⁰ If CPTED were left to the police, then planners would indeed have a legitimate concern. But planners should not have problems in practicing CPTED because they are accustomed to working with multiple objectives. It is true, as some planners have remarked, that crime-oriented design strategies will frequently collide with other planning objectives based on

aesthetics, compatibility, freedom of movement and cost.

But, such conflicts the community planner takes in his stride as inevitable and soluble by one means or another.¹¹

5) While city councils assume that planners are knowledgeable of CPTED and apply the principles to their work, in reality this is not so. The planners interviewed for this study were not aware of the possible contributions which physical planning can make to crime prevention. This results from the lack of a body of knowledge and the education and training efforts to produce planners skilled in the application of crime prevention in the physical planning process.

Yet, as James Wilson has argued, what is interesting is the extent to which many CPTED principles echo some classic prescriptions from planning theory:

"One in particular looks back to the theory of the neighbourhood, which stipulated an area of limited size, preferably with easily identifiable boundaries, containing a few neighbourhood-oriented commercial facilities and featuring a road pattern designed to discourage 'through' traffic---all of which are now advanced as promoting territoriality and safety. Another reverts back to Buchanan's *Traffic In Towns*: 'There must be areas of good environment...where people can live, work, shop, look about and move around on foot in reasonable freedom from the hazards of road traffic, and there must be a complementary network of roads...for affecting the primary distribution of traffic to the environmental areas', that is, defined neighbourhoods set in a network of main roads. [CPTED] may indeed be a re-birth, but it has long and deep roots in planning ideas".¹²

6) Although CPTED enthusiasts are encouraged to see that the concept has been used in the development of Tumbler Ridge and has been applied in studies for Richmond and Burnaby, CPTED has not been practiced in the Lower Mainland to the extent that the RCMP had hoped. Of the planning departments in eleven municipalities, five---Delta, Langley, Vancouver, New Westminster and Burnaby---reported no involvement with CPTED in the planning process. Furthermore, the RCMP has found that one-half of the students in the CPTED course are already members of APCs and ADPs before enrollment, while one-quarter of the total students become such members only after graduating from the course.¹³ Additionally, of 19 graduates from the 1982 course, nine later indicated that the training received on CPTED was being used on a weekly to monthly basis, six said that it was being used on a daily basis and four reported that it was only being used occasionally.¹⁴ All of these statistics reveal that the RCMP should, perhaps, reassess its own involvement in CPTED and renew its calls for CPTED training at the university level for planners, architects and landscape architects. With this training, better communication channels between planning departments and crime prevention units may permit the increased involvement of police officials in the planning process and allow crime prevention concerns to be addressed effectively.

7) It is ironic that although planners, such as Schlomo Angel and Oscar Newman, were the first people to

research and promote CPTED principles, it is the law enforcement agencies that have pursued this planning approach. While police agencies remain optimistic that CPTED will prove to be effective if it is properly researched and implemented, the concept has yet to make significant inroads in the planning field. What is most critical, though, is that the general public has been left out of the education process. The RCMP in B.C. has failed to fulfill its objective of making CPTED "awareness" a reality to residents in the province, and has not realized that the citizens---through such means as advertising campaigns, public meetings, debates and survey questionnaires---should decide whether or not the approach will be pursued by planners in their municipalities. In the future, public support may determine whether there will be an increase in the practice of 'crime prevention through environmental design' in British Columbia.

ENDNOTES

¹Richard Rabnett, 1983, as quoted in Tom Gies, "The Tumbler Ridge Experiment", Prevention, Vol. 1, No. 3 (December 1983), p. 6.

²Rabnett, 1983, as quoted in Prevention, p. 6.

³Interview with Norm Brown, Crime Prevention Coordinator for Police Services Branch, Ministry of the Attorney General in Vancouver, B.C. 31 July 1986.

⁴RCMP Staff Sergeant Jack Hest, 1983, as quoted in Prevention, p. 7.

⁵Patricia Brantingham, 1983, as quoted in Prevention, p. 2.

⁶Rabnett, 1983, as quoted in Prevention, p. 6.

⁷Michael Liechenstein, *Designing for Security*. Rand Corporation Papers P-4633 (New York: Rand Institute, April 1971), p. 11.

⁸Interview with RCMP Staff Sergeant Jim Bramhill. Fairmont Academy, Royal Canadian Mounted Police Headquarters, Vancouver, B.C. 28 August 1986.

⁹At the completion of the RCMP course, students were asked to evaluate the material covered and provide recommendations for future instruction in CPTED. The responses provided by the students indicate that the following items need consideration:

- more instruction required in reading blueprints/maps;
- more pre-course reading (especially on lighting);
- additional syndicate work on lighting for industrial sites and shopping malls;
- more examples of completed CPTED projects;
- some information on rural planning;
- attendance of ADP or APC meetings or the formation of mock design committees;
- other uses for CPTED (aside from participation on APC's and ADP's) should be presented.

From RCMP Memo. August 30, 1983.

¹⁰James W. Wilson, "Planning Safer Communities: An Exploration In Burnaby, B.C." (Burnaby: Simon Fraser University, 1984), p. 43.

¹¹Wilson, p. 43.

¹²Wilson, p. 43.

¹³RCMP Memo. August 30, 1983.

¹⁴RCMP Memo. August 30, 1983.

CHAPTER SIX

POLICY RECOMMENDATIONS, SUMMARY OF FINDINGS, AND CONCLUSION

This chapter discusses the prospects for CPTED in British Columbia and, in this regard, examines policy recommendations for future research and practice of the concept. A summary of the main findings of the thesis and a general conclusion are then presented.

The Prospects For CPTED In British Columbia

The Inconclusive Evidence

There is no clear evidence that CPTED has been effective in reducing crime levels in British Columbia because CPTED is underdeveloped in this province. Planners, in general, remain unconvinced of the merits of CPTED since early studies have been inconclusive. Consequently, the promotion of the concept has not been successful.

This is certainly a disappointment for CPTED enthusiasts who intended to demonstrate the value and advantages of police and planners working together to modify the environment. Despite the early optimism in CPTED, little research was conducted locally. Much of the work on CPTED in this province was based on research findings from the United States, where studies have currently advanced towards refinement of the theory and practice of CPTED.

Instead of the application of CPTED in the early stages, research for appropriate implementation of the concept to the local environment should have been encouraged. Simply transferring the U.S. experience to B.C. was not adequate. Furthermore, the findings from the U.S. were based on studies conducted in major urban centres such as New York, Hartford and Minneapolis and were applied during the planning stage to the new small town of Tumbler Ridge. CPTED promoters clearly failed to consider that experiences of dealing with large cities are not transferable to small towns.

To assess the extent of changes to the environment which may be justified and what the nature of the changes should be, statistical data is required regarding the crime situation: specific locations, number of people involved, nature of victims, time of day and offender characteristics (including level of skill). Other examples of crime-prevention issues which need further attention include the following:

- 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;
- the most effective means of maintaining the interest and involvement of residents and occupiers of environments in working to prevent crime in their communities.

These requirements are most suited for built environments or to proposed development near existing structures, where crime data can be obtained from police records. For the proposed development of towns, such as Tumbler Ridge, the application of CPTED will rely mainly on surveillance, access control and motivation reinforcement strategies---and the implementation should only take place once CPTED has been researched locally.

Planners argue that it is difficult to accept CPTED as a viable crime prevention program if it only works best in smaller communities---where crime is not a major problem. Furthermore, planners are not convinced that crime is directly related to the design of the environment. They maintain that peoples' carelessness---such as leaving doors and windows open and unlocked---may also significantly contribute to the urban crime problem. In this case, public education programs and advertising campaigns, which are more cost-effective than modifications to the environment, are required. Until research is conducted in B.C. to determine which variables are most closely associated with crime, future implementation of CPTED is difficult to accept by planners.

Given CPTED's shortcomings, it is difficult to know whether or not it is a valid concept. Although reducing opportunities for crime is an attractive idea, monitoring CPTED's effectiveness---as with any other crime prevention program---is difficult. But, because CPTED concerns itself

with an important societal issue, attempts to implement the concept and evaluate its success should be carried out.

CPTED As A Promising Concept

Findings from on-going research in the U.S. suggest that CPTED has achieved success in reducing crime levels. In a follow-up study of the Hartford project, Richard Gardiner found that there was a 42% reduction in crimes in the designated study area, even though there had been a steady increase in crimes in the city during the same period.¹ In St. Louis, Missouri, neighbourhood preservation and redevelopment occurred due to a local enabling law allowing residents on the same street to create and maintain their neighbourhood territoriality. In Oak Park, Illinois, neighbourhood preservation dealt with residential and commercial environments. In both cases, crime was reduced. Also noted was heightened community interaction and neighbourhood concern, increased resident use of neighbourhood spaces, and stabilized and consistently higher property values where certain CPTED techniques were employed.² In Minneapolis, skypasses from building to building in a one-by-two mile area of the downtown core of the city removed pedestrians from the city and significantly reduced opportunity crimes.³ In Oakland, where a similar strategy has been used, opportunity crimes decreased by 97%.⁴ Based on these examples, CPTED can work if the theory of the concept is thoroughly studied for the target area,

and if CPTED is given sufficient time to integrate into communities before evaluation takes place.

There is another factor---crime displacement---which suggests that CPTED is a promising concept for reducing crime. In crime prevention literature, displacement has been treated as a problem with CPTED demonstration projects. Newman acknowledges this 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 shopping, institutional and business areas of the city, which are more easily served by the police. He recognizes, however, that this would be both difficult to accomplish and would entail moral dilemmas.⁵

Displacement has remained a relatively unknown phenomenon. Most authors appear to downplay its significance, particularly with respect to opportunistic crimes.⁶ But, the very fact that displacement occurs perhaps is an indication that CPTED has been effective in reducing opportunistic crimes. Thus, displacement may not be so much a problem with CPTED as it is a product of its success. Unfortunately, there has been little analysis of opportunity and crime, and the implications regarding displacement. There is clearly a need, at this time, for further research in this regard.

Additionally, although it has been difficult to prove that CPTED is effective for reducing crime, the concept is also recognized as a program for establishing crime prevention "awareness". Advisory planning commissions have provided a forum for public education in CPTED. RCMP officials claim that once their recommendations are made, other panel members---including professionals in the design field---quickly become aware of the implications that certain planning decisions have on crime levels. Even though CPTED may not become implemented, as the applicants of development permits are not bound by the RCMP recommendations, CPTED is treated as another planning objective that must be given some consideration. The educational value of CPTED has been a common finding reported by RCMP members of these commissions throughout the province.

Despite these positive aspects concerning CPTED, future implementation of the concept is difficult to accept by planners. Indeed, a seemingly endless cycle has emerged where CPTED will not be practiced until it is proven successful, and yet its success cannot be proven until it is practiced. Clearly, additional research on the theory and practice of CPTED is required.

Following are policy recommendations which, if implemented, will make evaluation attempts sensible in future years. An evaluation of CPTED will still be difficult and may prove to be inconclusive after these steps

are taken, but law enforcement and government officials feel it should be done. In their opinion, even if CPTED's success can only be determined subjectively, the concept is worth improving to see how it can best be implemented.

Policy Recommendations For Future Research And Practice Of CPTED

These recommendations have been categorized into three groups: knowledge, practice and mitigation.

Knowledge

Knowledge takes into consideration the research, study and advertising of the CPTED concept.

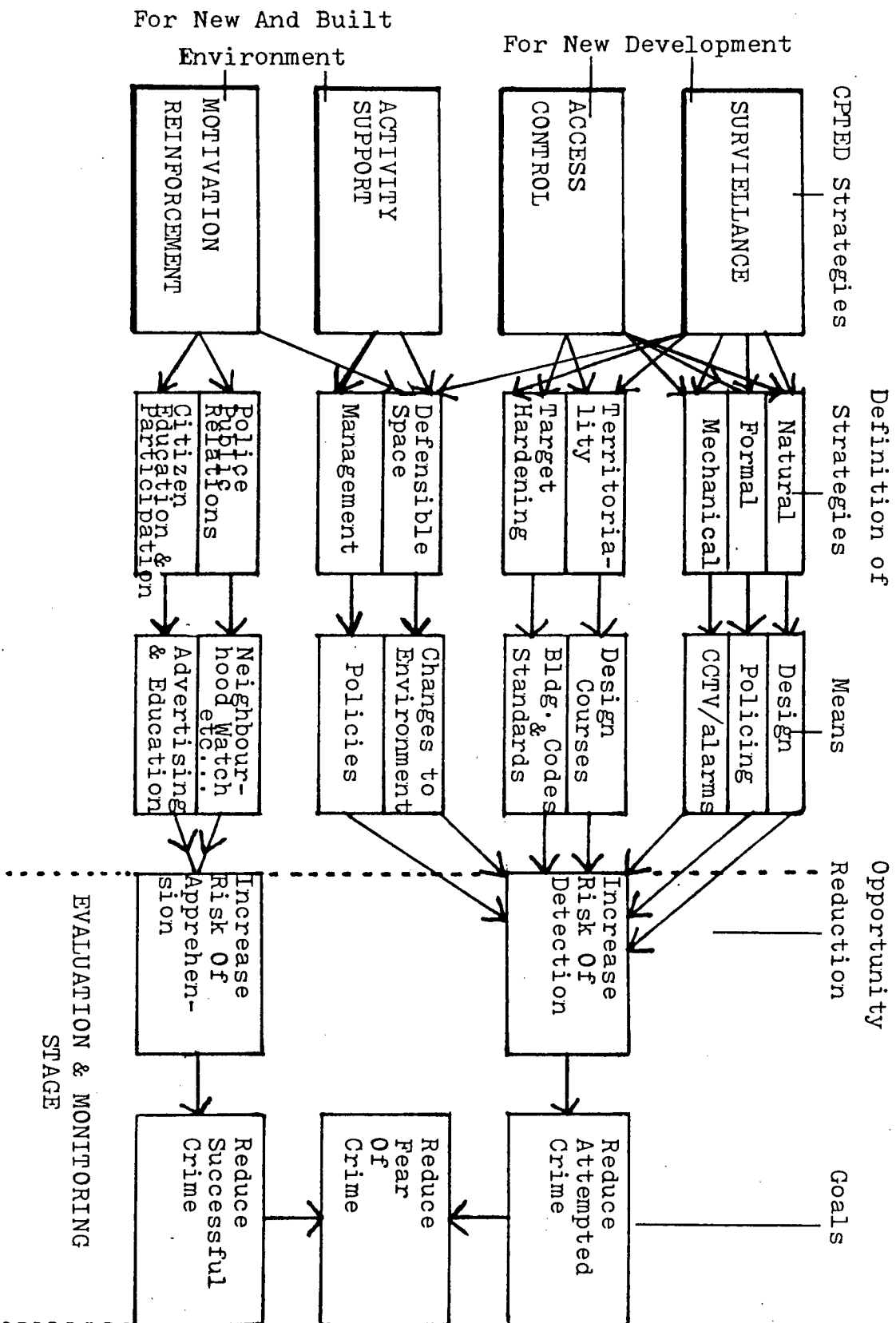
Further research on the theory and practice of CPTED is required from the RCMP, CMHC, provincial and federal government ministries and universities. In order to investigate the many aspects of CPTED, demonstration projects need to be conducted. The size of the project may determine the degree of complexity and number of physical changes to be implemented; for example, from a limited street or park project, to a comprehensive neighbourhood restoration or urban renewal project involving public as well as private property and interests. Whatever the desired type or size of project, it should be understood that the actual study area should include the surrounding environs. It has been shown that the cause and effect relationships of opportunity crime can be the result of an

environmental framework that includes zone or even city-wide systems and generators which provide opportunities for crimes at the neighbourhood setting.⁷

No matter what the project entails---whether it is a neighbourhood preservation project, major redevelopment or new development project---CPTED will be able to accommodate all that is required because of its all-encompassing approach. The following matrix (Figure 8) outlines the CPTED features that are most appropriate for specific environments. For a proposed development, all four CPTED strategies should be utilized. Surveillance, access control and activity support strategies lead to increases in real and perceived risks of detection. Motivation reinforcement, on the other hand, leads to real and perceived risks of apprehension and a reduction in successful crimes. For the built environment, the most appropriate and cost-effective strategies are activity support and motivation reinforcement. Activity support, as with surveillance and access control, leads to a reduction in attempted crime. All four strategies contribute to the reduction in fear of crime.

Surveillance and access control strategies can be implemented at the plan-review stage, while motivation reinforcement is best enhanced through public education programs. Activity support strategies, on the other hand, require that modifications be made to the physical environment.

Figure 8 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN MATRIX



Evaluation of the CPTED demonstration project should take into consideration the following questions:⁸

- Were the planned environmental changes actually implemented as designed? If so, can any correlation be made between specific changes and specific reductions in crime?
- Has there been a reduction in crime? If so, what types of opportunity crimes were reduced and in which areas?
- Is the environment being used differently than was intended? If so, by whom, and in what manner?
- What, if any, aspects of the neighbourhood have been influenced or improved by the CPTED project?
- What quality of life changes have occurred? Has there been an increase in the value of real estate, or indication of enhanced pride of ownership?
- Has there been any crime displacement?

In order to answer these questions, the following information and statistics should be gathered:⁹

- city crime statistics, including attempts as well as actual occurrences;
- victimization and fear surveys;
- urban design data including land use patterns, circulation patterns and volumes, urban quality analysis, structural and maintenance condition, public support system changes, and private development activity;
- citizen survey information on sense of neighbourhood identity, use of environment, neighbour awareness, stranger recognition, demographic patterns, ownership and frequency or relocation.

This information should be obtained from both the project site and the surrounding area. It will also be necessary to select and monitor a control site separate from the target area and its immediate environs in order to obtain a reasonable comparison of crime rates and changes. Such a control area should be similar in composition and have similar opportunity crime problems, but it should be sufficiently distant from the study area to ensure a valid comparison.¹⁰

The study of CPTED should also be introduced at the university level for graduates and students of planning, architecture and landscape architecture. It is obvious from the findings of this study that people in the urban design profession, and those intending to pursue careers in the field, must be made aware of the possible impacts of crime as consequences of their decisions and actions. Urban designers should also be instructed on how their respective disciplines can contribute to the reduction of opportunities and fear of crime.

Lectures and seminars for planners should focus on the background material to crime prevention through environmental design, lighting information, pertinent architecture and landscaping principles, and the implementation and promotion of CPTED, with professionals in various fields invited to conduct the instruction. Architects and landscape architects, on the other hand, should become more familiar with the community planning

process, as well as crime prevention, and the implementation, promotion and evaluation of CPTED techniques.

Public seminars and advertising campaigns can also increase CPTED knowledge. Federal and provincial government ministries should sponsor seminars for both planners and police officers, to discuss the possible problems and future direction of the theory and practice of the approach and debate the changes that need to be made in order to increase its receptiveness in the municipal planning process. These seminars, along with an encouragement from the government ministries on a fruitful exchange of CPTED information and experiences among officials from planning departments and police agencies---e.g. RCMP officers invited to speak to students and planners in the schools of Planning, Architecture, Landscape Architecture, would create better communication links among planners and police officers.

Private and public organizations should focus on 'public' education of CPTED. This study has examined how, in the past, public organizations such as B.C. Hydro, have made information on lighting for crime prevention available to law enforcement officers in the RCMP course and businessmen at the Canadian Society for Industrial Security conference, but not to the general public. Even after the RCMP had been instructed on lighting for safety and security, the information did not get through to the public.

Thus, both private and public organizations should consider utilizing conferences, workshops and local (print and television) advertising to keep the public better informed. Although private and public agencies would require additional advertising funds in order to implement this recommendation, the costs may easily be recovered. For instance, since private agencies which are part of the CSIS sell security hardware, additional advertising to the public may result in sales increases. For public agencies, such as the lighting corporation, increased advertising may ultimately lead to a reduction in crimes committed and, hence, decreased costs for damages caused by opportunistic criminals.

Practice

For implementing CPTED in new developments, the following steps are necessary. First, CPTED security features should be regulated. The federal government should develop standards for implementing CPTED strategies, such as target-hardening and landscaping in the National Building Code of Canada. For example, the provision of more secure locks, doors and windows is the only CPTED strategy which can be definitively judged as effective in preventing crime, and is also a relatively simple and inexpensive process if undertaken during the construction of new developments. Although some target-hardening measures already exist in the B.C. Provincial Building Code, such security codes should

include specific performance standards rather than depend entirely on descriptions of the elements involved. With landscaping, guidelines already exist in CMHC's *Residential Standards* and can easily be incorporated into the National Building Code of Canada.

Second, the use of CPTED should be encouraged and where possible, there needs to be constant monitoring of the approach in practice. Introducing lower insurance premiums for developers who employ CPTED in their projects and other such incentives will encourage use of the crime prevention approach. From the developer's standpoint, designing crime prevention into his development provides several discernible benefits. Usually large urban renewal or new town project sites are in areas of a city which tend to be run down and prone to crime. If the crime problems around the project site are substantial, the developer faces the problem of obtaining construction financing. With the inclusion of crime prevention in the planning and design, it can have a positive influence on his potential lender. Additionally, a developer can anticipate greater ease in marketing his homes and commercial areas in a planned safe environment.¹¹

Mounting an advertising campaign over the implementation of CPTED in residential projects may not only lead to a reduction in the fear of crime---which is just as important an initiative as reducing crime itself---but would also increase the public acceptance of CPTED. As well, the practice of keeping "I-told-you-so" files, as in the

District of North Vancouver, for monitoring and evaluating the performance of CPTED on projects designed with crime prevention principles is a good idea and should be used whenever CPTED is implemented.

Thirdly, the CPTED course for RCMP and municipal police officers participating on advisory planning commissions should be continued. There were indications that part of the instructors' dissatisfaction with past CPTED courses was the attendance of municipal planners, who provided a disruptive influence because of their training and experience in planning. In the future, the RCMP course should only be offered to law enforcement officers so that the curriculum can better be suited to their needs.

As requested by recent graduates of the course, more instruction and readings should be made available on interpreting blueprints, maps and lighting information. Additionally, other uses for CPTED should be investigated.

Mitigation

Mitigation refers to what can be done to reduce criminal opportunities to built environments. First, mayors, aldermen and other council members should be made aware of the possible impacts of crime due to community planning decisions, and shown how CPTED can be implemented in order to reduce some of the opportunities for crime. It is evident in this study that those municipal governments which were educated on the merits of CPTED---councils from

the District of North Vancouver and Maple Ridge---later cooperated in facilitating the implementation of crime prevention into the planning processes of their respective municipalities. CPTED education is especially important for government officials of small or developing communities, where this crime prevention approach could yield better results.

Second, better police and local government public relations programs are needed before crimes are committed. In the past, CPTED has been left as an after-the-fact crime prevention program. Although the BCIT workshop was a good first step towards introducing CPTED to the public, it was never followed up by similar programs with more in-depth information, such as the conferences held which were for planners and police officials only. In the future, RCMP and police departments, with the cooperation and support of municipal governments, should mount a campaign to educate the public on CPTED through workshops; local television; newspaper advertising; public debates; seminars; and demonstration programs. These measures may seem costly, but the potential savings over prevented crimes are much greater.

Third, activity support measures can be used to make modifications to the environment. Improved lighting, landscaping and minor architectural changes are costly, but can work to reduce opportunities for crime to existing environments.

Fourth, management strategies can alleviate some existing crime problems. Management strategies include increased security personnel, improved building image and maintenance, and improved rental and eviction policies. 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.¹² 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. The major problem associated with this strategy is therefore the difficulty of convincing building management that, in the long term, it is cost-effective to make sustained efforts to improve building image and maintenance.¹³ 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 landlords. 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 to alleviate the crime problem and to reduce the fear of crime felt by other tenants.¹⁴

Summary Of Findings

A summary of the major findings regarding the sources, information and practice of CPTED follows.

Channels Of Communication

Although there are numerous private and public agencies which offer information on CPTED in this province, the dissemination of such information, to the general public, has been inadequate. At present, funding shortages and a lack of commitment on the part of universities has created a void in CPTED research. Additionally, there have been some discrepancies in the content of the courses offered by the RCMP, SFU and American crime prevention institutes. Furthermore, while police agencies have been trained in CPTED by architects, landscape architects, planners and lighting consultants---for the purpose of applying the knowledge to their work as security consultants and for making the information available to residents in their municipalities---the general public has

remained relatively uninformed. What little information on CPTED is made available to the public usually occurs after crimes have been committed---when it is already too late.

Information On CPTED

Planners have ignored or rejected CPTED in the past because this approach has conflicted with other planning objectives, such as aesthetics, access and mobility, fire safety and cost-efficiency. Planners have also cited problems with the nature of the crime prevention approach for being environment-specific, and therefore difficult to standardize a series of guidelines for its implementation, which requires the collaboration of a wide range of individuals and organizations. But, planners have wrongly portrayed CPTED as advancing a 'fortress' mentality to crime prevention. Similarly, even though the goal of CPTED has been to reduce the 'opportunities' for crime and fear of opportunistic crimes, the approach has been interpreted by planners as a method for the reduction and eventual elimination of crime.

CPTED In Practice

CPTED may, in fact, not be effective in reducing crime. Since the approach only promises to reduce crime opportunities, it is difficult to establish an appropriate evaluation technique. Architects and planners both claim that because there are no established laws regulating the

implementation of CPTED, they do not feel compelled to incorporate crime prevention measures in their work. Thus, the approach is now accepted as an "awareness" program, with education in crime prevention, for planners and others in the design profession, being the objective. Because of the high turnover rate in law enforcement agencies and because CPTED is regarded as a planning function, police officials in B.C. prefer that planners become more knowledgeable of this crime prevention approach. But, up to now, the people trained in CPTED have predominantly been RCMP and municipal police officers. Only a few planners and architects are familiar with CPTED. More importantly, the general public has been left out of the education and training process, and has not been consulted on whether provisions for crime prevention through environmental design should be included in the planning of buildings, neighbourhoods and cities.

This study also finds that there is a general lack of concern with crime and crime prevention expressed by planners and municipal politicians. While six of the eleven planning departments surveyed in the Lower Mainland have relied on RCMP input in the past---either on advisory planning commissions and advisory design panels or through crime prevention units---only the District of North Vancouver and Maple Ridge have made significant contributions towards establishing CPTED as a permanent component of the municipal planning process.

Conclusion

This thesis has attempted to review the status of CPTED in British Columbia, from the identification of knowledge sources and channels of communication, to the information material covered, to the performance of the approach in practice. From the findings, it is clear that CPTED is still in its infancy in this province. A start has been made, but the promotion of "crime awareness" needs to be increased.

Police agencies and municipal governments must plan for crime prevention. Planning for crime control is as important as planning for any other city function. Crime prevention, thus, requires the participation of community planners as it is an urban planning function. All too often, though, planning decisions on transportation, residential and commercial development, parks and recreation, and zoning have not been based on the impacts that can directly result in the opportunity for crime and fear of crime. There is need now for planners and designers to coordinate and evaluate planning and design decisions that affect the security and, therefore, the quality of urban life.

The lesson to be learned from CPTED is an important one: the form of the urban environment creates opportunities for crime, which is not an isolated phenomenon. Crime is built into all elements of everyday life, but it can be

minimized through concerted and imaginative planning effort. Although it is not suggested that redesign of the physical environment by itself is the key to crime prevention, it is very often an overlooked alternative.

ENDNOTES

¹Richard A. Gardiner, *Design For Safe Neighbourhoods* (Washington: Law Enforcement Assistance Administration, 1978), p. 64.

²Gardiner, p. 64.

³Charles Richardson III, 1986, as quoted at the Canadian Society for Industrial Security conference in Vancouver, June 17, 1986.

⁴Charles Richardson III, 1986, as quoted at the CSIS conference in Vancouver, June 17, 1986.

⁵Oscar Newman, *Defensible Space: Design For The Improvement Of Security In Urban Residential Areas* (New York: MacMillan, 1972), p. 206.

⁶The Solicitor-General's Report, p. 40.

⁷Gardiner, p. 56.

⁸Gardiner, p. 51 and 54.

⁹Gardiner, p. 54.

¹⁰Gardiner, p. 54.

¹¹Gardiner, p. 60.

¹²The Solicitor General's Report, p. 155.

¹³The Solicitor General's Report, p. 158.

¹⁴The Solicitor General's Report, p. 161.

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APPENDIX: 1

Simon Fraser University CPTED Course Outline

Source:

SIMON FRASER UNIVERSITY. Criminology 450-3 Course Outline (Summer Semester 1983). Obtained From The Department Of Criminology, Simon Fraser University, Burnaby.

SIMON FRASER UNIVERSITY CPTED COURSE OUTLINE

I. INTRODUCTION

- A. Concept Of Environment And Social Change
- B. History Of Crime Prevention Through Environmental Design
- C. Intervention Points And Strategies
- D. Primary, Secondary And Tertiary Crime Prevention

II. CRIME PREVENTION THROUGH ARCHITECTURAL DESIGN

- A. Sub-building Design---Target-Hardening
- B. Building And Building Cluster Design---"Defensible Space"
- C. Future Directions In Prevention Through Design
- D. Evaluation Of Architectural Approaches

III. CRIME PREVENTION THROUGH PLANNING TECHNIQUES

- A. Physical City Planning
- B. Service Delivery Planning And Programs
- C. Community Planning And Programs
- D. Evaluation And Techniques

REQUIRED TEXTS:

NEWMAN, OSCAR. *Defensible Space*, 1972.

GARDINER, RICHARD A. *Design For Safe Neighbourhoods*, 1978.

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APPENDIX: 2

RCMP Course Outline And Syllabus For CPTED Training

Source:

ROYAL CANADIAN MOUNTED POLICE. Course Training Standard: Crime Prevention Through Environmental Design Course. Ottawa: RCMP, Training and Development Branch, August 1982.

RCMP COURSE OUTLINE

COMMUNITY PLANNING PROCESS:

- role of regional districts
- Functions and Purposes of...

The Ministry of Municipal Affairs
City Councils
Local Boards
Advisory Planning Commissions
Advisory Design Panels

- explanations of community permits
- the meaning of subdivision of land
- subdivision of plan drawings used in community development
- examination of sections of the Municipal Act (sec. 716, 729 and 810) pertaining to rezoning applications, bylaw procedures and related matters.

ANALYSES OF PLAN DRAWINGS:*Plan Drawings:*

- setbacks
- entrance ways
- site locating

Viewing Plan Drawings:

- "spatial perspective"
- "spatial understanding"
- common markings/symbols used
- analysis of Building Code

Plan Drawings Typical to Community Development Proposals:

- floor plans
- floor layout
- roof
- development site
- interpretation of site plans including zoning
- vehicular traffic routes

LANDSCAPE ARCHITECTURE:

- categories of plants, ground cover, shrubs, trees

-Landscape Plan Drawings:

- Site (L-1)
- Planting (L-2)
- Grading/Drainage (L-3)
- Dimension Drawing (L-4)
- Construction Detail (L-5)

-Plant Material Schedule:

- Domestic Names
- Nursery Sizes
- Final Shapes/Sizes

-Role Of Landscape Architecture In Community Development:

- Routing Pedestrian Traffic
- Designing For Aesthetics
- Residential Areas (walkways/entrances)

APPLICATION OF CPTED PRINCIPLES FOR:

- residential areas
- multi-family housing
- walk-up apartments
- high-rises
- commercial areas
- industrial areas
- open spaces
- public institutions
- public facilities
- traffic/pedestrian routes

PROMOTION OF CPTED:

1. Divisional Policy

- responsibilities of crime prevention coordinators
- good liason must be established with local planners

2. Advantages Of CPTED to...

- ratepayers
- realtors
- developers

3. CPTED Promotion Programs

- plan for gaining representation on community planning committees
- CPTED presentation to the public

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN EOICL8013
FAIRMONT ACADEMY, VANCOUVER, B.C.

84 NOVEMBER 26 - 84 DECEMBER 06

MON - TUE. 26 (Day 1)	TUES - WED. 27 (Day 2)	WED - THU. 28 (Day 3)	THUR - FRI. 29 (Day 4)	FRI - SAT. 30 (Day 5)
<u>INTRODUCTION</u> - Opening Address - Orientation - Mutual Introductions	<u>PRINCIPLES OF CPTED</u> (Cont'd)	<u>COMMUNITY PLANNING PROCESS</u> (Cont'd)	<u>BASIC PLAN DRAWINGS</u>	<u>FUNDAMENTALS OF GOOD LIGHTING</u>
<u>PRINCIPLES OF CPTED</u> (Audio/Slide: CPTED)	Dr. Pat Brantingham			
Dr. Pat Brantingham Cst. Jim Harrison (Audio/Slide) Port Alberni Project	<u>COMMUNITY PLANNING PROCESS</u> Ms. Lori Staples Ms. Robyn Addison	Ms. Lori Staples Ms. Robyn Addison	Mr. Richard Robnett	B.C. HYDRO Mr. Paul Young & Owen Stevens <u>LANDSCAPE ARCH. IN CPTED</u> Mr. Don Vaughn

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN #E01CL8013
FAIRMONT ACADEMY, VANCOUVER, B.C.

84 NOVEMBER 26 - 84 DECEMBER 06

MON - LUN. 03 (Day 6)	TUES - MAR. 04 (Day 7)	WED - MER 05 (Day 8)	THUR - JEU. 06 (Day 9)	FRI - VEN.
<u>APPLYING PRINCIPLES OF CPTED</u>	<u>APPLYING PRINCIPLES OF CPTED</u> (Field Syndicate Exercise)	<u>APPLYING PRINCIPLES OF CPTED</u> (Field Exercise Presentation)	<u>APPLYING PRINCIPLES OF CPTED</u> (Syndicate Presentation) Dr. Pat Brantingham	
(Field Study Assignment)		(Syndicate Study Assignment)	<u>PROMOTING CPTED</u> Panel Discussion Insp. McLay S/Sgt. Hest <u>Cpl. Clarke</u> EXAMINATION COURSE CRITIQUE	

APPENDIX: 3

California Crime Prevention Institute CPTED Course Outline

Source:

CALIFORNIA CRIME PREVENTION INSTITUTE. "Crime Prevention Officers Handbook For Seminar On Advanced Crime Prevention Through Environmental Design". Sacramento: California Crime Prevention Institute, October 1979.

CALIFORNIA CRIME PREVENTION INSTITUTE CPTED COURSE OUTLINE

The Advanced Crime Prevention course, offered by the California Crime Prevention Institute, is a 40-hour course for law enforcement officers who have primary crime prevention duties, graduated from one of the approved basic crime prevention courses of 80 hours or more, and have been assigned duties of reviewing and impacting all plans submitted for new or additional construction within their jurisdictions. This course is a continuation of the basic 80-hour CPTED course. It provides the officers with the knowledge and skills necessary to effectively function in the area of plan-reviewing. Topics covered include:

1. INTRODUCTION

---discussion of the law enforcement officer's responsibility to view his/her apartment not just as a living area, but also as a potential for positive and negative behaviour.

2. THE PLANNING PROCESS

---descriptions of four primary physical planning functions performed by municipal governments: land-use planning, zoning, development review and approval, and building code development and enforcement.

3. BLUEPRINT READING AND TERMINOLOGY

---explanation of key architectural design terms and presentation of blueprint examples.

4. VISIBILITY

---analysis of crime prevention planning techniques for building development and layout:

- front, rear, and off-grade setbacks
- windows (purpose, necessity, size, placement, shields and covers, materials)
- doors (types, placement)
- construction of windows (casements, locks, lighting) and doors (strength standards, jambs, strike plates, nailing schedule, lighting)

5. STREETS AND SIDEWALKS

---descriptions of circulation routes:

- types of public streets (alleys, freeways, etc.)
- public street standards (right of way, intersection considerations)
- private streets
- crime and design (patrols, fire department concerns, neighbourhood identity)

6. PARKS AND OPEN SPACE

---descriptions of parks in terms of:

- circulation visibility
- lighting schedules
- recreation equipment

---descriptions of open space where such space is:

- adjacent to housing (problems with trespassers)
- wilderness area (accessibility, communications and fire codes)

7. RESIDENTIAL, COMMERCIAL AND INDUSTRIAL DEVELOPMENTS

---considerations of:

- street design
- utilities/easements
- alleys and walkways
- trees and shrubbery

---analyses of crime preventive design changes in terms of:

- population increases
- resources required
- costs for multi-family housing, high-rises, major commercial and industrial developments

---discussion of commercial burglary including internal cargo theft and legislative policy in this regard

8. LIGHTING

- definitions of technical lighting terms
(luminaire, lumen, foot candles)
- descriptions of general types of outside security
lighting (continuous, standby, movable,
emergency)
- explanation of the general types of lighting
sources (incandescent, mercury vapour, metal
halide, fluorescent high pressure sodium vapour,
low pressure sodium vapour)
- guidelines to recommending security lighting
systems

9. POLICE BUILDING DESIGN

- a design, role-playing workshop model for the
process of police involvement in the planning of a
major police building.

APPENDIX: 4

1. QUESTIONNAIRE ADMINISTERED TO COMMUNITY PLANNERS,
ARCHITECTS AND LANDSCAPE ARCHITECTS
2. QUESTIONNAIRE ADMINISTERED TO LAW ENFORCEMENT
OFFICIALS

QUESTIONNAIRE #1ADMINISTERED TO COMMUNITY PLANNERS, ARCHITECTS AND
LANDSCAPE ARCHITECTS

1. Does [this municipality] have an Advisory Planning Commission or Design Panel?

IF SO,

Who is on the Advisory Planning Commission or Design Panel? (name and occupation)

How are designs evaluated? How does the information get through? (planning and decision-making process)

2. Do Advisory Planning Commissions (or Design Panels) know about CPTED?

Is CPTED important to members of these commissions? If not, why not? If so, where did they gain this knowledge? How was this information administered? What was contained in this information?

How is CPTED used in the decision-making process in your municipality?

Where is CPTED used? When is it used?

3. In your opinion, is CPTED successful in preventing opportunist crimes? If so, how can this be proven?

OR

Do you think CPTED would be successful in preventing crimes? If so, how can this be proven?

QUESTIONNAIRE #2

ADMINISTERED TO LAW ENFORCEMENT OFFICIALS

1. (a) When did you take a Crime Prevention course?
(b) Where was it held?
(c) Who was the course sponsored by?
(d) Who taught the course?
(e) How many seminars are held?
(f) Why did you take the course?
2. What material was included on CPTED?
3. With the knowledge that you have gained from this course...
 - (a) when
 - (b) where
 - (c) and how did/do you put it into use? Or was it simply a Public Relations program?
 - (d) What types of designs (rezoning, subdivisions, new development) do you analyze?
 - (e) How difficult is it to read plans? Does it present a problem for you?
4. What do you feel you can do with that information? (i.e. sit no planning advisory committees, collect crime information with special emphasis to the environment...)
5. In your opinion, has CPTED been successful? If so, how can this be proven?