

Burglary Revictimization In The Long Term

by

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Abstract

Until recently, the incidence of multiple or repeat burglary victimization has been relatively neglected in crime research, despite the importance of this phenomenon some years ago. This thesis addresses the problem of repeat burglary victimization in temporal context, outlines theoretical considerations related to repeat victimization and demonstrates the overall need for development of a prevention policy. The research context, methods utilized and findings of the study are presented. The patterns in which burglary repeats concentrate temporally in Vancouver over a ten-year span are identified through analysis of 'computer assisted dispatch' (CAD) data. A time-series analysis is employed in order to assess temporal patterns for revictimizations of the same addresses. The demonstration that repeat crime victimization is concentrated at certain locations and addresses and is also temporally concentrated can provide significant benefit to public policy by guiding deployment of crime preventive resources when and where they are most needed.

Dedication

In loving memory of my sister Pavlina Jonas.

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Chapter 1: Introduction

The purpose of this thesis is to assess how burglary repeat victimizations concentrate in time. Hence, Vancouver Police 'computer assisted dispatch' (CAD) data displaying the number of calls for service and addresses of burglary victimizations, have been utilized.

The purpose of this thesis is to gain a comprehensive understanding of the repeat burglary victimization phenomenon in Vancouver by conducting a study similar to those that have been undertaken in Britain and the United States. Given that the study takes place in the Canadian context, it is vital to see whether some of the previous studies' *repeat* burglary findings will be similar to those in the current Vancouver one.

In previous temporal research, studies have shown that burglary revictimizations to the same address occur largely within the first month to half a year. Thus, a key research question for the current study is to see whether once an address is burglarized, or an attempt has been made to the premises, the risk of subsequent revictimizations to the same address increase and in what time increments. Moreover, conducting a time-series analysis may lend further insight into the burglary repeat phenomenon.

Introduction to Research

It is important to fully grasp the seriousness of the burglary *repeat* phenomenon, in order to appreciate the need for a policy geared toward combating this particular problem. This thesis will present a detailed analysis of burglary revictimization by examining previous

studies, theoretical considerations, policy and discussing the current Vancouver research project. Thus, the thesis consists of six chapters, an introduction and conclusion.

Chapter two will present a detailed overview of burglary as well as burglary revictimization literature. It is important to gain a comprehensive understanding of burglary and the factors that are related to this crime, in order to fully understand the burglary *repeat* phenomenon. Thus, a general historical overview of burglary at common law and at present, as well as offender demographics, motivation, modus operandi and general burglary crime rates will be explored: residential and non-residential types of burglary will be assessed separately, since such crimes have distinct patterns and dynamics. Finally, an overview of burglary revictimization will be scrutinized, in order to demonstrate the need for more temporal and spatial research that focuses on how burglaries concentrate in time and space in a particular area. The final section of the chapter will assess 'victim impact.' By showing how victims of repeat burglaries are severely affected, the need for a prevention policy in this area will be greatly appreciated.

Chapter three will focus on theoretical perspectives that attempt to explain burglary repeat victimizations; specifically, how environmental criminology plays an integral role in identifying repeat victimizations through spatial and temporal analysis. Various environmental theoretical perspectives aid in the understanding of burglary revictimization because such theories lend insight into why a particular place, for example, is more prone to revictimization than another: rational choice theory, routine activity theory and opportunity theory are among these perspectives. In addition,

offender decision-making for the crime of burglary revictimization, will be analyzed by examining several hypotheses: affluence, vulnerability, social cohesion, reputation and proximity. The differential-risk perspective (routine situational risk transmission), which is closely linked to the life-style exposure approach, will also be deliberated upon. Finally, two competing yet complimentary explanations to repeat victimization: *state dependence and risk heterogeneity* are pertinent to disclose.

Chapter four will place the current research into context and describe what is being studied and where. Moreover, this chapter will describe the present research on the Vancouver CAD data. Approximately ten years of Vancouver Police Department CAD data are utilized; specifically, all calls from April 1988 through June 1997 (with the exception of February and July, 1990 and March, 1994). All calls included are those that are *break-and-enter in progress, attempted break-and-enter* and *break-and-enter report*. The time-series analysis has been carried out by assessing the time between address revictimizations in multiple ways, such as exploring the *time* factor in detail and mapping out spatially Vancouver police beats and the frequency of repeat addresses: such methods will be examined.

Chapter five will present a detailed account of the research findings for the Vancouver CAD data. Particularly, how many of the total burglary calls are repeat incidents, as well as how many repeat addresses are found in the entire dataset will be discussed. Moreover, lagweek frequency results, demonstrating the number of repeats to the same address for each week during the ten-year span, will be explored. Also, the cumulative

percent against week graph and a regression analysis (exponential graph) will be shown. Furthermore, lagtimes of one day (repeat is committed the day after the original incident) through 102 week lag times (approximately two years) will also be displayed: such a lagtime is utilized in order to show whether a temporal pattern of repeats exists throughout the duration of the year. Selecting the top ten break-and-enter addresses that display the highest number of repeat incidents as well as showing how many repeat addresses are responsible for the total number of repeat incidents will be explored in detail. As far as spatial analysis is concerned, police beats and frequency of repeat burglaries will be geo-coded and mapped, in order to show which beats have the most repeat incidents and which ones have the least.

Finally, chapter six will reexamine the purpose of this thesis and analyze the meaning and implications of the results. Since the goal of this thesis is to gain a better understanding of the repeat burglary victimization phenomenon in Vancouver, seeing whether some of the previous repeat burglary theoretical considerations can be applied to the Vancouver data study will be explored. Also, a recommendation of a policy geared toward preventing the burglary *repeat* phenomenon will be presented and discussed: policy intent and stakeholders, implementation, procedure, monitoring and evaluation and an ethical dilemma. One of the primary objectives of conducting burglary revictimization research is to see whether it warrants special attention by criminal justice agencies in the form of a crime prevention policy. With reference to this particular exemplar, it can be said that the public policy of relevance should have the specific policy intent of assuring that citizens in their community are not revictimized in their residential or non-residential

venues. A further goal of this thesis is to provide Canadian criminal justice agencies, especially the police and other interested stakeholders, with the necessary information regarding the necessity of creating a burglary revictimization prevention policy: premised on the most recent literature pertaining to this phenomenon. Finally, future work that should take place as a result of this study will be discussed.

Appendix A contains a detailed description of the methodology used to measure repeat victimization.

Chapter 2: Burglary and Burglary Revictimization: An Overview

According to Van den Bogaard & Wiegman (1991), crime aimed against persons and households, including property related crime, such as residential burglary, has risen in most Western countries. Interestingly, the crime of break and enter has declined in Canada over the past decade, yet it is still a crime that continues to persist and is worthy of significant study. More specifically, shifting the focus of studying initial break and enter crimes and concentrating on subsequent repeat victimizations is essential. The incidence of multiple or repeat burglary victimization has been relatively neglected in crime research, despite the identification of this phenomenon some years ago by Johnson et al (1973) and Zeigenhagen (1976), in which the term *recidivist victim* was coined (as cited in Mawby, 2001). During the same time period, Sparks, Genn and Dodd (1977), carried out the first victimization survey in England and noted that the number of crimes cited by victims did not follow a normal distribution: certain households experienced a substantial proportion of all crimes (Mawby, 2001). Thus, victimization, in general, is not uniformly distributed among populations at risk: reported crime is concentrated within subsections of the population, with the majority of households not being victimized at all, and others being victimized on more than one occasion (Johnson et al., 1997). Several studies have also found an elevated risk of burglary following an initial incident (Johnson et al., 1997). Hence, the idea that crime victimization is, perhaps, concentrated amongst certain persons and households, evokes significant benefit to public policy if crime preventive resources can be deployed where and when they are

needed most (Hope et al., 2001). In essence, since the relationships between victimization events are not random occurrences, a remedy, in the form of a crime prevention initiative, is possible and necessary.

In order to appreciate the seriousness of the burglary 'repeat' phenomenon, it is critical to examine the existing research literature. Even though the present Vancouver study will not be differentiating between residential and non-residential burglaries, nor analyzing victim demographics, by providing a general historical overview of burglary at common law and at present, as well as offender demographics, motivation, modus operandi and general crime rates, the phenomenon of burglary *revictimization* will be better understood. In addition, throughout the review, both residential and nonresidential types of burglary will be discussed separately, since such crimes have distinct patterns and dynamics. Finally, an overview of burglary revictimization will be scrutinized, in order to demonstrate the need for more spatial and temporal research, which focuses on how burglaries concentrate in time and space in a particular area. In the final section of the chapter, 'victim impact,' showing how victims of repeat burglaries are affected, will be assessed.

Historical Overview of Burglary At Common Law

It is pertinent to begin by briefly defining burglary at common law, at present, as well as describing the crime patterns of burglary during this period in history because the target for the dwelling-house burglar then was entirely different from today (Walsh, 1980). Specifically, the timing and event target choice of burglars, carried out by breaking into

someone's home at night when it was occupied, will be examined. At common law, burglary was strictly an offence against habitation, and was very narrowly defined. The precise aim of the law in England was to protect the home from intrusion, and a burglar was considered to be:

he...that in the night time breaketh and entereth into a mansion house of another, of intent to kill some reasonable creature, or to commit some other felony within the same, whether his felonious intent be executed or not (Coke, 1817:63; as cited in Levy & Handfield et al, 1986:4).

The above description, of a burglar and the offence of breaking into a home, during common law demonstrates the narrow definition encompassing this type of crime. For example, an actual break and separate entry into the home had to occur; meaning, making a hole in the wall or going down a chimney were all considered 'breaking,' but going through a hole the owner of the home made, or entering by an open door were not (Levy & Handfield et al., 1986). Furthermore, only dwelling houses were protected under this offence and it had to take place during the night. Intent to break and enter, along with an intent to commit a second felony were also required criteria. Aside from the nocturnal common law offence of burglary, in which a severe penalty of death (prior to 1837) and life imprisonment (after 1837) was implemented, 'housebreaking,' by contrast, was deemed as a simple misdemeanor, simply because it was characterized as an offence that consisted of breaking into a home during the day when nobody was home, thus considered a less heinous act than burglary (Levy & Handfield et al., 1986).

Burglary At Present: *Criminal Code* Definition

Currently, as set out in the *Criminal Code*, break-and-enter is defined as follows:

348(1) Every one who

- (a) breaks and enters a place with the intent to commit an indictable offence therein,
- (b) breaks and enters a place and commits an indictable offence therein or
- (c) breaks and enters out of a place after
 - (i) committing an indictable offence therein, or
 - (ii) entering the place with intent to commit an indictable offence therein

is guilty of an indictable offence...punishable by life imprisonment if the place is a 'dwelling-house' or 14 years imprisonment if some other 'place' (Mewett & Manning, 1994:840).

Under the present *Uniform Crime Report* definition, the crime of break-and-enter is a continuation of traditional burglary and expands on the common law definition by incorporating break and entering against non-residential structures. As seen in section 348 of the *Code*, a more serious and separate offence of unlawfully being in a dwelling house with the intent to commit an indictable offence was added (life imprisonment).

Change in Crime Patterns of Burglary At Common Law To Present

In London, during the mid-nineteenth century, it was assumed that the most popular target for the burglar were the dwelling houses that belonged to the distinctly wealthy, which, in essence, meant the homes were occupied because there was an 'entourage' of indoor and outdoor servants (Walsh, 1980). Thus, befriending or attempting to pressure existing servants to let them break into the dwelling at night accomplished entering into an occupied, affluent dwelling. Burglars were described as being poor and living in

meager areas of the city; therefore, traveled to prosperous areas at night to commit their crimes. With the change in definition of burglary, in the *Criminal Code*, a typical burglary was no longer described as an offence where the burglar broke into an occupied residence. Moreover, according to Walsh (1980) the majority of burglars are determined that a confrontation with a person in the home will not occur and take special precautions against it, such as making sure the house is empty, searching quickly and creating a secure escape route. Thus, academics describing burglaries in the twentieth century focused on crimes in which offenders were seeking out unoccupied dwellings; therefore, the target selection of burglars was different from burglary throughout the common law era.

Beginning with the work of Shaw and MacKay in 1942, these sociologists found that juvenile burglars operated in poor areas, and close to where they lived. In the years following, Reppetto (1974) observed that the average annual rate of burglary of lower income neighborhoods was more than one and a half times that of middle income neighborhoods and more than three and a half times that of upper income neighborhoods. Criminologists P.J. and P.L. Brantingham (1975) found, in their Florida study, after mapping recorded burglaries that both high and low rates of burglary occurred in both rich and poor areas (as cited in Walsh, 1980). It is, therefore, relevant to provide a closer examination of modern time residential and commercial burglary, in order to show the unique dynamics of these types of crimes.

The 'patterns' in crime have been described as being the chronological and spatial distribution of rates, the distinctive characteristics of methods and target choices, as well as the social and physical circumstances which attempt to relate and explain specific types of crime (Repetto, 1974). Residential and commercial burglaries have distinct patterns, thus before examining the crimes' particular rates, literature analyzing these crimes, such as the demographic characteristics and specific motivations of offenders (as presented in various studies), will be explored. In addition, the use of space, site/target selection and temporal considerations involved in the commission of these crimes need to be assessed, in order to provide an adequate comparative analysis between the two offences.

Burglary Demographics

Various studies analyzing residential burglaries focus on the offenders' demographic characteristics. Such studies make it clear that there are commonalities between burglars; therefore, often the goal of academics and/or researchers is to profile the 'typical' burglar. For example, a study conducted by Rengert and Wasilchik (1985) found that the 31 suburban burglars they interviewed in Pennsylvania prison, ranged in age from 18-35. Repetto (1974) also reported on the demographics of 1,988 residential burglars in Boston, obtained from police reports, as well as on 97 adjudicated burglars who were personally interviewed. Repetto (1974) concluded from the police reports that in 1970, 95% of the burglars arrested were male and the median age was 17. From the 94 interviews conducted, it was determined that the most common age group of burglars fell in the 18-25 range and 68 percent of them were categorized as drug users. The typical

drug user was described as having a habit of either abusing heroin and sometimes amphetamines, needing more money, thus making more hits and working more around his neighborhood as his drug habit increased: preferring single-family suburban homes, utilizing little planning and being more inclined to be reckless and risk confrontational because of desperation for substances (Repetto, 1974).

The Boston study attempted to classify burglar profiles even further by summarizing the 'typical' burglar in a given age group. For example, the typical juvenile offender lacked education and experience, demonstrated little skill in his criminal activities, had been arrested a couple of times and was placed on probation (Repetto, 1974). The 'typical' 18-25 year old offender, according to Repetto (1974) had several age-related characteristics including: several previous convictions, higher mobility (i.e., moving outside of his neighborhood) than the young offender and had a serious drug problem. Also, compared to younger offenders in this group, on average, this offender did five more hits a week and took a wider variety of goods because he had more channels for disposing them. The *older* offender (25 and over) had been a repeat burglar for many years and had been in and out of prison on several occasions. Walsh (1980), in a study of 24 burglars interviewed in Exeter, England (1976), also concluded that although there are no age restrictions for burglary, as Repetto found in the Boston study, the typical burglar begins as a young male; who by his twenties is on the way to being a careerist. The obvious career burglar, according to Walsh (1980) is in the 30-40 age group and is described as, "competent, physically very strong, anxious and wary, determinedly non-violent and very selective in their choice of a home" (p.59).

Motivation of Burglars

In order to gain a comprehensive understanding into the criminal event of burglary, the motivation of the offender needs to be explored. Several studies, Reppetto's (1974), Bennett and Wright's (1984), Scarr's (1973), Cromwell and Olsen et al., (1991) and Wright and Decker's (1994) examined the motivation behind the offence of burglary and all arrived at similar conclusions.

The *need for money* was deemed as the prime motivator according to the offenders in Reppetto's study (1974). Bennett and Wright (1984), who conducted a three-year project at the Institute of Criminology in Cambridge, observed similar findings. Their study, which examined 309 burglars' perceptions and decision-making during a structured or semi-structured interview, found that 46 percent expressed *instrumental needs* as the primary motivators, with *money* ranked the highest. Cromwell & Olsen et al., (1991) interviewed 30 active burglars in Texas and also observed that *money*, primarily used for drugs and alcohol was the highest motivator; interestingly, alcohol was not the only precipitating factor for the commission of the offence but so were the effects of experimenting with different drugs on offender decision-making.

Wright and Decker (1994) discuss 'desperate partying' as being another motivation for which money is needed. Most commonly, offenders do not save the money that they obtain through burglary and, instead, spend it to "keep the party going" (Wright & Decker, 1994: 38). The burglars spend the money to party, during which time they engage in the use of illicit drugs, which the offenders regard as pleasure-seeking pursuits

(Wright & Decker, 1994). Although literature states that many burglars have impaired judgment while burglarizing, drug use makes them take more risks and increases their courage during the commission of the offence (Rengert & Wasilchick, 1985). Some burglars saw it as a direct cause in burglarizing (Bennett & Wright, 1984).

Other less likely but still existent motivating factors in burglars' decision to offend, as mentioned in several studies include: *influence of others*, *decision precipitated by presented opportunities* and *tip-off*. The *influence of others* refers to peer pressure and *presented opportunities* means that the offender comes face-to-face with a chance discovery of a vulnerable target or learns about a vulnerable location from someone else. Finally, *tip-off* refers to offenders not intending to burglarize until they heard information from somewhere (Bennett & Wright, 1991; Shover, 1973). In addition, *gambling*, *partying*, *leading a fast expensive life*, and for *expressive needs*, such as excitement, thrills, or when feeling bored, depressed or upset, were deemed as other motivating factors for committing the offence of burglary (Scarr, 1973; as cited in Cromwell & Olsen, 1991:20; Wright & Decker, 1994). Also, *social motives*, gangs, delinquent subcultures, peer approval, status, as well as *revenge* (revenge mentioned at least one time in the Texas study, where the burglar(s) knew the owner of the dwelling) were factors (Cromwell & Olsen, 1991).

Residential Burglary Target Selection

Even though the thesis predominantly focuses on the temporal aspects of burglary revictimization, rather than or in conjunction with spatial considerations of targets, target

selection is significant. Moreover, Environmental Criminology stresses the importance of studying and analyzing offenders' target selection processes; therefore, it is an area that deserves attention, especially since a component of the Vancouver burglary revictimization study will identify and discuss the top ten burglary repeat locations. Literature in criminal justice, in the last two decades, has focused a lot on the spatial search of targets by residential burglars (Brantingham & Brantingham, 1984). It is vital to examine burglars' target selection and compare them to nonresidential burglars. Key target characteristics that influence burglars' decision-making process prior to committing the offence have been identified as follows (Cohen, Kluegel & Land, 1991; Lynch & Cantor, 1992; Cromwell, Olsen & Avary, 1991; as cited in Mawby, 2001:29,74):

Table 1: Target Characteristics

| | |
|------------------------------|--|
| target exposure | the visibility and accessibility of the home |
| guardianship | the extent to which the home is protected |
| target attractiveness | value of property that might be stolen |
| proximity | distance of target from potential offenders |
| surveillability | the extent to which the premises are overseen by passer-by and neighbors |
| occupancy | as suggested by the presence of a car, noise, lights, etc. |
| accessibility | including the presence or absence of window locks, an alarm, open windows etc. |

The Vancouver study, conducted for the purposes of this thesis, does not analyze target characteristics but it is worthwhile to understand why, spatially, specific locations are targeted and subsequently revictimized. According to Hakim et al., (2001), deciding to carry out a burglary and consequently targeting a specific dwelling are an interrelated decision process. Thus, for burglars, searching for a crime site by taking into account the

location of homes and their specific attributes becomes a critical step before committing their crime. Hakim et al., (2001) conducted a survey study with a sample size of 3,014 dwellings in the Greenwich, Connecticut neighborhood. The purpose of the survey was to find out how many respondents had experienced a burglary since residing in their present home. Specifically, the target selection of burglars, when certain factors surrounding the home were present, was investigated. After using a logistic regression analysis technique, Hakim et al., (2001) found the explanatory variables of *burglar alarm, car in driveway, time and or motion sensor* and *neighbors collect mail and newspapers*, to be highly significantly related to whether or not the home is burglarized. Also, significant at the 0.001 level were the variables of *located on dead-end street, value of house* and *children in household*. The final location and socioeconomic variables, which were found to be significant at the 0.05 level, were *single family house, borders on wooden area or playground, distance from highway, corner house* and *year moved to present house*. Hakim et al., (2001) concluded that the factors which predict a high likelihood of residential burglary, thus have the highest probability of burglary (0.712), include: an expensive house, a detached single family home located within a quarter of a mile from a major thoroughfare, house is *not* located on a dead-end street but *is* a corner house and does *not* have a burglar alarm. Furthermore, the likelihood of a burglary increases if the house *is* adjacent to a wooded area or playground, does *not* contain a motion sensor or timer, does *not* have a vehicle parked in the driveway and the mail/newspaper(s) are left visibly unattended. Such findings are consistent with environmental criminology literature, focusing on burglary target accessibility, surveillability, and occupancy.

Beginning with the first category of environmental factors, *target accessibility*, which is defined as, “indications of how easily the residence can be entered and how well the site is protected” (Cromwell et al., 1991:37; as cited in Robinson & Robinson, 1997), may involve the burglar choosing to locate a subarea, after selecting a general area, such as a block and finally an attractive unit, which offers anonymity, such as poor street lighting, and bushes in the vicinity (Brantingham & Brantingham, 1984a; Brantingham & Brantingham, 1984b; as cited in Clarke & Hope, 1984). Such a decision-making process is referred to as the concept of *mixed scanning*, since the burglar utilizes hierarchical and sequential decisions that proceed from a broad scanning of possibilities, to a detailed investigation of fewer possibilities (Brantingham & Brantingham, 1984a). Moreover, Brantingham & Brantingham (1975) found in a study that the residential burglary rate was the highest on the borders or edges of residential districts; similarly, the study assessing the borders and edges, in the residential neighborhoods of Greenwich, Connecticut, established such a factor to be significant for burglary targeting (Hakim et al., 2001).

The second and third category of environmental factors, *surveillability* and *cues* coincide, since both involve a degree of planning for entering an unoccupied home. The former is defined as, “the extent to which a residence is overseen and observable by neighbors or passerby,” and the latter as, “any cues that indicate someone is home” (Cromwell et al., 1991:35,37). Such environmental factors are crucial components in the crime of burglary, since most burglars are determined not to have a confrontation with a victim, nor do they want to be seen (Walsh, 1980; Repetto, 1974; Cromwell et al., 1991).

Cues, in the crime of burglary, can be described as used information obtained from the environment (environmental stimuli), which function as signals to inform about the environment's temporal, spatial, socio-cultural, psychological and legal characteristics (Cromwell et al., 1991). Examples of a few physical cues utilized by residential burglars are small apartment buildings because of a perceived anonymity (Brantingham & Brantingham, 1984a), closed windows on hot days, full driveways to empty (follow-up on cars) (Rengert & Wasilchick, 1985), dwelling located on dead-end street and whether or not neighbors collect mail and newspapers (Hakim et al., 2001). Furthermore, other than accessibility and the physical layout of the property, several studies distinguish between features of the property that might encourage or dissuade a potential burglar. Such features appear in the form of security devices, security patrols and the presence of the occupier and/or neighbors (Cromwell, Olsen & Avary (1991); as cited in Mawby, 2001).

Temporal and Spatial Patterns of Residential Burglary

Breaking into a selected premise (residence) requires proper time management; meaning, most burglars break-in between 9am-11am and 1pm-3pm during weekdays and 8pm to 11pm (mostly Friday and Saturday nights), since the chance of a residence being occupied during those hours is quite small: opportunity of being surveilled by neighbors also decreases (Cromwell et al., 1991; Maguire & Bennett (1982); Rengert & Wasilchick, 1985; Wright & Decker, 1994). The Vancouver C.A.D. study will not be analyzing specific hours and minutes but rather the time *between* initial and subsequent burglary revictimizations.

Spatially, residential offenders circle within offenders' own 'local enterprise' (Rengert & Wasilchick, 1985). The offender's area of burglary is contained in his/her awareness space, which then becomes a 'criminal activity space' (Rengert & Wasilchick, 1985). Several studies reflect similar findings, which are that most burglars break-and-enter into a dwelling just outside their own home area, in their activity space, particularly the areas close to major activity routes and along significant traffic arteries (Brantingham & Brantingham, 1984b; as cited in Clarke & Hope, 1984; Rengert & Wasilchick, 1985; Reppetto, 1974; Walsh, 1980). For example, in the Sheffield study (1976), residential burglars committed 70 percent of their crimes by traveling less than two miles: (Baldwin & Bottoms (1976); as cited in Maguire & Bennett, 1982). Also, a completed neighborhood study (Brantingham & Brantingham, 1983) in New Westminster, revealed that the residential burglary rate was found to be highest on the borders or edges of areas, rather than the core (as cited in Clarke & Hope, 1984).

Wiles and Costello (2000) examined offender crime patterns by analyzing geocoded police recorded crime statistics (n=25 professional burglars identified by South Yorkshire Police), DNA records and conducted personal interviews with burglars (n=35 in Sheffield). Results confirmed previous studies' findings by demonstrating that the vast majority of offender movements are quite short: for Sheffield based offenders, police recorded crime data show that over a third of crime trips are less than one mile; over 50 percent are less than two miles and only 11 percent involve travel greater than 10 miles. When analyzing burglars' offences in relation to their most recent address, areas previously lived in and areas known well, showed that offences were most concentrated

in the area of current residence, followed by areas previously lived in and finally areas well known to the offenders (Wiles & Costello, 2000). Hence, the most important finding from current and previous research, regarding offender mobility in relation to burglary, is that most offenders are inclined to commit crime in areas local to where they reside or spend their leisure time.

Increase in the Residential Burglary Crime Rate

Measuring crime rates of residential burglary from the time of Reppetto's study (1974), demonstrate that such crimes have been decreasing at a faster rate than the nonresidential versions of these crimes. Literature shows that even though there has been development of enhanced technology to combat robbery and theft in traditional target areas, such as convenience stores, gas stations, restaurants and banks (Hurley, 1995), commercial premises are still being heavily targeted and subsequently revictimized.

Nonetheless, it has been ascertained that perhaps the home invaders' biggest ally may be Canada's tight gun-control laws because, according to David Kopel, a gun control analyst with the Independence Institute in Denver, the ongoing high level of gun ownership in the United States as opposed to Canada may serve as a deterrent effect on burglars (Sheremata, 1996). Also, Sheremata (1996) confirmed that Florida State University Criminologist, Gary Kleck, lent support to the idea of 'more guns, less crime,' since the 'mandatory' gun-ownership law effective on March 25, 1982 in Kennesaw, Georgia, introduced by Darvin Purdy (mayor), decreased burglary by 83 percent within one year in that particular city (from 65 to 11). Finally, Gary Mauser (1995) ascertained that the

track record of 'gun control' reducing criminal violence is not good. Naturally, more studies testing the reliability and validity of such 'gun-control' research would have to be done, controlling for other plausible explanations and closely examining rates, before such an argument could be readily accepted.

Commercial Burglary Target Selection

A considerable amount of research exists into residential burglary, yet little has been published about non-residential (commercial) burglary. The thesis study will not be differentiating between residential and non-residential burglaries due to the way the CAD data are recorded but chapter six examines the ten most frequently victimized addresses, so it will be evident that commercial premises are rampant as far as burglary victimizations are concerned. In general, more emphasis is being placed on crimes where individuals and/or households, rather than organizations or businesses, are the victims (Mawby, 2001). A limited amount of literature does exist into commercial burglary, which covers at least five broad areas: the nature and extent of commercial burglary; the effects of such offences on the companies and individuals involved; the nature of police response; crime prevention strategies and information on the offenders (Mawby, 2001).

As far as non-residential burglary target selection is concerned, Wiersma's (1996) study of 83 commercial burglars in the Netherlands showed that targets were predominantly selected because of their perceived vulnerability; specifically, location in a business park or lack of a burglar alarm (Mawby, 2001). Several studies, which utilized the interview

method with offenders, found that burglars were not put off by conventional burglar alarms or door or window lock alarms and extra bolt locks (Butler, 1994; Kruissnik, 1995; Walsh, 1986; Wiersma, 1996; as cited in Mawby, 2001). However, Kruissnik's (1995) Dutch survey showed that burglars were, in fact, deterred by security staff, silent alarms wired directly to the police station and by guard dogs but not by other security equipment (Mawby, 2001). Thus, given that no evidence exists for the effectiveness of target hardening or private security measures for commercial premises, such findings are contradictory with literature presented on residential burglaries (Mawby, 2001), which demonstrate the opposite effect for deterring the particular crime. Finally, a study conducted in New Westminster, B.C., (1983) by Brantingham and Brantingham, assessed the link between commercial burglaries per store on blocks, as well as the presence of five types of commercial landmarks: fast food restaurants, traditional restaurants, supermarkets, department stores and pubs (as cited in Eck & Weisburd, 1995). It was concluded that supermarkets, department stores and pubs had similar rates but the remaining two landmarks experienced rates 2 to 2.5 times higher than their counterparts.

Temporal and Spatial Patterns of Commercial Burglary

Non-residential burglaries, however, differ in both temporal and spatial considerations. When considering the timing of commercial offences, studies suggest that such burglaries predominantly occur either at night and and/or throughout the early morning: weekends 7pm to 5am when businesses are empty (Butler, 1994; Kruissnik, 1995; Mirrlees-Black & Ross, 1995; Walsh, 1986; as cited in Mawby, 2001). Thus, such findings contrast with household burglaries, since such offences take place during the day when houses are

indeed empty. The limited number of studies that have analyzed spatial targets of commercial burglary found that retail stores are selected the most (Butler, 1994; Kruissnik, 1995; Mirrlees-Black & Ross, 1995; Mawby, 2001).

Official Burglary Crime Rate

The temporal patterns in the crime of burglary indicate that although burglary increased substantially between 1960 and 1980 in both Canada and the United States (Brantingham & Brantingham, 1984:124,127), modern crime trends indicate a substantial decline for this type of crime. The recent Canadian Uniform Crime Report (UCR) (2000) shows that break-and-entry is the third most prevalent crime: demonstrating a total count of 318,448 break-and-enter offences and a rate of 954 incidents per 100,000 (Statistics Canada, 2000). A further breakdown of the total count of break-and-enter shows that there were 197,781 residential offences, 83,950 business and 36,717 in the 'other' category; break-and-entry making up 23 percent of the total property crime) (Brantingham, 2002).

Finally, according to Statistics Canada (2001) the rate of breaking and entering for 2001 decreased from the previous year of 954 to 909 incidents per 100,000 population.

A general historical and current overview of residential and commercial burglary was presented but the phenomenon of *repeat* burglaries, which has been neglected in research, needs to be discussed. This thesis presents original research on burglary revictimization, therefore, reviewing the limited work done in this area is the next logical and necessary step.

Burglary Revictimization: An Overview

The problem of repeat burglary victimization has been largely ignored in literature, except by a select few academics, who, in recent years, have addressed this phenomenon. It was not until Sparks, Genn and Dodd (1977) conducted a major victim survey researchers began to look at the issue of revictimization. The definition adopted for repeat victimization, which best fits with burglary repeats, is, “the individual is the victim of two or more crimes of the same type within a given time period” (Hope et al., 2001:595). Undoubtedly, such a definition implies that, within a specific time frame, a person, household or commercial business experiences the same type of crime more than once: “lightening does strike twice” (Mawby, 2001:51). Literature has increasingly been looking at multiple or recurrent victimization instead of individual victimization events because this enables criminologists, police and policymakers to better understand how and why some households, for example, are victimized more frequently than others. The dominant reasons, given by burglars, as to why burglary revictimization occurs is because offenders come back to take things they overlooked the first time, and/or they tell others of the opportunities and vulnerability of a specific household (Bennett, 1996). Moreover, according to Clarke (1997), interviews with repeat burglary offenders in West Yorkshire revealed that offenders return to initially burgled addresses because such repeats involve less risk, since the place is known including escape routes and also because the offenders can capture new, insurance-replaced goods. Thus, the studies’ findings reveal the degree to which burglary repetition is rational and market driven.

Prevalence of Burglary Revictimization

Several studies show how burglary ‘repeats’ are a prevalent problem. A key study in California (a Tri-cities study), that looked at the issue of burglary victimization and focused on establishing a program geared toward reducing the burglary rate increase in areas specifically impacted, enforced target-hardening measures (Sparks et al., 1979). Moreover, the Kirkholt Burglary Prevention Project in Britain was significant because it successfully transformed repeat victimization from an academic problem to a key policy issue (Mawby, 2001): identified multi-victimization in Rochdale as an evident feature of the high burglary rates; once a household has been burgled, the chances of it being victimized again were fourfold (Tilley, 1993). Similarly, the study conducted by Polvi *et al* (1990), examined residential burglaries and the researchers ascertained that the likelihood of a revictimization within one year was approximately four times what is normally expected (Mawby, 2001).

Burglary Revictimization: Temporal Considerations

Temporally, research suggests risk of burglary revictimization is the greatest in the period immediately after the original incident (Guidi et al., 1997). Several studies show that approximately one third of the total number of repeats occurred within one month of the original incident (Johnson et al., 1997; Hope, 2001; Polvi et al., 1991; Ratcliffe & McCullagh, 1998; Robinson, 1998; Spelman, 1995). Unfortunately, the majority of studies focusing on temporal and spatial patterns for burglary *repeats* collapse residential and non-residential together; therefore, the unique dynamics of the two distinct crimes

have yet to be discerned. For example, the study conducted in Tallahassee, Florida also portrayed the largest share of burglary revictimization of residences as occurring within one week of the initial offence (Robinson, 1998). Another study conducted by Polvi (1990), reported that the revictimization rate of offences per 1,000 burglaries was over 12 times the expected rate for the one month following the initial burglary; as time passes the risk of revictimization diminishes (Johnson et al., 1997). Overall, research indicates an absence of any elevated risk after 6-7 months (Polvi et al., 1991). Since research shows that time-course of repetition of break-and-enter is relatively short, the incentive to focus on *short-term* repetition is clear; therefore, it is important to implement crime prevention resources by concentrating on those who have already been victimized.

Burglary Revictimization: Spatial Considerations

The 1982 British Crime Survey (BCS) is an excellent example illustrating the ecological distribution of residential burglary revictimization: the types of neighborhoods revictimized. The sample consisted of 10,905 people, interviewed in England and Wales, along with area crime rates, which were compiled in three ways: total crime, personal crime and property crime (Trickett et al., 1992). Overall, this study demonstrated how repeat victimization was not uniformly distributed, emphasizing how reported crime was concentrated only within certain subsections of the population (Johnson et al., 1997). Similarly, in another study, repeat burglary victimization calls for service made to the police were investigated (Illinois Criminal Justice Information Authority, 1996) and spatial pattern analysis located 'hot spot' areas (Guidi et al., 1997). A *hot spot* can be simply defined "as a place (e.g., a residential dwelling) where criminal revictimization

has occurred” (Robinson, 1998:78); thus, hot spots can be characterized as areas that have the highest number of repeats or *clusters*, in comparison to other zones (Guidi et al., 1997). When referring to *clustering*, Brantingham and Brantingham (1982) discuss how crime events are not uniformly distributed, at every aggregation, certain geographic areas have less crime than others (as cited in Eck & Weisburd, 1995).

The results of the Illinois study showed that burglary repeats predominantly clustered in three major hot spot areas: around the suburb’s shopping centre, major intersection of a main road and arterial road and concentrated at the Central Business District (Eck & Weisburd, 1995). Finally, studies in both the Merseyside and Nottinghamshire District show high percentages of incidents of burglaries being committed at residential properties that had already been burgled on at least one occasion (Johnson et al., 1997; Ratcliffe & McCullagh, 1998). However, the Nottinghamshire District study went even further and examined non-residential spatial dynamics. The researchers found, after employing GIS (Geographical Information System) to select locations that had been victimized twice or more frequently, that over 80 percent of the premises were non-residential (Ratcliffe & McCullagh, 1998). Particularly, sport centers, schools and thefts from building sites: the latter, according to police experience, having an extraordinary high reporting rate (Ratcliffe & McCullagh, 1998).

When the focus of a study was also on commercial properties, a study conducted by Guidi et al (1997) found that many of the most frequently victimized commercial addresses were public facilities such as schools, shopping centers and commercial

properties. This study also concluded that although repeat victimization occurred in both residential and non-residential properties, it was much more prevalent in non-residential premises (Guidi et al., 1997). Such a finding reflects a higher overall incidence of break-and-enter in commercial properties: *incidence* being the product of both *prevalence* and *concentration* (Guidi et al., 1997). *Concentration* is defined as “the average number of victimizations per victim” – counts crimes per victim; *incidence* refers to “the average number of victimizations per head of population at risk of victimization (crimes per head)” – counts crimes; *prevalence* “equals the estimated percentage of the population at risk who are victims in a given time period” (victims per head) – counts victims (Farrell & Pease, 1993:5).

Hence, these findings illustrate clearly the importance of studying repeat victimization, not only for theoretical reasons but also for practical policymaking; the latter being essential because policy and practice are underdeveloped in this area (Johnson et al., 1997; Robinson, 1998).

This thesis, analyzing temporally how frequently burglary revictimizations occur in Vancouver, may potentially have tremendous policy implications; therefore, realizing how victims of residential burglary are impacted by such an attack on privacy is critical because, after all, the primary goal of preventive measures is to stop the crime from occurring and reoccurring and the secondary goal is to appease citizens who have encountered this type of crime; thereby, alleviating their suffering.

Victims of Burglary

The Vancouver CAD data does not contain information on victims of crimes; however, it is pertinent to briefly review the literature on victims of burglary and burglary repeat victimizations, since it is evident that there are individual victims who likely suffer a great deal from having their premises burglarized more than once. This indicates that a Canadian burglary prevention policy, adopting similar characteristics to the prevention strategies employed in Great Britain and the United States, should be developed.

Research indicates that most crime victims are younger, single and living in metropolitan areas. Such findings are consistent with most victimization research. For example, general victimization studies show that some individuals run a greater risk of being victimized than others, which supports the notion that certain individual-level demographic and lifestyle-routine activities characteristics are significantly related to the risk of criminal victimization (Miethe and Meier, 1994; as cited in Fisher et al., 1998).

The 1993 National Crime Victimization Survey lends further support to victim demographics, finding that one defining characteristic of victims is youthfulness; individuals of younger age categories had among the highest rates of personal victimization compared with other age categories (12-15-year-olds; 16-19; 20-24 and then 25-34 year olds); overall, victimization research has consistently supported these national level statistics (Bureau of Justice Statistics, 1994; as cited in Fisher et al., 1998).

In addition, males as well as unmarried and low-income individuals, male or female, are at a higher risk of violent victimization (Kennedy and Ford, 1990; Miethe and Meier, 1994; as cited in Fisher et al., 1998). These findings are important for burglary

revictimization policy, since the victim demographics can be used to assist police as potential indicators to locate areas more vulnerable to this type of property crime. Nonetheless, it is important to be aware that the victim studies that provide victim characteristics usually focus on crimes against the person, not property or household crimes.

Understanding the way in which individuals who are victims of property crime, especially burglary, are impacted will demonstrate the need for preventive measures. In a study assessing victim impact, conducted in Kentucky (1998), a sample of 227 property crime victims, along with violent crime victims and nonvictims, were interviewed, providing normative baseline data regarding levels of psychological distress following criminal victimization (Norris & Kaniasty, 1994). Three waves of data were collected: at approximately three months, nine months and 15 months postcrime in order to understand how individuals are impacted after being burglarized (Norris & Kaniasty, 1994). Of the 227 property crime victims, 20 percent had experienced vandalism, 50 percent larceny and 30 percent burglary from the home (Norris & Kaniasty, 1994). The results of the study indicated that the psychological symptoms suffered by property crime victims were significantly higher than their *no-crime* counterparts. After three months, postcrime, the crime victims exhibited pervasive symptomatology across diverse domains, including a moderate degree of avoidance behavior, fear of crime, anxiety, depression, hostility, somatization and phobic anxiety. Although victims' symptoms of distress were found to decline from the previous levels over the next six months and soon

leveled off, even after nine months and 15 months (the end of the study), property crime victims were still more symptomatic than nonvictims (Norris & Kaniasty, 1994).

A study conducted in Queensland, Australia (1991) showed that out of 66 029 victims of break and enter or attempted break and enter, 25.4 percent reported having experienced more than one incident of the same offence during the survey period (Mukherjee & Carcach, 1998). The study concluded that among victims of burglary, those victimized more than once in the recent past tended to experience increased fear compared to households victimized on only one occasion (Mukherjee & Carcach, 1998). Similarly, victims who were victimized on a single occasion still experienced a substantial amount of fear of future victimization (Mukherjee & Carcach, 1998). An in-depth European study, which focused on residential burglary victims tested two alternative hypotheses (Mawby, 2001:58-59):

- 1) If victimization is a traumatic experience, the experience of a second offence will increase the trauma.
- 2) The impact of a second burglary may be cushioned where one has learnt from the initial experience.

In order to test their competing hypotheses, the researchers compared the responses of first and repeat burglary victims and found that first time burglary victims described themselves more affected than did repeats (53 percent initial victims versus 43 percent repeat victims). However, repeat victims indicated more longer-term effects (Mawby, 2001).

The studies discussed above predominantly discussed victim impact for domestic crimes of burglary; little is as yet known about the extent of emotional effect on victims of

commercial burglary (Mawby, 2001). For example, the study conducted by Redshow and Mawby (1996) in Devon and Cornwall found that 44 percent of commercial victims claimed the incident had a negative effect on their business and 24 percent stated it had had an emotional effect on themselves as well as their staff (Mawby, 2001).

Overall, research findings regarding the psychological consequences of burglary are also consistent and show that immediately after detecting the intrusion, general emotional reactions include being surprised, shocked and upset (Waller & Okihiro, 1978; as cited in Van den Bogaard & Wiegman, 1991). Moreover, more serious and rampant emotional effects include anger, anxiety and fear of burglary in the future; widespread long term effects, cited in literature, appear to be anger, fear of repeat burglary and a loss of trust in others (Van den Bogaard & Wiegman, 1991). Also, many studies concluded residential burglary heightens the psychological meaning of property and possessions for the majority of victims (Van den Bogaard & Wiegman, 1991). Undoubtedly, victims fear burglary revictimization and are terribly traumatized from the original event; thus, creating a policy geared towards prevention will most likely gain support from the victims themselves and, perhaps, nearby neighbors in the community. Furthermore, there is an absence in literature on discussions pertaining to victim impact from fast repeat victimizations to slow repeat incidents (i.e., within a week versus within a month), as well as the probable time (day or night) when the offence occurred.

Summary

The goal of this literature review was to present a condensed version of the works completed on the topic of burglary, burglary revictimization and victims of burglary. Particular attention was paid to temporal and spatial considerations of burglary revictimizations and the limited studies conducted on this phenomenon (both residential and non-residential burglary revictimizations). Since this thesis will explore temporal patterns of burglary *repeats* in Vancouver, British Columbia, the next chapter will focus on the existing theoretical underpinnings for this type of crime.

Chapter 3: Theoretical Research Framework

Theoretical Considerations

Before discussing the research context and methodology for the current burglary revictimization study which assesses how burglary repeats concentrate in time, theoretical considerations attempting to explain this phenomenon will be addressed. Specifically, how environmental criminology plays an integral role in identifying repeat victimizations through spatial and temporal analysis. Various environmental theoretical perspectives aid in the understanding of burglary revictimization because such theories lend insight into why one particular place is more prone to revictimization than another: rational choice theory, routine activity theory and opportunity theory are among them. In addition, offender decision-making, for the crime of burglary revictimization will be analyzed by examining several hypotheses: affluence, vulnerability, social cohesion, reputation and proximity. The differential-risk perspective (routine situational risk transmission), which is closely linked to the life-style exposure approach, will also be considered. Finally, two competing yet complimentary explanations to repeat victimization: *state dependence and risk heterogeneity* will be discussed. Undoubtedly, crime prevention can only be adequately implemented if offender target selection is understood; therefore, theoretical considerations are vital to include in this analysis.

ENVIRONMENTAL CRIMINOLOGY

Various environmental theoretical perspectives aid in the understanding of burglary revictimization, particularly theories dealing with offender target selection. Rational choice theory, routine activity theory and opportunity theory are significant when studying burglary repeats. For instance, theories such as the routine activities approach and criminal opportunity highlight the importance of the convergence in time and space of proximity to offenders, exposure to high-risk environments, target attractiveness and the absence of capable guardians as key factors in predicting victimization (Cohen and Felson, 1979; Hindelang et al., 1978; as cited in Fisher et al., 1998). These aforementioned theoretical perspectives, in the context of burglary, are important for academics and policymakers to understand; these theories enable them to understand the criminal behavior, which, in retrospect, should lead to the creation of a better prevention policy, since it will account for more comprehensive detail once the offender's target selection *thinking* process has been accounted for. An underpinning for the crime of repeat burglary victimization is sought in theories of rational choice and routine activity (Farrell et al., 1995), thus will be reviewed in conjunction with other proposed frameworks.

Rational Choice Theory

Rational choice theory is a critical theory utilized by environmental criminologists when trying to make sense of crimes such as burglary but not limited to. It has its origins in the classical theories of Bentham and Beccaria in the late eighteenth century (Cromwell & Olsen, 1991). Beccaria formulated the rational approach to criminal behavior and the

idea was referred to as 'classical theory' (Hakim et al., 2000). Recently, much of the research in environmental criminology has focused on the rational choice processes by which an offender chooses a criminal path, selects targets and commits the offence: a modified version of rational choice theory (Cromwell & Olsen, 1991). This theory asserts that criminals first decide to commit an offence and afterwards weigh the perceived environmental risks and rewards in selecting a target and deciding whether or not to carry out their intent (Brantingham & Brantingham, 1981; Cromwell et al., 1991; as cited in Robinson 1997). In other words, the decision to offend is the outcome of a deliberate weighing of the potential costs and benefits (Wright & Decker, 1994). Thus, prior to selecting a target, which is done by utilizing specific environmental cues, rational choice theory treats the process of offenders weighing the costs and benefits as a calculated and deliberate one (Jacobs, 2000). In essence, Wright and Decker (1994) acknowledge that this type of theory, "...stresses the objective factors that shape offenders' decisions" (p.31).

Rational choice theory has its shortcomings because it does not take into account all of the information available to the offenders because it focuses on the objective properties of the immediate criminal situation, yet ignores the subjective influence of emotions on offender decision making (Scheff, 1992; as cited in Wright & Decker, 1994). Moreover, the rational choice framework does not consider the wider cultural context within which offenders decide to commit their offences because decisions are never made within a vacuum; decisions are shaped by an individual's socio-cultural influence (Wright & Decker, 1994).

Incorporating a theoretical component for the purposes of policymaking is essential because by understanding environmental theories in the burglary context allows for a burglary prevention policy to take shape. For example, knowing that bushes obscure visibility of entry points by neighbors and passers-by enables a policy to be created, which focuses on preventing a reoccurrence. Thus, in this particular example, cutting down the bushes or thinning the wooded areas would decrease the vulnerability of a targeted residence. Again, the Vancouver studies analyzed further in this thesis will not provide target characteristics or spatial information of locations; however, it is important to be aware of the environmental theories in this area.

Routine Activity theory is closely linked with rational choice theory and this was made apparent in Cornish and Clarke's 1986 book of *The Reasoning Criminal*, which not only further developed rational choice theory by drawing on works from various disciplines but Marcus Felson's contributed chapter tried to synthesize Routine Activity, Rational Choice and Hirschi's Control Theory (Farrell et al., 1995). The link between the two theories is that "sound judgments of victim suitability and guardian proximity defines a reasoned choice" (Farrell et al., 1995:672). Thus, routine activities theory supplies the criteria by which an offence may be judged rational (Farrell et al., 1995). Nonetheless, routine activity theory deserves to be examined on its own.

Routine Activity Theory

Routine activity theory has been supported by research on several distinct crimes and, consequently, has provided the foundation for many efforts geared toward decreasing

crime by reducing the number of targets and increasing guardianship (Gillham, 1992). This theory has been used to explain the rise in crime rates over the past 30 years, primarily because Cohen and Felson (1979) found that time spent away from home, for example, was significantly linked to the level of crime (as cited in Cromwell et al., 1991). The theoretical framework seeks to explain the occurrence of crime events by postulating the following: there must be a motivated offender; there has to be a desirable target; the target and the offender must be at the same place at the same time and there has to be an absence of capable guardians (Eck & Weisburd, 1995). *Capable guardians* refer to persons and objects such as residents, police, neighbors, pedestrians, private security guards and all types of security measures (Gillham, 1992).

An extensive study by Kennedy and Forde (1990), utilized data from the Canadian Urban Victimization Survey (CUVS), which had collected detailed measures of routine activities. The CUVS targeted seven major urban centers: Greater Vancouver, Edmonton, Winnipeg, Toronto, Montreal, Halifax and St. Johns. For the crime of burglary, the study concluded that burglary victimizations coincide with activities that take people away from their residence, including attending sporting events, bars, movies and restaurants, going to work and generally being out of the home (Kennedy & Forde, 1990). Routine activity theory is commonly applied to repeat burglary victimization because if a burglar initially burgles a home, only to learn that a place has desirable targets and an absence of guardians, the likelihood that the offender will return may be partially due to these factors, since they were present in the first burglary incident.

Routine activity theory has a major limitation, which is “the lack of testing with ecological data on actual places where offenders, targets and weak guardians converge” (Sherman et al., 1989:31). The majority of tests lack independent measures of the lifestyles in question and instead replace presumed demographic correlates with them (Miethe et al., 1987; as cited in Sherman et al., 1989).

Opportunity Theory

Opportunity theories assume that crime is purposive and that all individuals engage in rational decision-making: when specific people commit crime, they want to benefit themselves; therefore, they make certain calculations to determine whether the crime will yield positive results (Groff & LaVigne, 2001). Opportunity theorists focus on the situational conditions under which offender motivation leads to a commission of an offence (Groff & LaVigne, 2001). Also, these theories propose that the environment offers cues to the offender and depending on whether the opportunities for crime exist determines whether or not the individual chooses to offend. For example, Cromwell et al (1991) found in their comparison study of 300 previously burglarized residences to 300 residences with no official record of having been burglarized that, by far, the greater proportion of burglars were opportunistic: targets chosen were particularly vulnerable.

The practical implications of these theories are that even though offenders are motivated, they may be deterred from committing crime if they perceive a target to be too risky or find the crime would involve a substantial amount of effort (Groff & La Vigne, 2001). Hence, when applying opportunity theory to burglary revictimization, if opportunities for

the potential repeat burglar are decreased, for instance by improving the security of a property and increasing surveillance, in the form of a burglary prevention policy, burglary repeats may in fact decrease.

Offender Decision Making Hypotheses

Many academics have acknowledged the theoretical relevance for understanding burglary repeat victimization; therefore, several hypotheses, in this area, have been developed.

Beginning with the *affluence hypothesis*, there exists mixed evidence throughout literature for the belief that wealthier neighborhoods attract more burglaries. For example, Baldwin and Bottoms (1976) show that the rate of burglary is highest for those houses with the highest rateable value. Furthermore, such a pattern is verified in a study of Kent (Winchester & Jackson, 1982) where the risk of burglary is six times greater for the highest rated property rather than for the lowest. However, in Reppetto's (1974) Boston study, affluence was only considered relevant among suburban areas with a relatively low incidence of burglary. Other studies, such as the one conducted by Waller and Okihiro (1978) in Toronto, suggest that it is crucial to consider the offender residence and whether it is located near (unoccupied- during-the-day) affluent neighborhoods.

The *vulnerability hypothesis* and the *social cohesion hypothesis* are also worth noting.

The former (vulnerability), relying on the theory of defensible space, according to Newman (1972), suggests that where there is a lack of informal surveillance and where the built environment lacks certain properties, opportunities for some types of crime, such as burglary, increase. Attempts to test the vulnerability hypothesis have been met with

mixed results. Nonetheless, what appears to be clear is that neither the type of house nor the type of area are, on their own, sufficient predictors of the risk of burglary. The latter hypothesis (social cohesion), suggests that communities with more social interaction and stronger social networks have a propensity to experience less crime: another way of stating the Shaw & McKay Social Disorganization Theory. For example, Reppetto's (1974) study found this to be crucial for high-risk inner-city neighborhoods. Moreover, lifestyle has been implicated particularly through its effect on patterns of occupied versus unoccupied dwellings; when homes are left unoccupied for long durations, both partners work, such residences are more prone to burglaries (Clarke & Hope, 1984; Rengert & Wasilchick, 1984).

The final two hypotheses, related to burglary revictimizations are the *reputation* hypothesis and the *proximity* hypothesis. As far as the 'reputation hypothesis' is concerned, Baldwin (1975) and Mawby (1979) postulate that a neighborhood's reputation is important because a community having a 'rough' reputation will attract more crime (as cited in Clarke & Hope, 1984). In addition, geographical concentration of burglary victimization may be the result of acquisition by certain areas of a reputation for easy target accessibility. As far as burglary revictimizations are concerned, having burglars concentrating their activities in certain areas may increase the chance of *repeat* incidents; however, this idea has not been widely explored (Sparks et al., 1977; Hindelang et al., 1978; as cited in Clarke & Hope, 1984). The *proximity* hypothesis ascertains that there is a tendency for offenders to seek victims on the fringes of their own neighborhood: offenders' awareness space (Brantingham & Brantingham, 1981-82).

Differential Risk/Lifestyle Exposure and Situational Risk Transmission

The Vancouver study conducted for this thesis will not be able to explore the differential risk/lifestyle exposure and situational risk transmission perspectives because the primary focus is temporal; however, for the purposes of theory in the area of burglary revictimization, it is pertinent to explore such frameworks, since the various hypotheses may be explored in future research.

In order to explain repeat burglary victimization, at least three questions arise (Farrell, 1992; as cited in Mawby, 2001:57):

- 1) Why does victimization increase the risk of revictimization?
- 2) Why are some victims more susceptible than others?
- 3) How does the time frame of repeats enter the equation?

In order to answer the outlined questions, two perspectives have been offered: the former focuses on the reasons why a person or household was targeted in the first place and the latter on the effects of the first incident on independently promoting repeats (Mawby, 2001).

Burglary has a very uneven geographical distribution; large disparities exist between communities in the extent to which they experience this problem (Clarke & Hope, 1984). Thus, explanations for geographical disparities in burglary places need to be sought in future research. The *differential risk hypothesis* asserts that even though burglary revictimization seems to be quite common, studies demonstrate that it happens to certain people or areas. Sparks (1981) postulated that “criminal victimization and revictimization may be a matter of chance alone and “absolutely unrelated to attributes or

behavior of the victim” (p.778; as cited in Robinson, 1998); however, he stated that studying repeat victimization may “illuminate more general causal processes, and thus help to show how far, and in what ways, the attributes of behavior of the victims themselves may help to explain their victimization (Sparks, 1981; as cited in Mukherjee & Carcach, 1998). Studies have repeatedly confirmed that rates of repeat burglary victimization are higher than would normally be expected given a random distribution of burglary (Robinson, 1998).

The most notable finding in the area of ‘differential risk’ is that those individuals living in the most disadvantaged and high crime areas seem most at risk of both initial and mostly repeat victimization (Mawby, 2001). The differential risk perspective will not be tested in the current thesis but studies, such as the Kirkholt project certainly displayed a high repeat burglary rate in a disadvantaged area, as well as 1982 and 1988 British Crime Survey (BCS), which demonstrated that burglary was more concentrated and this was due to ‘victim prevalence,’ meaning, a growth in revictimization in high crime regions (Mawby, 2001). Finally, the 1996 BCS found that in rural areas 83% of burglary victims were victimized only once and 3% on three or more occasions, in comparison with 76% and 10% respectively in the inner cities (Mirrlees-Black, 1998; as cited in Mawby, 2001). Ratcliffe and McCullagh (1999) also assessed where repeats were predominantly occurring and their two-year study in South Nottinghamshire revealed that repeat burglaries were more common in deprived areas than those in affluent ones (as cited in Mawby, 2001). In a study conducted in Australia, the findings revealed that a small number of all the victims of household and personal offences account for a large

proportion of all the victimization incidents (Mukherjee & Carcach, 1998). Therefore, in essence, if this theoretical framework is accurate, research should continue to indicate that criminal incidents concentrate according to specific location factors and personal characteristics.

Researchers have indicated that burglary revictimization is also due to *lifestyle* variables (Mawby, 2001): an idea that is very closely linked to the *differential risk* hypothesis. This *lifestyle-exposure* approach, developed by Hindelang et al (1978), emphasizes the role of the lifestyle of the offenders and victims and how both influence the opportunities for criminal revictimization through the creation of suitable targets (Miethe et al., 1987; as cited in Robinson, 1998). Studies have demonstrated that part of what determines high or low rates of revictimization are high or low rates of initial criminal victimization (Sherman et al., 1989; as cited in Robinson, 1998). For example, a study conducted by Mawby (2001) found that there appears to be a close association between repeats and lifestyle and they further concluded that weekend homes are particularly vulnerable to both first and repeat offenders. Moreover, according to Mawby (2001), Wittebrood and Nieuwbeerta's 2000 study, as well as Morgan's 2001 study lent support to the *lifestyle* idea. In essence, Mawby (2001) concludes that it seems reasonable to assume that a property that has demonstrated to be attractive to a burglar will continue to appear attractive to future burglars. However, such explanations do not account for the short time frame of revictimization. Also, the experience of committing a specific burglary may itself increase the chances of a repeat victimization because an offender is familiar

with the premises, perhaps knows the property is inadequately protected or waits until insured items have been replaced (Mawby, 2001).

Routine situational risk transmission, is also similar to the *lifestyle approach* because it postulates that once a residence or a premises is initially victimized, due to specific perceived cues about opportunities and risks presented by a particular target, subsequent victimizations may ensue because of additional information and reinforcements (Hope et al., 2001). Hence, if victims of a particular residence remain passive by not altering the situational inducements that are presented to the offender, revictimizations may follow (Hope et al., 2001). Therefore, the introduction of target preventive measures should be aimed at those individuals who have been already victimized (Pease, 1998; as cited in Hope et al., 2001).

State Dependency and Risk Heterogeneity

The literature presents two competing yet complimentary explanations to repeat victimization: *state dependence and risk heterogeneity* (Lauritsen & Quinet, 1995; as cited in Mukherjee & Carcach, 1998). The former suggests victimization changes the probability of further victimization and the latter states that as a result of a certain set of characteristics, the chances of being victimized are not the same for all individuals or premises; these characteristics of potential crime targets make them attractive (Mukherjee & Carcach, 1998). More specifically, the state-dependent argument asserts that revictimization is due to factors related to the initial incident (same offender(s)) and the risk heterogeneity argument postulates it is due to enduring characteristics about targets,

which make them suitable to multiple offenders (Farrell et al., 1995). Given the weight of criminological evidence, it is unlikely that anyone will challenge the risk of heterogeneity in contributing to levels of repeat victimization (Farrell et al., 1995). As for the state-dependent risk argument, the question concerns reasons for the choice of the same individual(s) offending repeatedly against the identical target in preference to alternative targets (Farrell et al., 1995).

Polvi et al (1991) provided three possible explanations derived from their Saskatoon study, in which the first two concern the *state-dependency* theory and the final one coincides with *risk heterogeneity*. They hypothesized the following (p.414):

- 1) The same offenders return, perhaps upon recognition of neglected crime opportunities or the anticipated reinstatement of goods.
- 2) The first offenders tell others of the house and what it still offers. The others then burgle it.
- 3) Features of the house are such as to mark it out as a compelling attractive target to those tempted to burgle it, leading to repeat victimization linked only by the seductiveness of the target.

Thus, if victimization can be linked to further victimization, by determining the place of occurrence (target selection), extent and time, crime preventive techniques can be administered. Attempting to ascertain whether revictimization occurs from enduring characteristics of specific locations or obtained knowledge learned by offenders during their initial incident is beyond the scope or goal of this paper. Most importantly, revictimization can be prevented by knowing the time and place of its occurrence, whether or not we know why it occurs.

Conclusion

This thesis will analyze data to see how through a time-series analysis burglary repeats concentrate and whether or not a specific pattern evolves. Perhaps, depending on the outcome of the current study, certain inferences will be drawn and linkages made to particular theoretical perspectives discussed, if, for example, distinct patterns emerge, which support or refute other studies' findings and specific theoretical underpinnings.

Chapter 4: Research Methods

For the purposes of the burglary revictimization thesis presented, it is pertinent to place the research into context and describe what is being studied and where. Moreover, the context described below will set the stage for the subsequent methodology section and the research findings and discussion chapters to follow. Furthermore, once the research findings are revealed, the need for policy to address the problem of burglary revictimization will be explored in depth. Thus, this chapter describes the research context, the original goal of the thesis, methodology (what actually has been done and why) as well as the strengths and weaknesses of the undertaken research.

Research Context

The data are comprised of approximately 10 years of Vancouver Police Department 'computer aid dispatch' data (CAD). Such calls were made to the police in city of Vancouver and subsequently recorded. The exact timeframe of the data contained in the thesis is all calls from April 1988 through June 1997 (with the exception of three missing months). The rationalization behind choosing CAD data is that they provide a more comprehensive picture of break-and-enters taking place within a region, regardless of whether police attended a given incident or not. Hence CAD data provide information about the full range of break-and-enter: the data set presented for the thesis encompasses all calls that are break-and-enters in progress, attempted break-and-enter and break-and-

enter reports. A time-series analysis is possible because the location address of the crime is readily available in the data as well as recorded dates and times.

Security of Data

In order to assess how repeat burglary victimizations concentrate over time and space, Vancouver Police CAD data displaying the number of calls for service and addresses of burglary victimizations have been utilized.

Objective

The original purpose of this thesis is to assess how burglary repeat victimizations concentrate in time in a given area. The goal is to gain a better understanding of the repeat burglary victimization phenomenon in Vancouver by conducting a study similar to those that have been undertaken in other countries: primarily Britain and the United States. Furthermore, as discussed in the theoretical considerations chapter, seeing whether some of the previous 'repeat' burglary theoretical findings hold true in the Vancouver data, is an interesting question worth examining. Particularly, when looking at the previous temporal research, studies have shown that burglary revictimizations to the same address occur largely within the first month to half a year. Thus, a key research question is to see whether once an address is burglarized, or an attempt has been made to the premises, whether the risk of subsequent revictimizations to the same address increase and in what time increments. Also, carrying out a detailed time-series analysis may lend better overall insight into the burglary repeat phenomenon; hence, more theoretical findings may result from the Vancouver CAD.

The present research on the Vancouver CAD data include an exploratory time-series analysis, assessing the time between revictimizations at the same address as well repeat calls were mapped to spatially show Vancouver police beats with a high frequency of repeat addresses. The repeat victimization analysis was done over a ten year time period (1988-1997). This is an unusually long time period. Most of the previous studies done on this topic only utilized one, two or three year data sets. The methodology discussed below will describe what has been done and why in greater depth.

Hypotheses

Once an address has reported a break-and-enter, an attempted break-and-enter, or reported a break-and-enter, the risk of a subsequent burglary incident(s) increases. Furthermore, repeat burglaries are most likely to occur within a very short period of time following an initial burglary.

METHODOLOGY

Approximately 10 years of Vancouver Police Department C.A.D were utilized; specifically, all calls from April 1988 through June 1997¹. Again, all calls that are *break-and-enter in progress*, *attempted break-and-enter* and *break-and-enter report* have been used for analysis. Even though permission was granted by the Vancouver Police to the information contained in the entire data set, which encompassed 'all calls for service' to the police during the ten years, the reason other calls for service data were excluded, for example *audible alarm* or *suspicious person*, is because there is no way of knowing whether or not such calls involve a break-and-enter crime.

¹ Data for February and July, 1990 and March, 1994 were not available.

For the purposes of this study, repeat burglary occurred when any address (residential or non-residential unit) is subject to more than one burglary. No attempts were made to see whether or not the same or possibly different owners or tenants changed between burglaries.

Appendix A contains a detailed description of the methodology used to measure repeat victimization. Basically, over the time period of the study, there were 174, 877 break and enter calls for service. Approximately 40 percent of these 70, 591 were repeat victimizations. These occurred at 34,292 addresses, showing a real concentration. The time between calls at repeat addresses (called lag-time) was calculated and categorized in different time intervals: see Appendix A.

Measurement Quality: Reliability and Validity

It is important to discuss the strengths and limitations of the methodology utilized for the purposes of this thesis. Hence, reliability and validity issues that pertain to the current dataset are assessed.

Strengths

In the present thesis, one of the primary strengths is the *time window* of the study. The dataset incorporates burglary calls for service for approximately ten years, which is quite long, so there is a lower the degree of underestimation of repeat victimization. For example, several revictimization studies, which were discussed extensively in chapter two, only utilize two years of data. Whether or not certain dwellings are revictimized

after the two years is unknown. Nor is it known whether the 'first' victimization in the two year time period was actually a repeat from a prior victimization before the period began. Another positive aspect of the utilized data is that different dwelling unit numbers, located at the same address (apartment buildings or townhouses), were counted as separate incidents in order to portray a more accurate picture of repeat incidents.

Weaknesses

The primary reliability issue for this data is common in all secondary data with addresses. Specifically, the same location may be entered in different ways. As well, one recorded address may refer to more than one dwelling. The quality and format of address recording is always a potential problem when using secondary data. For example, some street names may be separated by a comma or words such as Road, Street and Avenue, recorded in full, may also appear abbreviated to Rd, St and Ave, or some other way, which will then count as a different address. The task of reviewing every 'call for service' address is beyond this thesis. Manual review for ten years of data is likely to introduce additional errors. Programming of automatic address adjustments is beyond this thesis. For further studies it should be noted that for the majority of cases the full address of the offence location was recorded in the appropriate field. Also, with respect to incident logs, some events are not located to an address, so an incident that may be a repeat call to an address may be recorded as a call to the street name (Farrell and Pease, 1993). Hence, such *unlocated* calls will increase the number of single incidents, when really their status should be 'repeat' occurrences (ibid.).

The validity issue of utmost concern is that some burglaries are not reported to the police and some reported burglaries go underrecorded. This is a problem with all police data; thus, the use of police records may result in an underestimation of the extent of repeat victimization (perhaps only a small probability). Specifically, successive British Crime Surveys have demonstrated that some crime that is reported to the police remains unrecorded (Farrell and Pease, 1993). For example, a burglary has approximately a 70 percent chance of being recorded in police statistics and if the premises suffers a subsequent burglary, that too has a 70 percent chance of being recorded (ibid.). Thus, only 49 percent of the time will the same address that has been victimized twice be recorded twice (ibid.).

Another problem with the current dataset is that it was impossible to identify the type of dwelling unit burgled: whether it was residential or non-residential. Moreover, it is impossible to know, with this dataset, whether the subsequent revictimization(s) was done by the same offender(s) or a different offender(s) all together. Finally, as described in the two year study example, perhaps the address was burglarized prior to the original incident; therefore, the original incident is actually a repeat incident.

Conclusion

The current chapter described the goal of the thesis, which is to examine how burglary repeat victimizations concentrate in time and space in the Lower Mainland. The majority emphasis is placed on carrying out a detailed time-series analysis for the burglary repeat phenomenon. Spatially, a police beat and burglary revictimization frequency map is

utilized to show the concentration. A detailed examination of the methodology utilized to analyze the ten years of data was demonstrated, as well as an explanation as to why certain methods were used. Also, the strengths and weaknesses of the undertaken research were discussed. The next chapter will provide an in-depth account of the results for the undertaken study, followed by a discussion of the implications of the findings.

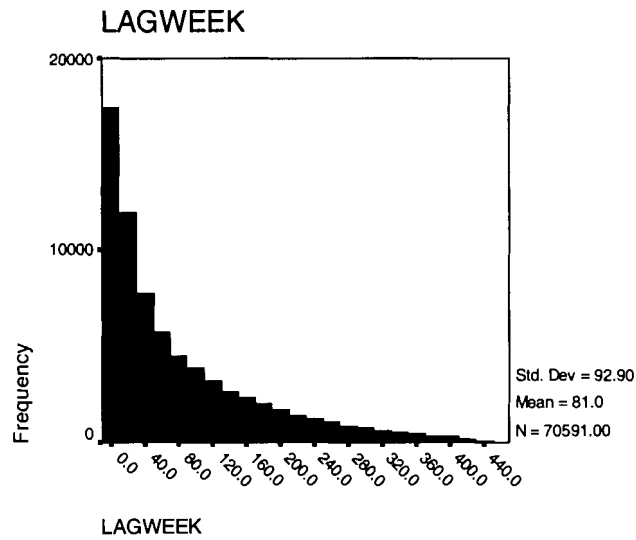
Chapter 5: Research Findings

The previous chapter discussed the methodology used to obtain the specific results which will be discussed in the following chapter. The objective of the thesis, as previously described, is to extensively analyze the burglary revictimization phenomenon over a long term and see whether, temporally, certain patterns and trends appear. The Vancouver Police Department C.A.D: all calls from April 1988 through June 1997 (with the exception of February and July, 1990 and March, 1994) were analyzed using certain lag-times. The research findings will be discussed below, in conjunction with tables, graphs, and a spatial map.

Results

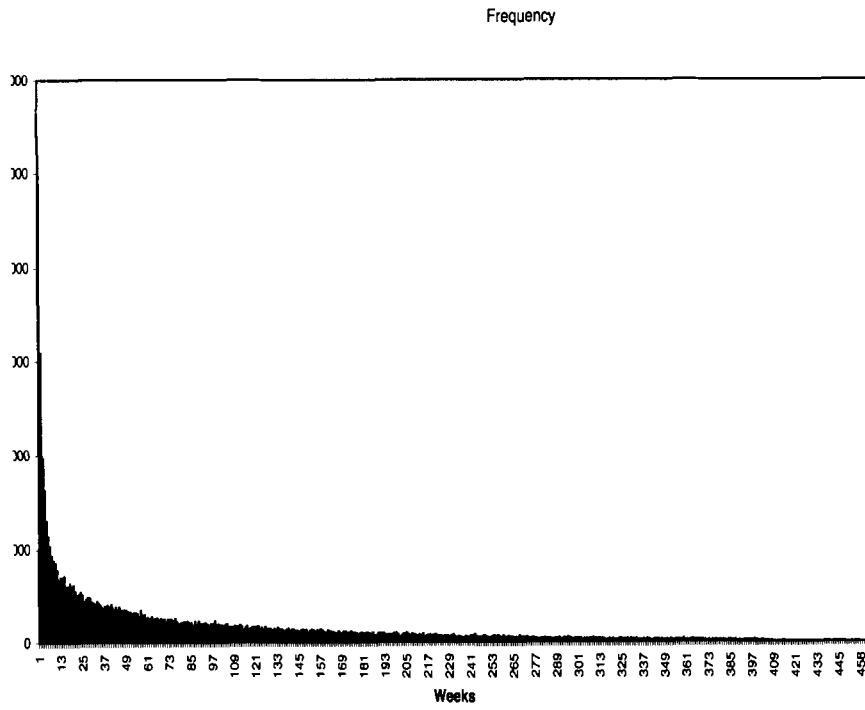
Once all the years (1988-1997) were merged, 174,877 *attempted break-and-enter, break-and-enter in progress* and *break-and-enter report* remained. There were 70,591 burglary revictimizations out of 174,877 break and enter reports; thus, 40.37 percent are repeats. Interestingly, all of the 70,591 incidents comprised of 34,292 addresses.

A lagweek frequency was run on the 10 years of data. The following frequency distribution graph (Figure 1) demonstrates the number of repeat calls to the same address for each week during the ten-year span.

Figure 1: Lagweek Burglary Repeat Victimizations

The entire dataset incorporates 468 weeks. The CAD began April 3rd, 1988, which was day 93 and ended June 30th, 1997: day 3377. The results of the lagweek frequency distribution demonstrate that the majority of repeats occur within the first week of the initial incident (5406 repeat cases in week 1) and then as the time between incidents increase, there are less revictimized addresses. Hence, the general pattern that emerges in Figure 1 and Figure 2 shows this rapid decrease using different scales: as time increases, the risk of burglary revictimization generally diminishes.

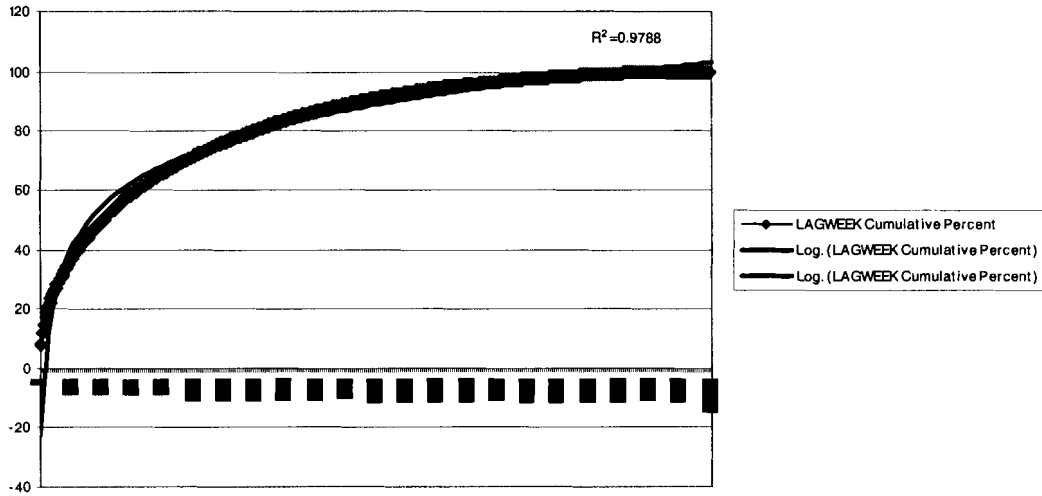
Figure 2: Lagweek Burglary Repeat Victimizations



The cumulative percent against week graph, Figure 3 below, shows that 70 percent of the repeat incidents occur within 100 weeks (approximately two years).

Figure 3: Cumulative Percent Against Weeks

Cumulative Percent Against Weeks

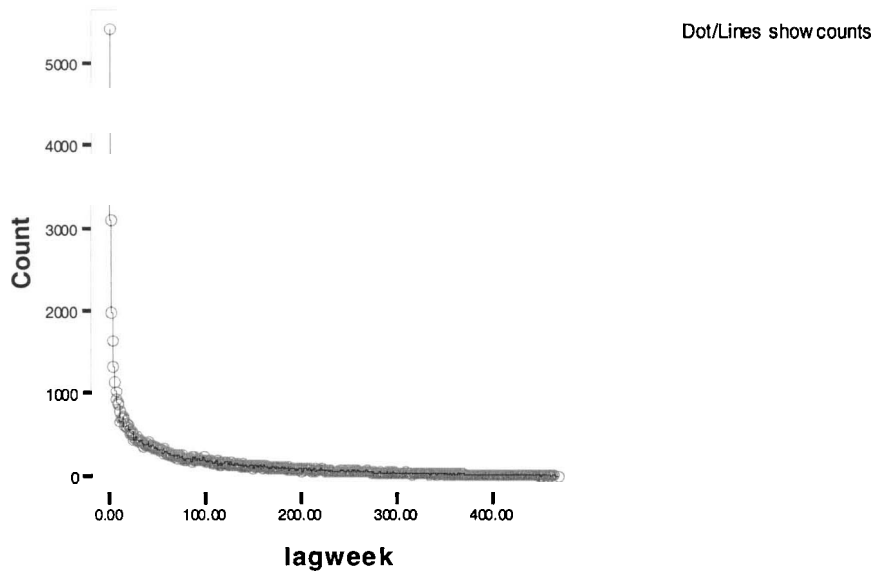


The graph shown below in figures 4 shows an exponential decrease with an r-square of .931 (Table 1). The exponential shows that 70 percent of the data are accounted for in the first two years.

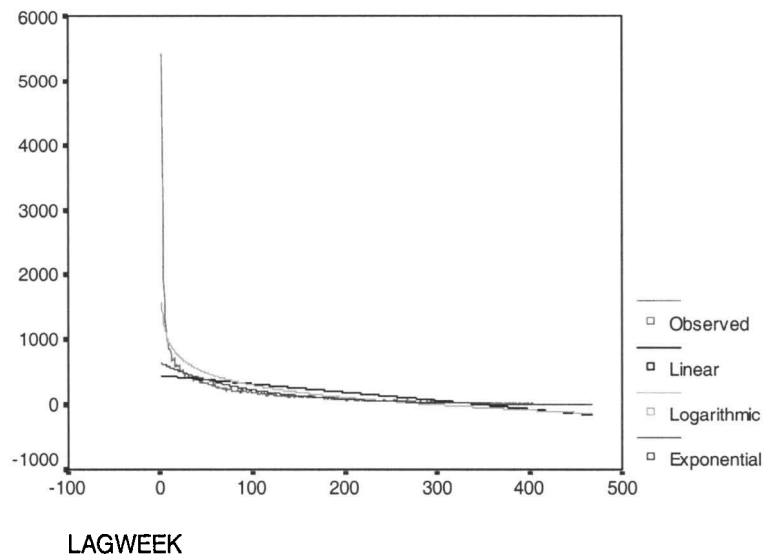
Table 2: Exponential Curve Fit for Lagweeks

| Dependent | Mth | Rsq | d.f. | F | Sigf | b0 | b1 |
|-----------------|------------|-------------|------------|----------------|-------------|----------------|---------------|
| AGGRWEEK | EXP | .931 | 460 | 6221.64 | .000 | 644.796 | -.0102 |

Figure 4: Number of Repeats Against Lagweeks



AGGRWEEK



Another important facet of the data is uncovered with the lag distribution of incidents analyzed in more depth. The following table (Table 3) shows 'lagtimes' of one day (repeat is committed the day after the original incident) through 102 week lag times: approximately two years.

Table 3: 1 Through 102 Weeks Lagtime

| Lagtime | Incidents | Percent |
|--------------------|------------------|----------------|
| Lag = 1 day | 3730 | 5.3 |
| Lag = 2 days | 969 | 1.4 |
| Lag = 3 days | 707 | 1.0 |
| Lag = 4 days | 567 | .8 |
| Lag = 5 days | 515 | .7 |
| Lag = 6 days | 478 | .7 |
| Lag = 7 days | 477 | .7 |
| Lag = 8 days | 391 | .6 |
| Lag = 9 days | 352 | .5 |
| Lag = 10 days | 315 | .4 |
| Lag = 2 weeks | 301 | .4 |
| Lag = 3 weeks | 230 | .3 |
| Lag = 6 weeks | 157 | .3 |
| Lag = 9 weeks | 110 | .2 |
| Lag = 24 weeks | 67 | .1 |
| Lag = 36 weeks | 45 | .1 |
| Lag = 78 weeks | 30 | .0 |
| Lag = 102 weeks | 31 | .0 |

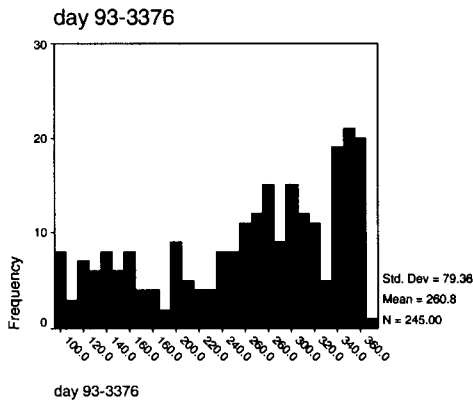
The analysis shows that the majority of break-and-enter incidents are committed 'the next day' and as the days between incidents increase, the number of repeats is drastically reduced.

The next analytic step was to select each year of the dataset and focus on the incidents that have a lagtime of one day within the year. A monthly lagtime was utilized in order to show whether a temporal pattern of repeats exists throughout the duration of the year. Thus, year 1, 1988, was selected (day 93-365); year 2 (1989) includes day 366-688; year

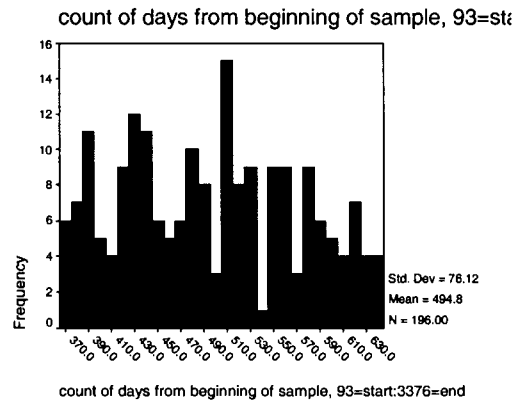
3 (1990) = 639-1003; year 4 (1991) = 1004-1368; year 5 (1992) = 1369-1734; year 6 (1993) = 1735-2099; year 7 (1994) = 2100-2464; year 8 (1995) = 2465-2829; year 9 (1996)= 2830-3195 and year 10 (1997) = 3196-3376. The graphs in Figure 5 show each year separately: all the incidents that are repeated ‘the next day.’

Figure 5: One Day Lag Times Within Each Year

1988 (April-December)
Daycount: 93-365

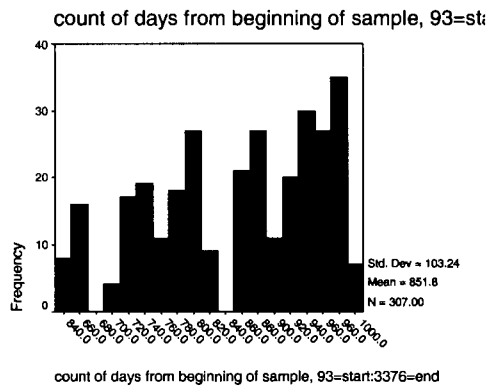


1989 (January-December)
Daycount: 366-638



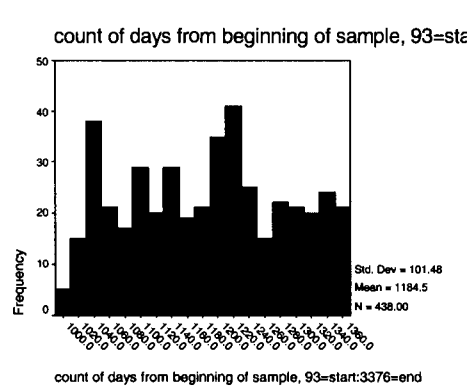
1990 (January-December; excluding February and July)

Daycount: 639-1003



1991 (January-December)

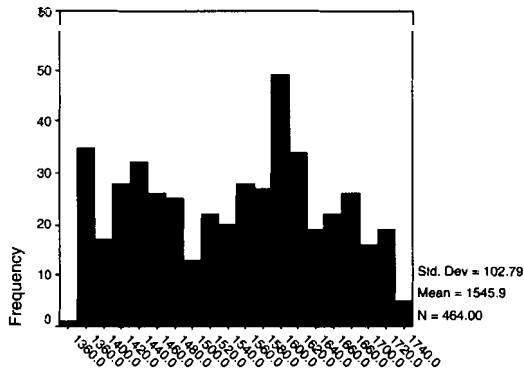
Daycount: 1004-1368



1992 (January-December)
1369-1734

1993 (January-December)
1735-2099

count of days from beginning of sample, 93=st

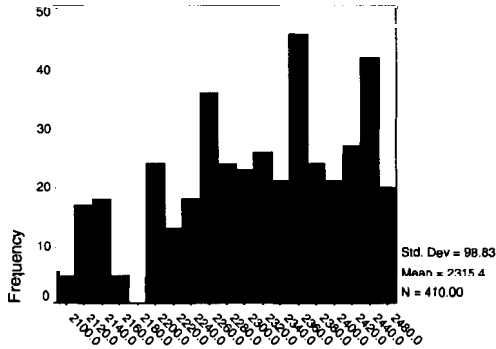


count of days from beginning of sample, 93=start:3376=end

1994 (January-December; excluding March)

2100-2464

count of days from beginning of sample, 93=st

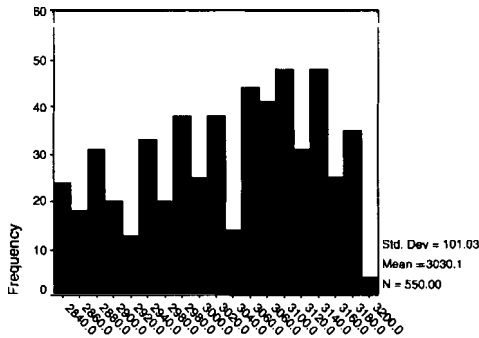


count of days from beginning of sample, 93=start:3376=end

1996 (January-December)

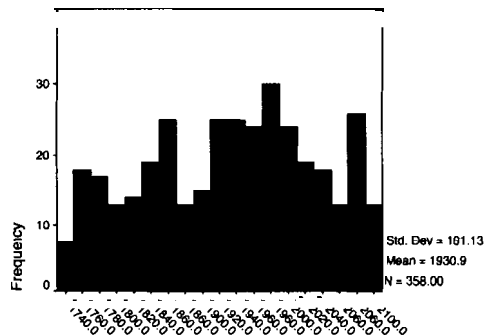
2830-3195

count of days from beginning of sample, 93=st



count of days from beginning of sample, 93=start:3376=end

count of days from beginning of sample, 93=st

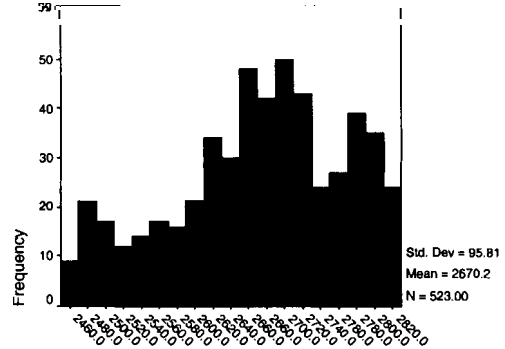


count of days from beginning of sample, 93=start:3376=end

1995 (January-December)

2465-2829

count of days from beginning of sample, 93=st

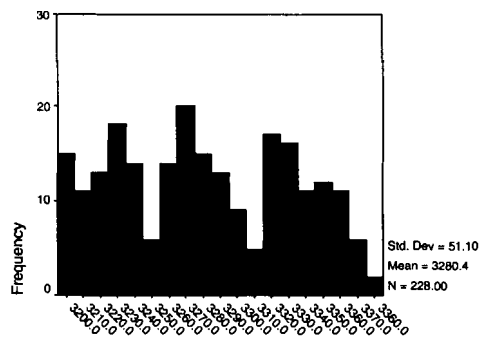


count of days from beginning of sample, 93=start:3376=end

1997 (January-June)

3196-3376

count of days from beginning of sample, 93=st



count of days from beginning of sample, 93=start:3376=end

It is important to explain the temporal trend of 'one-day' repeats for each individual year and then elaborate on the overall pattern.

1988: Beginning with 1988, the graph (Figure 5) as well as the frequency distribution show that the highest peaks for break-and-enter repeat offences or attempted break-and-enter crimes occur at the end of November as well as the end of December. The second highest time for repeat offences was from the end of August through the beginning of November. The lowest peaks for repeat incidents were from the end of June through the beginning of July as well as the end of December. It is important to note that the data did not begin until April; thus, the first three months are missing.

1989: The highest peak for repeat incidents was at the end of August. The second highest times were during the middle of May through the beginning of June, as well as the middle through the end of April. The lowest repeat break-and-enter time was displayed in the middle of September.

1990: The highest peak for repeat incidents was at the end of October through the end of December. The second highest times were during the beginning of June and the end of August. However, it is important to note that February and July were missing months; therefore, drawing conclusions from the remaining months may not be representative.

1991: The highest peak for repeat incidents was at the beginning of July through the beginning of August. The second highest time was during the beginning of February. The lowest repeat break-and-enter time was displayed in the month of January.

1992: The highest peak for repeat incidents was at the beginning of August (August 9th) through the end of August. The second highest time was during the month of January. The lowest repeat break-and-enter time was displayed at the end of December.

1993: The highest peak for repeat incidents was at the end of August through the beginning of September. The second highest time was at the end of June through the end of September. The lowest repeat break-and-enter time was displayed in the month of January.

1994: The highest peak for repeat incidents was at the beginning of September (September 9th) through the end of September. The second highest times were during the end of November to the beginning of December, as well as the beginning of June. The lowest repeat break-and-enter times were displayed at the beginning of January and at the end of February.

1995: The highest peak for repeat incidents was at the beginning of July through the middle of September. The second highest times were during the beginning of November through the end of November. The lowest repeat break-and-enter time was displayed from the beginning of January through to the end of April.

1996: The highest peak for repeat incidents was at the beginning of August (August 9th) through the end of September. The second highest times were during the end of May and the beginning of July. The lowest repeat break-and-enter time was displayed at the end of December.

The year, 1997, was not included in the analysis, since the only available data are January through June. It would be unrepresentative to display findings for only half a year of data.

Table 4: High and Low Peak Months

| Months | Highest (how many times the month appears as the highest in each year out of the 9 years) | Second Highest | Lowest |
|---------------|--|-----------------------|---------------|
| January | -- | 1 time | 4 times |
| February | -- | 1 time | 2 times |
| March | -- | -- | 1 time |
| April | -- | 1 time | 1 time |
| May | -- | 2 times | -- |
| June | -- | 5 times | -- |
| July | 2 times | 2 times | 1 time |
| August | 6 times | 3 times | -- |
| September | 4 times | 2 times | 1 time |
| October | 3 times | 1 time | -- |
| November | 1 time | 2 times | -- |
| December | 1 time | 1 time | 3 times |

The table above (Tables 4) summarizes the findings, showing the number of times the month appeared, as either the highest, second highest or lowest peak, for the nine years included in the analysis. It is apparent that the summer and fall months of July, August, September and October appear to be the highest; June and August appear to be the second highest months in several of the year analyses. On the opposite end of the spectrum, the end of December and the entire month of January, appear to be the lowest months for burglary revictimizations, which take place the day after the original incident.

After extensively analyzing the temporal patterns of burglary revictimizations, the next step was to select the top ten break-and-enter addresses that displayed the highest number of repeat incidents.

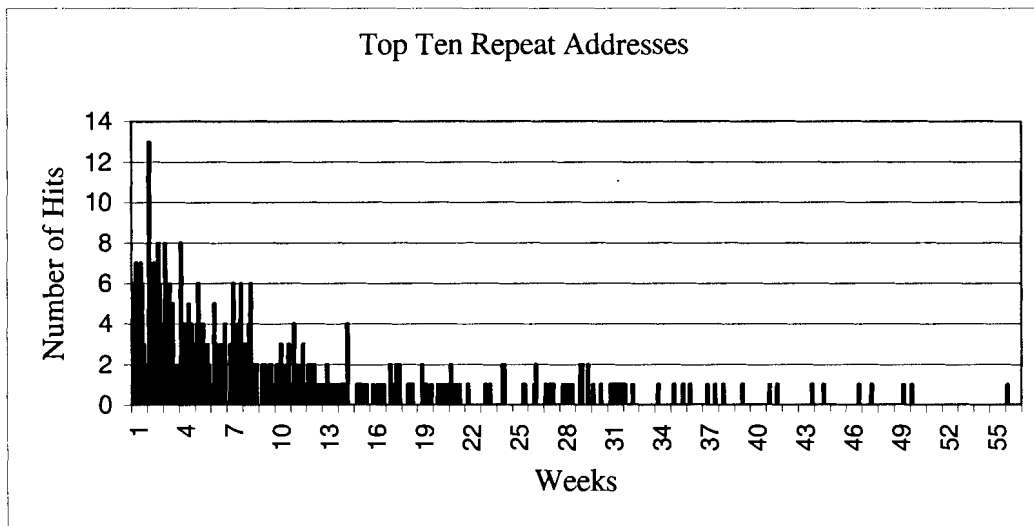
More specifically, Table 5 shows the type of location that the ten ‘top ten repeat places’ constituted and the number of repeat victimizations each address experienced.

Table 5: Top Ten Break-And-Enter Addresses

| Location | Number of Repeats |
|---------------------|--------------------------|
| Commercial Building | 104 repeat hits |
| Store location | 58 repeat hits |
| Park building | 52 repeat hits |
| Mall | 51 repeat hits |
| Hotel | 51 repeat hits |
| Mall | 49 repeat hits |
| Mall | 46 repeat hits |
| Secondary school | 41 repeat hits |

Figure 6 displays a lagweek distribution of *all* the top ten addresses. It is evident from the figure that the majority, 88.5 percent, of repeats to those ten addresses occurred within the first 20 weeks (5 months).

Figure 6: Top Ten Repeat Addresses



A final analysis of repeat addresses showed that 34,292 addresses were responsible for the 70,591 repeat incidents, which encompass the entire dataset. Hence, 19,491 addresses were repeated once (56.8 percent), 7410 addresses were repeated twice (21.6 percent), 3157 addresses were repeated three times (9.2percent), 1584 addresses were repeated four times (4.6 percent) and 903 addresses were repeated on five occasions (2.6 percent). Therefore, addresses repeated anywhere from one time through five times, account for 95 percent of the data: Figure 7(logarithmic graph) and Figure 8 (percent) illustrate these findings.

Figure 7: Address Burglary Revictimizations

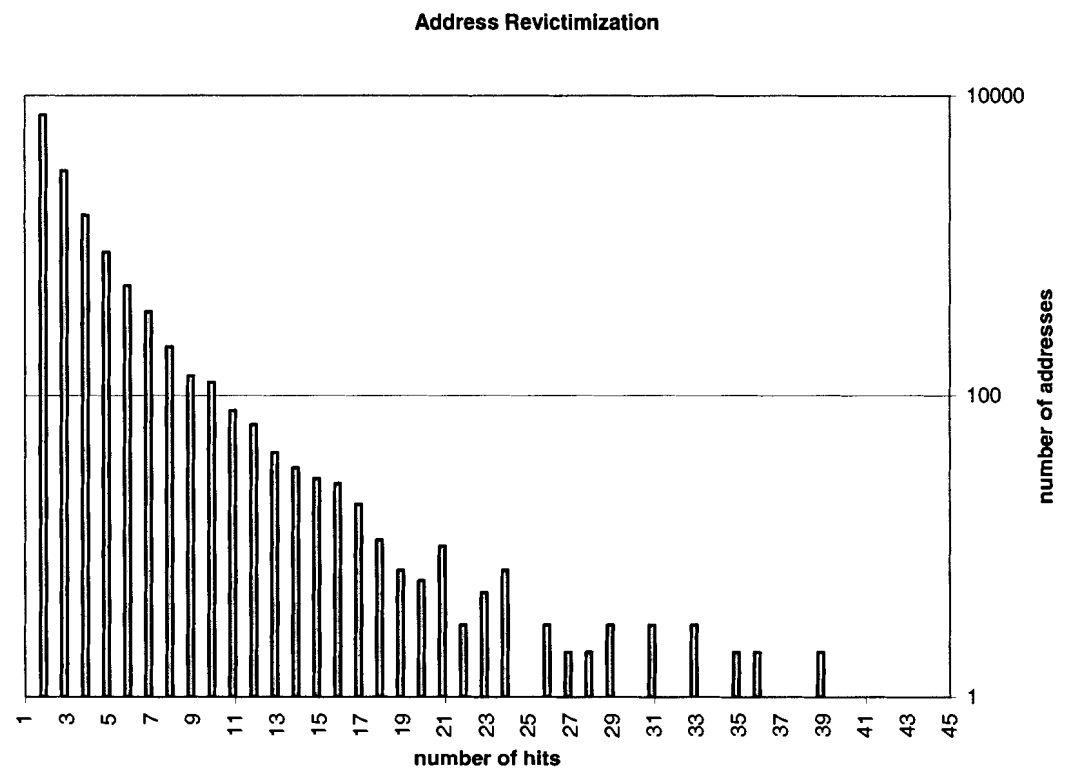
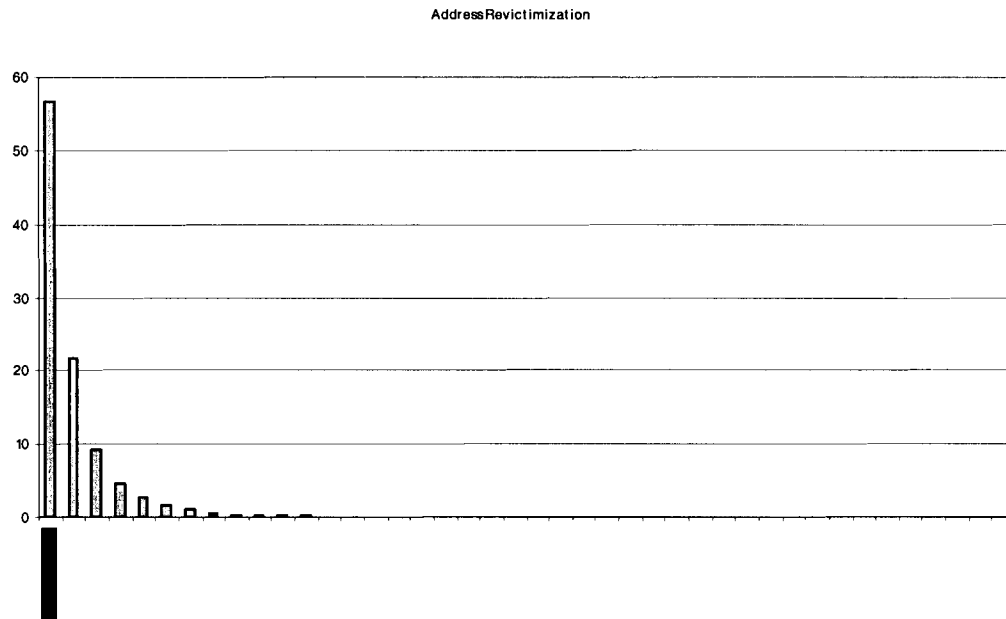


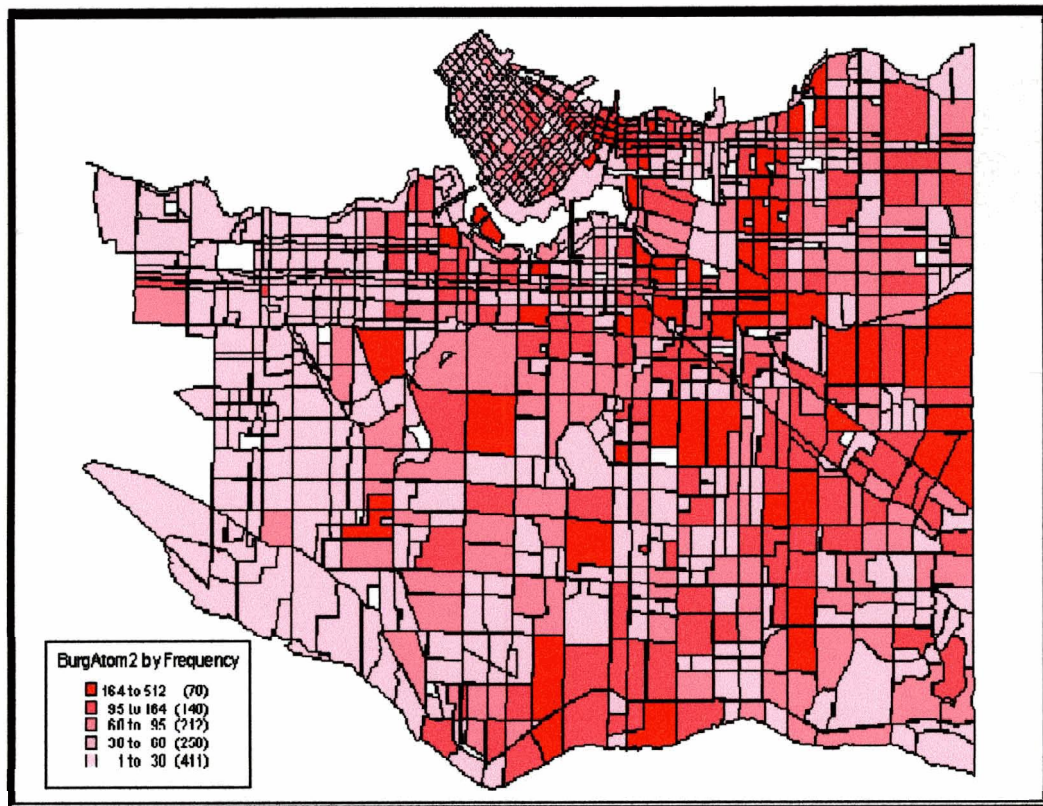
Figure 8: Percent of Address Burglary Revictimizations



Finally, using the MapInfo software computer program, police beats and frequency of repeat burglaries were geo-coded and mapped, in order to show the spatial distribution. A map of the Vancouver district displaying the beat areas was created to show which beats had the most repeat incidents and which ones had less. The legend below indicates the meanings attributed to each color scheme. The color *red* represents police beats experiencing the highest number of repeat burglary victimizations; *dark pink* shows the second highest number of repeat burglary victimizations: subsequently followed by the lighter shades of pastel pink. It is evident from the map that the Vancouver Eastside exhibited more frequent repeat burglaries than other areas in Vancouver. Nonetheless, since the purpose of the thesis is to assess time-series patterns, spatial autocorrelation and more detailed spatial mapping is beyond the scope of what is needed at this time. The

map below, Figure 10, simply lays out the Vancouver Police beats and whether or not a particular beat experiences high or low repeat incidents.

Figure 9: Police Beats and Repeat Burglary Frequencies



This chapter presented research findings in the form of explanations, graphs, tables as well as a spatial map. The subsequent chapter will discuss the implications of the presented findings. The discussion will clearly illustrate the importance of studying repeat victimization, both for theoretical reasons and practical policy making: the latter being essential because policy and practice are underdeveloped in this area.

Chapter 6: Discussion

This chapter will reexamine the purpose of this thesis and analyze the meaning and implications of the results. Moreover, since the goal of this thesis was to gain a better understanding of the repeat burglary victimization phenomenon in Vancouver, an in-depth discussion pertaining to theoretical perspectives and policy will follow. Finally, prospective future work in this area, resulting from the Vancouver study, will be explored.

Results Discussion

The Vancouver CAD revealed that of the 174,877 reported break and enters, 70,591 were repeat victimizations (40.37 percent). Such a finding is slightly higher than has been found in some studies conducted in the United States. However, it is important to remember that a limited number of studies in a limited number of locations have been done on this topic. Nevertheless, the study done in Merseyside (1995), concluded that at least seven percent of burglaries ($n = 19,649$) were incidents of repeat victimization (Johnson et al., 1997); the study conducted in Nottinghamshire (1997), revealed that 25.9 percent were subsequently burgled (Ratcliffe & McCullagh, 1998). There could be several reasons as to why Vancouver has a high prevalence of burglary repeats. Since Vancouver is unique both regionally and seasonally, perhaps such factors may induce burglars to commit and revictimize premises. For example, Vancouver has a climate that can be described as being moderately mild throughout the winter months and warm throughout the remaining seasons. Hence, there is more opportunity for burglars to

commit property crimes, such as burglary, since the weather is not a major deterrent. Overall, the Canadian Uniform Crime Reports (2000) show that break-and-entry is the third most prevalent crime in Canada: 954 incidents (23 percent of the total property crime) (Statistics Canada, 2001); therefore, it is not too surprising that repeat victimizations of this particular property crime occur. Unfortunately the CAD data do not discern between public and private premises (commercial and residential), unlike the Uniform Crime Report Statistics. Thus, it would be more efficient if police CAD were recorded in such a way that allowed commercial and residential locations to be properly discerned.

It is also important to consider police practices and the way such practices may influence crime statistics. Keeping with the Canadian context, in a study conducted by Hackler et al (2003), it was found that many police departments in Toronto and near Toronto had very low break-and-entry rates; thus, the suspicion has been whether or not the police in such cities were screening more cases. Vancouver, on the other hand, has traditionally higher rates for break-and-entry, perhaps suggesting that the police record more cases (Hackler, 2003). However, Hackler's underlying argument is that crime levels everywhere are really the same and any apparent difference is an artifact of reporting or recording. So, if more cases are recorded in Vancouver than is the case in other cities, perhaps more break and enters are recorded than in other Canadian provinces.

Another possible reason as to why Vancouver has such a high burglary repeat victimization prevalence, than has been found in other studies, is simply because of the

large dataset. The current study utilizes 'all' Vancouver police call-answered-data, covering approximately ten years. When comparing these data to other studies, it is evident that they incorporated fewer cases; therefore, found smaller percentages of repeat victimizations. For example, the study looking at burglary in Huddersfield, Anderson, only utilized data over an 11-month period, which found that 16 percent of domestic burglaries were repeats (Chenery and Pease, 1995; as cited in Mawby, 2001). Moreover, the Nottinghamshire (1997) study covered a two-year span (25.9 percent repeatedly burgled), as did the study in Tallahassee, Florida.

It is also important and useful to consider that of the 70,591 repeat incidents to the same address, some of these incidents may not be repeats; therefore, a lower percentage of repeat burglaries may exist than has been reported. For example, it is possible that different apartments or offices at the same address may be burglarized; meaning, the incident is not a repeat victimization. Other possibilities are that the same address may contain a different occupant or the subsequent victimization may be committed by a different offender. Finally, the Vancouver CAD contain ten years of data and a useful question is when is a repeat no longer a repeat? In other words, what time frame cutoff is adequate before deciding that an address victimization is a unique incident rather than a repeat hit?

When analyzing the lagweek results, such findings demonstrate that a large portion of the repeat victimizations occur within the first week of the initial incident and then as the time between incidents increase, overall, revictimizations decrease: 30.9 percent of the

total number of incidents occurred within three and a half months of a previous incident; 70 percent of the repeat incidents took place within 100 weeks (approximately two years). Such findings clearly show a pattern for burglary revictimizations, which is that the offender returns to the initial crime scene to commit another burglary shortly after completing the primary offence.

Also, the regression analysis, analyzing lagweeks (weeks between victimizations), has shown that .931 (93 percent) of the variance can be explained by an exponential model (Table 2 and Figure 3 and 4 in the results chapter). Such a finding also illustrates that the risk of repeat victimization is greatest immediately after an incident, which supports previous studies' findings. For example, many studies show that approximately one third of the total number of repeats occur within one month of the original incident (Johnson et al., 1997; Hope, 2001; Polvi et al., 1991; Ratcliffe & McCullagh, 1998; Robinson, 1998; Spelman, 1995). Furthermore, the study in Tallahassee, Florida demonstrates that the largest share of burglary repeat victimization residences take place within one week of the initial burglary (Robinson, 1998). Finally, the exponential model (Vancouver study) also shows that the risk of a repeat incident occurring as time passes is highly predictable and Robinson's (1998) study supports this, since it was found that as time passes, the risk of revictimization diminishes. Moreover, the study done by Polvi et al., (1991), also lends support to the Vancouver study's finding, which is that research indicates an absence of any elevated risk after 6-7 months; thereby, confirming the predictable nature of this phenomenon. Overall, the exponential graph illustrates how revictimization is greatest in the period immediately after the primary victimization. The results of the

exponential model confirmed that 70 percent of the data are accounted for in the first two years.

Finally, Table 3 (one day through 102 day lagtimes), in the results chapter, shows repeat incidents that are committed the day after the original incident: 102 week lag times (approximately two years). The results in this table also reveal that most of the break-and-enter incidents are committed 'the day after' and as the days between incidents increase, the number of repeats decrease.

Several explanations for the overall decrease in revictimizations over time, as was demonstrated by the exponential model and the 'one day' lag tables, can possibly account for this visible and apparent phenomenon. One possible explanation is that perhaps victims implement target hardening measures to their premises following the initial break-in or improve the security of their burgled location over time. The burglar may very well know that installing security measures is time consuming, thus burgle the location immediately after the initial incident. Consequently, it can perhaps be said that as the security of a location heightens, the property is less likely to be burgled. Another explanation, as mentioned in previous literature is that offenders return to the property to steal items they overlooked or were not able to retrieve initially and/or they tell other burglars of the opportunities and vulnerability of a specific place (Bennett, 1996). Furthermore, burglars may know that people, especially commercial premises, have insurance; therefore, after approximately a month they may return to the same location, assuming that the stolen items have been replaced.

The next major finding assessed whether a temporal pattern of repeats exists throughout the duration of the year, specifically months of the year. Thus, each year of the dataset was selected and only incidents that have a lagtime of one day were utilized. Table 4 clearly displayed that the summer months of June, July, August and September appear to experience the highest number of 'next day' revictimizations, with November also being quite high. On the other hand, the end of December and the entire month of January, appear to be the lowest months for burglary revictimizations.

Such findings are clearly showing that the 'optimal' season for burglars is summer and there may be several reasons for such a pattern. Firstly, during the summer months, school is out of session, which gives potential offenders a lot more time to carry out their crimes, assuming some of them are students. Secondly, since the weather is usually warm to hot during the summer months, potential victims and offenders are most likely outside of their premises; undoubtedly, giving the burglar more of an opportunity. The above two explanations fit well into the opportunity and routine-activities-approach theoretical perspectives. The former theory ascertains that there are situational conditions under which offender motivation leads to actualizing an offence and that there are environmental cues that the offender processes, which will ultimately determine if the offender is motivated (Groff & LaVigne, 2001). Thus, in the summer months an offender is more likely to see environmental cues, such as empty cars in the driveway, any cue to indicate that the location is vacant; thereby, deeming the premises vulnerable and seeking the opportunity to burglarize it.

The latter theory, routine activity, articulates that in order for a criminal event to occur, there must be a motivated offender; there has to be a desirable target; the target and the offender must be at the same place at the same time and there has to be an absence of capable guardians (Eck & Weisburd, 1995). When applying the routine activities approach to repeat burglary victimization in the summer, it is almost certain that the absence of capable guardians, once a desirable target is sought, will be a reason why an offender will break-in and subsequently revictimize the same residence. Moreover, if a burglar initially burgles a home, only to learn that the place has desirable targets inside that he/she has not yet taken, the tendency to return the 'next day' and finish the job may exist.

The reason November is a month that is also quite popular for break-and-enter offences and subsequent revictimizations may be due to several factors. First, the fact that Christmas is just around the corner and burglars know that residential and non-residential premises may be carrying 'extra' goods for the season, may make the offenders more inclined to burglarize at such a time. Also, the offenders may simply want to obtain merchandise that they can fence more easily, since customers may need more items during this particular time of the year. With the end of the year and Christmas approaching, making money, which has been deemed as the primary motivator for committing offences, is probably even more of an issue for burglars.

Immediately after Christmas and the entire month of January have been found to be the lowest times for burglary and burglary repeat offences. Perhaps because even though the

temperatures are relatively mild in Vancouver, it is still the coldest season; therefore, potential victims and offenders are more likely to stay in, rather than circulate frequently to their favorite activity nodes.

Since it was not possible to discern between residential and non-residential premises, the ten most frequently victimized addresses were selected and then located. The findings, as outlined in the results chapter, demonstrated that all of these locations were in fact non-residential. Hence, it can be ascertained that this reflects the higher overall incidence of break-and-enter in non-residential properties to perhaps being the product of both prevalence and concentration, as defined and discussed in chapter four; prevalence referring to the proportion of properties victimized and concentration to how often victimized properties are victimized (Guidi et al., 1997). Prevalence of non-residential properties versus residential cannot be properly distinguished, since the overall proportion of the two types of break-and-enter is unknown. Concentration, on the other hand, is readily apparent since the addresses with the highest frequency of repeats were all non-residential.

Interestingly, as was discussed in chapter two, when Brantingham and Brantingham (1982) looked at the link between commercial burglaries per store on blocks and the presence of five types of commercial landmarks: fast food restaurants, traditional restaurants, supermarkets, department stores and pubs (as cited in Eck & Weisburd, 1995), they concluded that supermarket, department stores and pubs had similar rates but the remaining three landmarks experienced rates 2 to 2.5 times higher than their

counterparts. The reason this finding is so compelling is because the current study also found a similar pattern. From the Vancouver data, it was observed that out of the top ten most frequently revictimized addresses, 80 percent of them were shopping malls and/or stores. Naturally, since the results comprised solely of ten places, it is difficult to know whether pubs and supermarkets would experience higher levels of burglaries and burglary revictimizations than their commercial counterparts. It is not difficult to hypothesize as to why malls would be so readily repeatedly targeted, since they have an absence of guardians at night, just like any other commercial location; yet, malls have the additional luxury of carrying expensive merchandise, which, undoubtedly, gives offenders more incentive to burglarize them, rather than other non-residential places.

After examining repeat addresses in a different manner: looking at how many addresses account for all repeat victimization incidents, it became evident that 34,292 addresses were responsible for the 70,591 repeat incidents. As articulated in the results, 56.8 percent were addresses repeatedly victimized once; 21.6 percent addresses were repeated twice; 9.2 percent were repeated three times; 4.6 percent addresses were repeated four times and 2.6 percent addresses were repeated five times. Hence, the addresses that were repeatedly victimized, either once through five times, accounted for 95 percent of the data.

It is difficult to discern from the Vancouver data the types of areas the revictimized addresses are, since this is primarily a temporal analysis, rather than a spatial one.

However, as the theoretical considerations chapter outlined, there may be several theoretical reasons as to why 34, 292 addresses are revictimized in the present study.

There may be several explanations as to why so many of the addresses experience repeat victimizations. According to the affluence hypothesis, wealthy neighborhoods experience a higher rate of burglaries than less affluent neighborhoods (Baldwin and Bottoms, 1976 and Winchester & Jackson, 1982). So, perhaps such areas are also revictimized more, since it can be assumed that they have merchandise not yet retrieved by burglars, or that such locations will have insurance. Moreover, it can be assumed that wealthier homes will be unoccupied more frequently during the day (Waller and Okihiro 1978), therefore, vulnerable to burglary and subsequent revictimizations. Hence, 'lifestyle' is a factor due to its effect on patterns of occupancy dwellings; when homes are left unoccupied for long durations, both partners work, such residences are more prone to burglaries (Clarke & Hope, 1984; Rengert & Wasilchick, 1984).

Also, the lifestyle-exposure approach, which emphasizes the role of the lifestyle of the offenders and victims and how both influence the opportunities for criminal revictimization through the creation of suitable targets (Hindelang et al (1978); Miethe et al., 1987; as cited in Robinson, 1998), has been considered in literature. For example, weekend homes may be particularly vulnerable to both first and repeat offenders as well as the close association between repeats and lifestyle (Mawby, 2001). Thus, it may be reasonable to assume that a property that has shown to be attractive to a burglar will continue to appear attractive to him or her in the future as well as other burglars.

Moreover, if a premises does not alter the immediate environment that may have caused the burglary to occur in the first place, by increasing surveillance, the routine situational risk transmission hypothesis articulates that if victims of a particular residence remain passive by not altering the situational inducements, revictimizations may follow (Hope et al., 2001).

When considering the vulnerability and social cohesion hypotheses, it can be said that perhaps where there is informal surveillance, certain locations are more vulnerable to revictimization incidents (Newman, 1972). Also, if certain areas are lacking in strong social networks, such as inner-city neighborhoods (Repetto, 1974), the propensity for repeat crimes may occur. Furthermore, since the reputation hypothesis postulates that a neighborhood's reputation is important because a community having a 'rough' reputation will attract more crime (as cited in Clarke & Hope, 1984), having burglars concentrating their activities in certain areas may increase the chance of repeat incidents (Sparks et al., 1977; Hindelang et al., 1978; as cited in Clarke & Hope, 1984). Again, the proximity hypothesis states that there is a tendency for offenders to find victims on the fringes of their own neighborhood: offenders' awareness space; thus, the location of the offender may very well influence whether or not burglaries and revictimizations take place.

Overall, it is speculated that the most compelling theoretical models for the Vancouver CAD data are the state dependency and risk heterogeneity perspectives; however, this has not been empirically proven. These two outlined models aid in the understanding of the repeat victimization phenomenon, particularly for the present study, for several reasons.

As examined in chapter three, the state-dependent argument asserts that revictimization is due to factors related to the initial incident (same offender) and the risk heterogeneity argument postulates it is due to enduring characteristics about targets, which make them suitable to multiple offenders (Farrell et al., 1995). For example, it may be reasonable to speculate that revictimizations in the Vancouver data occur due to specific features that the 'repeat' locations exhibit: the premises are attractive targets for burglars. Moreover, it can also be assumed that the same offender will return to the initial burgled address, either to take more, assume goods have been replaced or because he/she heard from another burglar that such a location is viable.

The final component of the results chapter incorporated a map displaying the Vancouver district and the beat areas, in order to show which beats had the most repeat incidents and which ones had less. It was evident from the map that the Vancouver Eastside exhibited more frequent repeat burglaries than other areas in Vancouver. This finding is not too surprising and supports the reputation hypothesis because this area may in fact have the reputation of being a 'rough' neighborhood; therefore, attract crime. Thus, if offenders began to be concentrated in the Vancouver Eastside, the chances that they will commit repeat crimes in the same area, such as burglary repeats, is probably higher than if their crimes were dispersed.

Policy

It is evident from the Vancouver CAD results that burglary revictimizations are a serious problem; thus, a recommendation of a policy geared toward preventing the burglary *repeat* phenomenon will be presented and discussed: policy intent and stakeholders, implementation, procedure, monitoring and evaluation and an ethical dilemma.

Problem In Need Of Policy: Phenomenon of Burglary Revictimization

It has been ascertained in policy literature that criminologists are able to deal with the creation of crime policy, for example, they employ temporal and spatial analysis in their study of crime (Patenaude, 1997), which may potentially aid policymakers in the implementation of a specific policy. Such an assertion leads well into the objective of this thesis, which is geared towards assisting policy creation from the position of a 'mainstream' criminologist; meaning, not adopting any particular critical theoretical framework but rather incorporating an environmental criminological one. Identifying the problem in need of policy is paramount and this type of structuring has been described as a *metamethod*, which has the function of being a central regulator of the entire process of policy analysis: the phase in the process of query, aimed at uncovering a particular trying situation (Dunn, 1994). Although problem structuring, in the context it has been described, pertains specifically to instances of analyzing a policy, it can be broadened to incorporate assessing the problem for which a policy would be most favorable, undoubtedly, in this case, burglary revictimization.

Previous Burglary Prevention Initiative: Kirkholt

Particularly in Great Britain, preventing crime at places has been an ongoing initiative. Efforts to reduce crime by restricting movement through apartment complexes and improving security by improving locks and barriers on windows and doors have been regarded as key measures (Farrington et al., 2002). As far as burglary revictimization in Britain is concerned, the 'Kirkholt' initiative was a major prevention project, receiving a considerable amount of national attention because it showed that focusing on previously burglarized residences prevents further break-and-enters from occurring (Farrington et al., 2002). The Kirkholt project (1987/8) encompassed 2,280 dwellings and it was a relatively self-contained estate (bounded by a motorway and major roads). 'Cocoon' neighborhood watch was a newly introduced concept, different from regular block watch (watching the entire neighborhood) because it involved organizing the neighbors surrounding burgled residences to keep a watchful eye on that particular dwelling (Farrington et al., 2002). Target hardening by installing hardware to selected, vulnerable homes as well as giving security advice were additional tactics employed to aid in the reduction of crime in Kirkholt (Tilley, 1993). Prior to the prevention project, Kirkholt had an extraordinarily high burglary rate: 25 percent of households per annum (1986/7, 1987/8) and after (1988/9, 1989/90) 6 percent of households per annum (Tilley, 1993): evidently a drastic reduction.

Policy Recommendation

The problem of repeat victimization, as identified, is one that impacts victims quite negatively and which some countries, primarily Britain and the United States, have attempted to reduce by incorporating burglary prevention initiatives. Once the temporal and spatial distributions of repeat burglaries are identified in Vancouver, inferences can be made about the concentration, incidence and prevalence of burglary repeats.

Concentration is referred to as the average number of victimizations per victimized place – counts crimes per victimized location; *incidence* refers to the raw count of victimizations – counts crimes; *prevalence* “equals the estimated percentage of the population at risk who are victims in a given time period” (victims per head) – counts victims (Farrell & Pease, 1993:5). Thus, once burglary revictimizations are identified, creating a policy in Canada geared towards burglary prevention can be grounded and informed by such information.

Policy Environment: Policy Intent and Stakeholders

For the purposes of this thesis, policy will be broadly defined as a “purposive course of action followed by an actor or set of actors in dealing with a problem or matter of concern” (Anderson, 1975:3). A distinction needs to be made between *public policy* and *policy*, in order to avoid confusion between these terms. The former is defined as “an activity of government taken to achieve governmental as opposed to societal ends” and the latter, “declares the underlying value and establishes the overall direction of activities within the organization” (Ekstedt, 1991:77,84; as cited in Patenaude, 1997). Clearly, consistent with the outlined goal, the recommended policy is a public policy that has the

goal to effect a particular social change: a reduction in burglary revictimizations. The policy intent can be categorized into an *overarching* and *secondary* one. The former intent states securing the public well-being as it can be achieved through the safety and good order of the community and the latter, which is a *specific policy intent*, advocates assuring that citizens in their community are not revictimized in their residential or non-residential venues.

In all likelihood, the policy environment will encompass a wide array of stakeholders. It is important to keep in mind that policy-making cannot be sufficiently considered separate from the environment in which it takes place: natural resources, climate, demographical variables, political, social and economic systems, are a few variables that greatly influence policy (Anderson, 1975). The stakeholders involved in a policy initiative also impact and contribute to the policy environment. The *primary* stakeholders will potentially include the property occupants who want to avoid revictimization. Furthermore, other than the primary stakeholders, *secondary* stakeholders may be the police, since their stake is to be seen to do something effective about burglary. Finally, house insurance companies may also have a stake in this type of prevention policy because they would benefit if the policy initiative decreased the amount of burglary repeats in a given area. However, it is important to keep in mind that there is a reason to believe that the occupants of highly revictimized places do not have insurance: a luxury for people who are not wealthy.

Policy Implementation

Once Vancouver generates spatial and temporal evidence of burglary revictimizations, and identifies a particular area as being problematic, then the next logical step is to implement a burglary prevention policy and procedures to achieve the policy intent. If Canada were to take the British example of the Kirkholt initiative, the crime prevention unit, local police officers, probation, victim services and many other agencies would have to work closely on the project. Meaning, the project offices would benefit by being beside the local housing facilities: this would facilitate a close working relationship, as was demonstrated in Kirkholt (Tilley, 1993).

Law enforcement involvement could also be a key measure in potentially deterring future victimizations in a vulnerable area, if police patrols were to increase. Nonetheless, more frequent police patrols would only be a temporary solution and, according to Spelman (1995), such tactics are far less important than permanent environmental characteristics, which are not 'quick-fix' solutions (as cited in Robinson, 1998). Implementing a crime prevention policy through environmental design by manipulating the environment to reduce the incidence of crime has become of interest post-World War II (Linden et al., 1997). Integral to the broad concept of situational crime prevention is the subset 'crime prevention through environmental design' (CPTED).

POLICY PROCEDURE

Crime Reduction Interventions Through Situational Crime Prevention

The origins of situational prevention can be found in the larger body of opportunity theory that sees the offender “as heavily influenced by environmental inducements and opportunities and as being highly adaptable to changes in the situation” (Clarke, 1995:57; as cited in Welsh et al., 2001). Situational crime prevention is defined as “a preventive approach that relies, not upon improving society or its institutions, but simply upon reducing opportunities for crime” (Clarke, 1992:3; as cited in Welsh et al., 2001).

Reducing opportunities for crime is achieved essentially through some modification or manipulation of the environment. The situational crime prevention framework has four components:

- 1) A theoretical foundation drawing principally upon routine activity and rational choice approaches,
- 2) A standard methodology based on the action research paradigm,
- 3) A set of opportunity-reducing techniques and
- 4) A body of evaluated practice including studies of displacement (Clarke, 1997:6).

The three main approaches to situational crime prevention, which are key for property crime prevention initiatives (robbery, burglary and vandalism) are:

- 1) increasing perceived effort – target hardening, access control, deflecting offenders and controlling facilitators
- 2) increasing perceived risks (entry/exit screening, formal surveillance and natural surveillance)
- 3) reducing anticipated rewards (target removal, identifying property, reducing temptation, and denying benefits) (Clarke, 1992:3; as cited in Welsh et al., 2001.)

If neighbors were made aware of initial burglary offences in their community, they would be able to look out for similar crime patterns in the immediate future (Robinson, 1998).

Thus, the procedure for carrying out the crime prevention policy for repeat burglary victimization would entail target hardening measures such as security upgrading by

installing intruder alarms, providing security advice to victims and nearby residents, video surveillance and improving locks on doors. Moreover, altering the characteristics of the individual residence or commercial property by cutting down bushes or improving lighting fixtures would make the residence more surveillable. However, the potential downfall of these policy measures could be that people in the community may be unwilling to expend the money and time necessary to harden targets. Hence, insurance companies and security agencies could lend the community residents alarm systems and video surveillance for the duration of the demonstration project. Also, another obvious limitation of situational crime prevention is that relying on bars and other intrusive security features may, in fact, destroy feelings of community (Linden et al., 1997).

The implementation of a 'cocoon neighborhood watch,' similar to the one in Kirkholt, by organizing the residents to surrounding burgled dwellings to watch the victimized home, could prove to be more advantageous than organizing the entire neighborhood. For instance, this type of neighborhood setup in Kirkholt resulted in burglary declining by 40 percent in the first year and continuing to decline over the next three years (Tilley, 1993). Similarly, increasing proactive policing measures in the designated community by stepping up patrol of the location is also an additional policy procedure that may render benefits once setup.

Monitoring and Evaluating The Existing Policy

Once the burglary revictimization prevention policy has been put into place, monitoring this type of initiative can be achieved if victims complete before and after surveys.

Anderson (1975) discusses how policy evaluation is concerned with trying to determine the impact policy has on 'real-life' circumstances or conditions. However, the apparent problem with evaluating any type of policy that is measuring cause-and-effect is that it is often impossible to measure quantitatively the impact of public policies, especially social policies (Anderson, 1975). Moreover, if the goals of a policy are unclear, determining the degree to which they have been achieved can be a difficult task (Anderson, 1975). In the case of the burglary revictimization prevention policy, showing whether prevention occurred, through statistics (quantitative results), is possible by measuring the burglary crime rate and seeing whether burglary repeats decreased in time and space. For example, have burglaries declined in the first year after the start of the project and continued to decline over the next three years? Unfortunately, this policy cannot usually estimate the relative effectiveness of the component parts (target hardening mechanisms) but may be worth experimenting with. Finally, in order to evaluate the satisfaction or dissatisfaction of residents with the current policy, which is a social impact concern, such an endeavor can only be achieved through personal interviews with the residents (general) and the initial burglary victims.

Unforeseen Consequences Dilemma

It is important to keep in mind the ethical concern that this particular burglary repeat prevention policy brings to the forefront. Ethics, as used for the purposes of this thesis, refers to “a set of normative standards for resolving dilemmas that policy analysts or evaluators often face with regard to what they should do in performing their roles in the interests of societal desirability” (Nagel, 1983:65). Policy creators as well as evaluators need to attempt to foresee important consequences of the implemented policy, which in some instances may not be favourable; failing to anticipate relevant consequences may constitute a form of negligence, amounting to malpractice (Nagel, 1983).

As far as the burglary revictimization policy is concerned, the *unforeseen consequences dilemma*, discussed by Nagel (1983), can pose to be a viable ethical problem. In this instance, other than the expected positive consequences of the prevention policy, imposing on residents' lives and infringing on their freedom by practically forcing them to implement target-hardening measures and having police constantly surveilling the premises, could be perceived as being a negative consequence of the policy. Thus, in essence, this could be an unforeseen negative reaction coming from neighborhood residents that the policy stakeholders have not anticipated.

Geographic Displacement of Burglary

It is important to address the possible downside of the burglary revictimization policy, which is associated with the term *geographic displacement*. In the context of burglary prevention, *displacement* is referring to burglars going to other places due to the specific interventions that are in place in specific areas. However, according to Eck (2002), in the last decade, a number of studies exploring theory based on a rational choice perspective, to see whether there are any theoretical or empirical underpinnings for displacement, find no basis for believing offenders do in fact displace if they cannot strike their primary and favorite targets. Also, overall general criminological evidence for its pervasiveness is not strong and it is very difficult to assess in any evaluation (Ekblom and Pease, 1995; as cited in Home Office Research and Statistics, 1996). Interestingly, other studies show that even when displacement does occur, it does not supercede other gains from blocking alternative crime opportunities; displacement, at worst, may have the potential of suppressing effectiveness but it does not weaken effectiveness to zero (Eck, 2002).

Policy Conclusion

One goal of this thesis is to provide Canadian criminal justice agencies, especially the police and other interested stakeholders, with the necessary information regarding the necessity of creating a burglary revictimization prevention policy: premised on the most recent literature pertaining to this phenomenon. Once the proper technology is utilized, which allows burglary repeats to be analyzed temporally, as well as mapped accurately in space, based on 'calls for service,' finding *hot spot* areas and setting up a project in the form of a prevention policy, seems to be a significant and vital step in stopping repeat

victimizations from occurring. Overall, implementing a crime prevention policy through environmental design by manipulating the environment to reduce the incidence of crime could be deemed beneficial for preventing future burglary revictimizations.

Implications for Future Research

The present Vancouver study was temporal; therefore, presented detailed findings about the time between victimizations and the frequency of address repeats. The findings have definitely confirmed, as other studies have, that burglary revictimization is indeed a problem and a phenomenon that needs to be dealt with immediately after an initial incident occurs. Moreover, since it has been shown that, temporally, the risk of burglary revictimization decreases over time, drastic measures need to be taken to protect the victimized location from subsequently experiencing another incident or multiple incidents. Perhaps by concentrating on repeat victims, police might detect more of the repeat offenders than they might with other methods. After all, the Vancouver CAD has shown that past victimization is a good predictor of future victimization.

Unfortunately, because this study clearly focused on the 'time' between incidents, it is not possible to suggest proactive measures for the police, based on the 'type' of addresses in a given area; for example, assessing hot spot locations where revictimizations occur: areas that have the highest number of repeats, in comparison to other zones (Guidi et al., 1997). Even though it would have been beneficial for the present study to expand further into the spatial realm of analysis by utilizing the Geographical Information System (GIS) to spatially map all repeat burglaries in Vancouver, due to the time constraint of

completing the thesis in a timely manner, such sophisticated analyses can be undertaken in future work. Ideally, it would be advantageous for the Vancouver police, the crime prevention unit, probation, victim services and many other interested agencies to work closely together and find out whether reported burglaries are concentrated only within certain subsections of the population.

Thus, it would be advantageous for future research to be concentrated on the spatial distribution of residential and non-residential burglary revictimization. Hence, police CAD needs to clearly differentiate between commercial and residential locations in their datasets. Interestingly, if this study was done on a larger scale, gaining access to case files and sifting through location descriptions, offender demographics and victim demographics, more information could potentially aid in a highly advanced spatial burglary analysis. Assuming that the burglar was apprehended, it would be interesting to analyze the distance between the offender's residence and his victims' residences: more environmental criminology analyses.

Furthermore, a relevant study, in the area of burglary revictimization would be to analyze the type of merchandise an offender took initially and then compare it to the items taken in a subsequent victimization to the same residence. This type of study would be able to perhaps shed light on whether or not different items are the goal of the repeat hit or if taking the same items, once they are insured, is the primary motivator. Also, conducting interviews with victims and offenders of repeat burglary victimizations would lend insight into the motivations of burglars, demographics of victims and essentially provide

extra quantitative and qualitative information into this phenomenon. Finally, delving into the area of 'offender networking'; meaning, gaining more knowledge about how burglars communicate together regarding their initial break and enters and their subsequent revictimization crimes, may contribute to a better overall understanding of this type of crime.

Chapter 7: Conclusion

The purpose of this thesis was to gain a comprehensive understanding of the burglary revictimization phenomenon in Vancouver by conducting a time-series analysis. By having examined current literature on this topic, theoretical considerations and the policy issues that have risen, the repeat burglary victimization problem is perhaps better appreciated. The research context for the current Vancouver C.A.D. was also explored, in order to explain what exactly is being studied and to provide the necessary insight that is needed, in order for the methodology and research findings chapters to be properly understood.

The research findings presented in this thesis are generally consistent with previous research concerned with repeat victimization (Guidi et al., 1997; Hope, 2001; Johnson et al., 1997; Polvi et al., 1990; Polvi et al., 1991; Ratcliffe & McCullagh, 1998; Robinson, 1998; Spelman, 1995). A key research question for the current study was to see whether once an address is burglarized, or an attempt has been made to the premises, whether the risk of subsequent revictimizations to the same address increase and in what time increments. The findings have shown that there were 70,591 burglary revictimizations out of 174,877 (entire dataset): 40.37 percent were repeats. Overall, the lagweek frequency findings illustrated that there is a time period of heightened risk for burglary revictimization immediately after the initial offence. Also, the exponential graph showed that 70 percent of the 'repeat' victimization data are accounted for in the first two years after the initial incident. Further analysis has demonstrated that the majority of break-

and-enter incidents are committed 'the next day' and as the days between incidents increase, the number of repeats is drastically reduced. When assessing whether any seasonal patterns are apparent for burglaries and burglary revictimizations, the results have shown that the summer months of June, July, August and September appear to be the highest, with November also being quite high. The end of December and the entire month of January, appear to be the lowest months for burglary revictimizations, which take place the day after the original incident. The top ten break-and-enter address locations that displayed the highest number of repeat incidents revealed that 'all' were non-residential premises, with the majority being shopping malls and stores. Finally, a map of the Vancouver district displaying the beat areas was created and showed which beats experienced the most repeat incidents. It became clear from the map that the Vancouver Eastside exhibited more frequent repeat burglaries than other areas in Vancouver.

The discussion chapter (seven) examined the implications of the current study's results and deliberated upon possible explanations for such findings. For example, it was argued that since Vancouver has such a high prevalence of burglary repeats because it is unique both regionally and seasonally, such factors may encourage burglars to commit and revictimize premises. It is also important to consider police practices and the way such practices influence statistics: Vancouver police may record more cases than other places, which may account for the high revictimization percentage. Nonetheless, the dataset is so large (approximately ten years); thus, it is not surprising that there would be a lot more revictimizations than found in short-term studies' findings.

Furthermore, the lagweek distribution results demonstrated that, in fact, a pattern for burglary revictimiation does exist: the offender returns to the initial crime scene to commit another burglary shortly after completing the primary offence. The exponential graph reinforced the lagweek frequency finding, since 93 percent of the variance can be explained by such a model. Also, looking at one day 'lagtimes' for approximately two years revealed that most of the break-and-enter incidents are committed 'the day after' and as the days between incidents increase, the number of repeats decrease.

Since the seasonal findings revealed that certain months are 'optimal' for burglars, specifically summer, it was argued that during these months, school is out of session; thereby giving potential offenders more time to carry out their crimes, assuming some of them are students. Also, because the weather is usually warm to hot during the summer months, potential victims and offenders are most likely outside of their home or business (on vacation); therefore, giving the burglar more of an opportunity. Such explanations, as examined in the discussion chapter, fit well into the opportunity and routine-activities-approach theoretical perspectives.

It was also articulated that perhaps November is a month that is also quite popular for break-and-enter offences and subsequent revictimizations because, firstly, Christmas is just around the corner and burglars know that residential and nonresidential premises may be carrying more goods than usual. Secondly, the offenders may simply want to obtain merchandise that they can *fence* more easily, since customers may need more items

during this particular time of the year. With the end of the year and Christmas approaching, making money, which has been deemed as the primary motivator for committing offences, is probably even more of an issue for burglars.

Directly after Christmas as well as the month of January have been found to be the lowest times for burglary and burglary repeat offences. It was emphasized that this may be because even though the temperatures are relatively mild in Vancouver, it is still the coldest season; therefore, potential victims and offenders are more likely to stay in, rather than circulate frequently to their favorite activity nodes.

Since the findings for the top-ten most frequently revictimized addresses revealed that they were all non-residential premises, mostly shopping malls, it is obvious that malls would be repeatedly targeted. Shopping malls are usually deserted at night, except for the occasional security guard, thus have an absence of capable guardians, as do many other commercial locations; yet, malls have the additional luxury of carrying expensive merchandise, which gives offenders more incentive to burglarize them, rather than other non-residential places.

Since it was found that 34,292 addresses were revictimized, it was speculated from the following theoretical perspectives: *affluence hypothesis*, *lifestyle-exposure* approach, *routine situational risk transmission hypothesis*, *vulnerability* and *social cohesion hypotheses*, *proximity hypothesis* and *the state dependency* and *risk heterogeneity models*, which of these approaches are the most meaningful (chapter six). Furthermore, since the

Vancouver Eastside exhibited more frequent repeat burglaries than other areas in Vancouver, such a finding supported the *reputation hypothesis* because this area may in fact have the reputation of being a 'rough' neighborhood; therefore, attract crime. In essence, if offenders began to be concentrated in the Vancouver Eastside, the likelihood that they will commit repeat crimes in the same area, such as burglary repeats is probably higher than if their crimes were dispersed. Overall, the theoretical models which seemed to have provided the best 'fit' to the data analysis results, even though not empirically proven, can assist in the development and implementation of crime prevention policies and procedures.

In conclusion, the temporal evidence discussed in this thesis could have direct implications on the way in which policing, geared toward the prevention of repeat victimization, can be carried out. In the future, conducting spatial analysis for the phenomenon described and locating geographical burglary repeat hotspots may potentially enable the police to become more proactive; thereby, preventing repeat burglaries from occurring. To be able to know that a particular person or place is vulnerable to victimization allows temporary prevention measures to be implemented. Hence, after a burglary has occurred, victims should be ready to expect and take measures to prevent a subsequent one from occurring.

Appendix A: Methodology

The Vancouver Police data were transferred into SPSS 11.0 for Windows and the data were 'cleaned-up.' The first step in tailoring the data for this thesis was to eliminate all unnecessary information in the database: several variables, rows and columns were deleted, since they served no purpose for the objective of this thesis. The following 46 variables were dropped from the Vancouver Police CAD file:

record length, record type, complaint no, sequence no, call no, call date, complaint time, dispatch time, entry time, scene time, close time, CTL group, fire district, section pattern, section plan, complaint codes, assignment list no, unit no, prim unit office no, disposition ID, disposition, term, 100 block, lane, side, X & Y coordinate, location not verified, ADV incident, catch up, in progress, clear request, unit unavailable, held, closed, premise history, seen, cancel, building info seen, cancel, call entered as combined, self initiated call, premise history on file, call transferred to MRS, building information on file, fire assignment list and cross street X & Y coordinate.

All the Vancouver CAD were separated in SPSS for every month of the year (separate files for each month); thus, the first step was to merge every single month of the data set for each year from 1987 thru 1997 into one huge data set.

The following variables in the research data file were kept from the Vancouver Police CAD:

year, month, day, street number, street name, cross street, jurisdiction, group, beat, section pattern, priority code, unit required, sector and premise history.

The variables year, month and day were crucial, since they relay the exact date of the offence. The street name is also important because the information sought is to assess whether or not the same address is revictimized again. The cross-street, jurisdiction, group, section pattern, unit required, sector and premise history are also relevant to keep for more detailed descriptions of the particular offence, as well as for future spatial analyses. The beat variable was also utilized for a simple spatial analysis to show which police beats have the most to least amount of burglary revictimizations; undoubtedly, attempted break-and-enter, break-and-enter and break-and-enter report calls for service.

The following variables were modified from the Vancouver Police CAD data:

street number and street name.

In order to gather information on the specific address that has called for service, the street number and street name needed to be merged into one variable, otherwise proper analysis could not take place. Thus, a new variable 'address' was created using the program Microsoft Excel 2000: the street number and street name were collapsed into one column and then transferred back into SPSS.

The following time-series variables were added to the Vancouver Police CAD:

day_number, hit_1, lagtime, lagweek and lagmonth.

The 'day_number' refers to the exact day the repeat victimization occurred from the original incident; 'hit_1' examines how many times an address was revictimized; 'lagtime' assesses the time between revictimizations to the same address and 'lagweek' and 'lagmonth' assess specific time intervals between revictimizations.

To assess the frequency and time between repeat victimizations to the same address, time-series variables needed to be created. This tedious process began by coding each day of the year into a separate variable (day_number). In order to do this accurately, each day of the month, including leap years had to be accounted for and then properly implemented into syntax. Hence, the data began April 3rd, 1988: day 93 and ended June 30th, 1997: day 3377. The lagtime variable was also created, which showed the corresponding day (93-3377) when the same address was revictimized. A lagweek variable was implemented by dividing the entire data set 'day' into weeks, which then showed the week, either 1 thru 468 weeks, when the address was repeatedly burglarized or an attempted burglary had been made to the particular address again. The lagmonth variable was also created for similar purposes as the lagweek variable but for the purposes of this thesis, the lagweek variable is more handy because it provides 'richer' time-series analysis. Finally, once these variables were created, it was important to filter out those calls for service that did not have a repeat incident; therefore, out of 174, 877 cases of burglary, 70,591 were repeats: the data used for the remaining analysis.

Step-By-Step Methodology Procedure

All the years in the C.A.D were coded as follows: 1997=10; 1996=9; 1995=8; 1994=7; 1993=6; 1992=5; 1991=4; 1990=3; 1989=2 and 1988=1. In order to gather information on the entire revictimization sample, a lagweek frequency was run. Such a frequency distribution showed the number of repeats to the same address for each week during the ten year span: 468 weeks in total. This information was invaluable to the research, since it clearly displayed a common weekly temporal trend. Histograms and an exponential graph were utilized to best illustrate the weekly distribution of repeat incidents.

A frequency distribution was run in order to see out of the 70,591 incidents how many actual 'addresses' accounted for all of those repeat incidents. Thus, the addresses in the entire dataset were sorted and aggregated according to the number of hits. The information extrapolated from this demonstrated the frequency (count), as well as the percentage of the number of repeats for the 34,292 addresses. For example, information was gathered on how many addresses were revictimized once, twice etc... Furthermore, the ten most frequently victimized addresses were selected and analyzed temporally according to the lagweek between repeat hits.

The next methodology step was to separate each year in the data set and subsequently run a daycount frequency distribution of the repeat incidents. Moreover, for each year selected, only the incidents that have a lagtime of one day were selected. For example, cases in year 1, 1988, were selected (day 93-365) and a frequency distribution, according to daycount, was gathered. Year 2 (1989) includes day 366-688; year 3 (1990) = 639-

1003; year 4 (1991) = 1004-1368; year 5 (1992) = 1369-1734; year 6 (1993) = 1735-2099; year 7 (1994) = 2100-2464; year 8 (1995) = 2465-2829; year 9 (1996) = 2830-3195 and year 10 (1997) = 3196-3376. The reason the lagtime of one day was selected was to show whether a temporal pattern of repeats exists, throughout the duration of the year. By looking at the daycount in each year and the 'one day' repeat incidents, it is possible to discern whether or not a temporal trend for a one-day lagtime exists.

Looking at the data differently, all the data (70,591 incidents) were selected and a lagtime of one day through ten days was separately viewed as well as lagtime = 14 (2 weeks), 21 (3 weeks), 42 (6 weeks: approximately 1 month and half), 63 (9 weeks), 168 (24 weeks: approximately 6 months), 252 (36 weeks: approximately 9 months), 546 (78 weeks: approximately a year and half) and 728 (104 weeks: approximately 2 years). The lagtime information was gathered on the entire dataset, rather than separate years, in order to see whether as time goes by between revictimizations, the total count of repeats increases, decreases or remains relatively constant.

Finally, spatially, police beats and frequency of repeat burglaries were geo-coded and mapped using the MapInfo software computer program. A map of the Vancouver area displaying the beat areas was created to show which beats had the most repeat incident and which ones had less.

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