THE SPATIAL DISTRIBUTION OF CRIME

IN

THE HAMILTON - WENTWORTH REGION

BY

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A Research Paper

Submitted to the Department of Geography

in Fulfillment of the Requirements

of Geography 4C6

McMaster University

April 1990

ABSTRACT

Previous studies of the spatial distribution of crime have attempted to link crime with various sociological theories. It is the purpose of this paper to determine crime rates for the Hamilton-Wentworth region and to determine its distribution. Furthermore, a comparison of crime rates and socio-economic variables will be used to determine whether there is an association between the two elements. In conclusion, the relevance of this study to previous studies will be addressed, as will the potential ability of similar studies to effect planning policy.

ACKNOWLEDGEMENTS

I would like to gave my gratitude to Dr.J Eyles for his encouragement, support and advice throughout the course of the year. His comments and guidance were greatly appreciated. Secondly, I would like thank my fellow classmates, for their continual reassurance and my father for his patience and understanding.

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CHAPTER 1: INTRODUCTION

In recent decades, crime rates have appeared to increase continually throughout North America. It appears that this increase has resulted mainly from the phenomenal growth of urban areas, where criminal activities are concentrated. Previous studies of spatial variations in crime have attempted to link crime with theories of crowding, social disorganization, anomie, and design determinism (Knox p.87). Yet evidence to support these theories proves to be difficult and inconsistent. To further complicate spatial studies of crime is the availability of reliable crime statistics. It is estimated that approximately fifty percent of all crimes are not reported to police (Knox p.88). This lack of crime reporting leads to a severe underestimation in official statistics as well as a substantial understatement of the problem of crime in our society. This paper will attempt to analyze the regional variations in crime rates throughout the Hamilton-Wentworth Region. The patterns of variation may be used to determine high crime areas and subsequently lead to a study of the social characteristics of these particular areas. Crime rates and the social composition of these areas will be compared to determine whether social factors and crime rates have an association and whether the social variables

are predictive of areas of high criminal activity.

This proposal is aimed to answer several questions about the distribution of crime and its related factors. These questions are:

i)To determine the distribution of crime throughout the Hamilton region and to discover whether Hamilton conforms to the theoretical patterns of crime.

ii) To determine the annual levels of criminal activity in Hamilton and the variation in pattern between particular crimes.

iii) To determine which social factors appear to have an influence or are associated with the risk of criminal activity in particular areas.

By combining the results of the data analysis, one can assess the impact of crime within Hamilton and determine whether Hamilton is typical of North American urban crime patterns.

The research paper will be divided into various sections, with each section dealing with a particular aspect of the research process.

First, the analysis will identify and comment on some of the relevant literature on crime pattern analysis. There have been several spatial pattern theories proposed each attempting to explain urban crime patterns based on social factors, social organization, anomie, or design determinism. The theories relating social factors and crime rates stem from the Chicago School, the main belief of this

theory is that social factors such as housing conditions and overcrowding lead to deviant behaviour in the community, thereby increasing crime rates (Herbert p.19).

The concepts of social disorganization theory arise from the Chicago School of thought, suggesting that the lack of a stable form of society with legalistically based codes of behaviour and established norms and values are favorable conditions for criminal behaviour (Herbert p.20). The theory of anomie believes rapid economic and social change lead to certain levels of behavioral deviance, and those that experience this rapid change are those more prone to commit crimes (Herbert p.20). Lastly, Oscar Newman's theory of design determinism states that the design or plan of the community effects the crime rates by either encouraging public surveillance of the neighborhood to reduce crime or by increasing crime rates through a poor physical design of the neighborhood (Davidson p.82). Although Newman's work is influential, the scope of this study does not permit a small scale analysis of individual buildings or neighbourhoods and therefore, prohibits the analysis of Newman's concepts and ideas. It is important to note, although Newman's study is not directly related to this analysis, his concepts can influence the future of crime prevention through space design. Through an examination of these various theories a perspective will be established in which to perceive and evaluate the Hamilton results.

Secondly, the issue of analyzing crime statistics and the difficulties associated with this type of analysis will be addressed. It appears that not only are there difficulties in determining the actual or true crime levels but also in the classification of crime data. There are two basic types of crime data available, those of the Hamilton-Wentworth Regional Police (HWRP) department and those of the Federal government (Statistics Canada). The problem does not lie in the method of data collection but in the way in which each data source identifies and classifies particular crimes, thus making comparison studies difficult. Statistics Canada measures crime based on the number of occurrences rather than the number of criminal code violations. That is, if one incidence of crime occurs and four violations are committed during this incidence, Statistics Canada would classify this as one incidence of crime and they would categorize this offence under the more serious offence (Mohr p.72). Where as, the HWRP measure crime based on the number of actual criminal violations committed regardless of whether they occur in one occasion or more than one. Based on these differences in calculating crime statistics, spatial studies of crime become quite difficult. Unfortunately, this type of analysis is out of the scope of this study. Furthermore, there is difficulty in obtaining data based on a small scale due to the sensitive nature of the data (e.g. It has the potential to affect residential

land values).

The following section will deal with the data analysis itself. It consists of two main sub-sections each dealing with a particular aspect of the analysis. These

sub - sections are:

> i) a yearly comparison study will be accomplished to determine whether crime rates have increased or decreased in Hamilton from 1981 to the present. This analysis will use Statistics Canada data for total crime rates. Also using Statistics Canada data, total crime levels for particular crimes (i.e. burglary, assaults, and theft) will be examined on a temporal basis dating from 1981 onwards for the Hamilton-Wentworth region.
>
> ii) an annual picture of crime areas will be determined, that is, the pattern of offences based on the planning district (per year) as a unit will be established.

The next section will also contend with data analysis. Several social variables will be selected representing various aspects of the economic and social composition of the city. A comparison of social characteristics and the offence levels will then be carried out to determine whether an associative relationship exits.

The subsequent section will consist of an interpretation of the data obtained and the relevance of these results for the city of Hamilton. As well a discussion of how these results can be applied to the current volume of theoretical literature available will be addressed.

Lastly, a general overview of the study will be

carried out, in order to summarize the nature of crime in Hamilton and its impact on society. The identification of crime prone areas in this study, may have implications on planning policy thus, a discussion of these possibilities and their effects will be addressed.

CHAPTER 2.1: LITERATURE REVIEW

The study of the spatial patterns of crime within the geographical sphere have been present since the 1830's with the development of the 'cartographic school' (Pyle,1974). This school was primarily concerned with the "collective phenomena rather than the motivation of crime in the individual" (Pyle,1974). The 'cartographic' train of thought became relatively dormant until the works of Shaw and McKay and the Chicago school of the 1920's. Spatial patterns of crime within the context of urban social geography have particular influences on current government planning policies as well as the general development of the local neighborhood planning. This type of study allows for the potential improvement of neighborhood perceptions and outlooks through the identification of 'vulnerable' crime environments and their potential improvement through planning and design policy.

Most theories of spatial crime analysis stem from

classical theories of sociology, attempting to explain the motivation and the social environment of the offender and thereby determining areas which have the potential for above

average levels of criminal activity or deviance. These theories have led to the development of criminology which emphasizes social disorganization, anomie, cultural transmission and subculture in explanation.

The theory of social disorganization developed by Shaw and McKay (1942) "suggests that in the absence of a stable form of society with legalistically based codes of behaviour and established norms and values, precipitating conditions for criminality would exist." (Herbert,1982). With this basis, Shaw and McKay linked criminal behaviour to the concentric zone model, indicating that delinquency and crime follow the pattern of the social and physical structure of the city with concentration occurring in disorganized, deteriorated areas (Pyle,1974). This theory was supported by studies by Hayner (1946), Lander (1954), Bordua (1958-59), Defleur (1967) and others (Pyle,1974).

Durkheim's theory of anomie was also closely associated with the development of ecological theories. The theory of anomie tried to show " how rapid economic and social change would lead to a certain level of deviance and suggested that those who were subject to most violent change, were most likely to deviate." (Herbert,p.23). This

also lead to the belief that socially disorganized areas lead to area of higher crime rates. This, combined with the theory of social disorganization, developed into what is now called the subcultural approach.

The subcultural approach is a combination of both theories, as well as the Cultural transmission theory. The Cultural transmission theory (Shaw and McKay), suggesting that the delinquent tradition is 'nurtured' among some sections of society, could be viewed in a territorial context (Herbert,1982). The subculture theory suggests the existence of identifiable groups with particular values, beliefs, and normative codes of behaviour are typical. Also that some elements associated with such a group may be illegal and at odds with those adopted by the wider society. There are several variations of this theme (e.g. Matza 1964, Hood and Sparks 1970, Downes 1966, Cohen 1955), which provided support for the theory's concepts and conclusions of the Subculture theory.

Through the development of these sociological theories which are applied to the incidence of crime in the urban community, Shaw and McKay developed an influential idea, which may be called the concentric zone model of crime. They derived several conclusions to typify the crime patterns common to most North American cities some of which are:

i)crime rates vary widely in different neighborhoods within a city, town or SMSA.

ii)highest crime rates and delinquency rates generally occur in the lower rent areas located near the centre of the city, and the rates decrease with increasing distance from the city centre - called the gradient hypothesis

iii)differences in area rates reflect the differences in community background. High rate areas are characterized by such things as physical deterioration and dwelling population.(Pyle,1972)

Shaw and McKay's findings were validated by other studies such as Hayner (1933,1946), Lander (1954) and Lind (1930), although oversimplification was suggested and the importance of socio-economic factors alone were questioned by Lander and Bordua (Pyle,1972).

These studies led to the development of two types of crime typologies in social area analysis. Firstly, the Shevky-Bell model (1955), uses three dimensions, these being family status or urbanization, ethnic status or segregation, and economic status or social rank. Secondly, the Tyron typology which uses family life, assimilation, and socio-economic independence as indicators of crime typologies (Pyle,1972). It is important to note that these studies, regardless of methodology or typology, attempt merely to describe the spatial patterns of crime and do not claim to explain the reasons or causes of criminal activity. The realization of the potential of ecological fallacy and the

preventive steps which should be taken to avoid such indiscretions is necessary in any spatial crime pattern studies.

Wilks (1967) sums the current volume of spatial crime pattern studies and indirectly supports Shaw and McKay's social disorganization hypothesis. Wilks states:

> "Interestingly enough, whether concentric zones, individual census tracts, or census tracts grouped into social areas are investigated, the most frequent finding is that offences and offenders tend to be concentrated in areas characterized by low income, physical deterioration, mixed land usage, non-traditional family patterns,...and racial-ethnic concentrations which appear to produce low neighborhood cohesion and low integration of the neighborhood into larger society."(Pyle,1972)

Where as Harris (1980) states " the strongest statement that is justified is that the physical environment offers differential opportunity patterns, fluctuating both in time and space." Therefore, it appears that there is no consensus, even among the most general statements of spatial crime distribution.

Also influential are the ideas of Oscar Newman, although he concentrates mainly upon the actual design and organization of buildings within the community (Herbert,1982). His basic premise is that the design of the building either increases or decreases the natural surveillance of the neighborhood, thereby either increasing or decreasing the crime rate of the area (Herbert, 1982).

The work of Newman reveals the social interpretation of building design which may influence the incidence of crime and influence planning policy.

Other spatial studies such as Schuessler & Slatin's (1964) used, a more technical method, a multi-variate analysis to determine spatial patterning throughout American cities and attempted to link these patterns with predictive theories. They found property crime factored with suicide and divorce rates (anomie). Homicides and assaults factored with the percentage of population classified as non-white and with various measures of overcrowding. Consequently they concluded that high rates of personal crimes have somewhat different social settings that high rates of property offences (Brantingham & Brantingham, 1981). These types of studies lend themselves to the empirical studies mentioned above, for they provide quantitative support to empirical theories, such as anomie.

Rather than looking at social and economic factors Brantingham and Brantingham attempted to illustrate the relationship between crime rates and the offender's awareness space. They argued that the incidence of crime is largely determined by the offender's awareness space which is generally influenced by his/her home, work, entertainment areas, shopping areas and the travel routes between. Brantingham & Brantingham then use these concepts to explain or validate some of the common conclusions drawn concerning

the nature of crime patterns. They concluded that criminal activity is based on perceived opportunity rather than motivation and that by

> "exploring urban structure and how people interact with urban spatial structure, it should be possible to predict the spatial distribution of crime and explain some of the variation in volume of crime between urban areas and between cities." (Brantingham & Brantingham,p.54)

Therefore, Brantingham and Brantingham claim that, not only do social characteristics have an association with high crime rates but these rates are further influenced by urban structure and human interactions within areas. This implies that one should consider the urban space as a factor in determining characteristics of high crime rates.

CHAPTER 2.2: REVIEW OF STATISTICAL LITERATURE

The actual classification and compiling of crime statistics proves to in great controversy and debate. Mohr (1970) believes crime rate summaries are misleading, partially because of oversimplification, but more importantly because the data are both inadequate and inaccurate (Mohr,1970). He bases his conclusions on the methods upon which crime statistics are classified and to the concept of the crime funnel. The concept of the crime funnel implies that as one moves from the actual number of

crimes to recorded crimes, the number of crime noted decreases either because of the lack of detection or lack of recording. Mohr believes official statistics represent only a portion of the actual number of crimes. It has also been suggested that the misrepresentation of crime statistics can be accounted for by the criminal justice system itself (Cassidy & Hopkinson, 1974). Similarly, the Canadian Uniform Crime Reporting system has been labelled inadequate for the system is wholly dependant on the legal definitions of crime, thereby lacking a behavioural and perceptual dimension. Also it has been accused of poor categorization leading to an under representation of crime in society (Akman & Normandeau, 1967). Regardless of the frequent assertion of academic criminologists that officially collected data are neither valid or reliable measures of the real crime occurrence pattern, most assume it is a reliable and valid sample of real crime occurrence (Brantingham & Brantingham,1981) Thus, in the analysis of crime statistics the data sources must be evaluated critically on the basis of validity and reliability regardless of the source.

CHAPTER 2.3: CANADIAN CONTEXT

The general application of ecological theories to the Canadian society prove to be few and infrequent. There are two relatively recent studies of Canadian crime patterns by Jarvis & Messinger and Engstad. Jarvis and Messinger compile a multivariate analysis of delinquency in London, Ontario, finding that poverty proves to a major influence on the incidence of delinquency. Where as, Engstad concentrates of the opportunity to commit crimes and on the crime patterns in neighborhoods. Using these examples as a focus of Canadian crime studies, it might be relevant to examine whether Hamilton appears to have similar crime pattern distributions and apparent related social factors as previous Canadian examples have noted, as opposed to the patterns found in United Kingdom and American studies.

Through the analysis of the previous spatial crime pattern studies, it leads to a number of relevant research directions. Firstly, it would be interesting to note whether Hamilton conforms to the various hypotheses of Shaw and McKay. Secondly, to determine whether Hamilton supports theories such as anomie and social disorganization.

CHAPTER 3: METHODOLOGY

The data used in this study consisted of Census Canada crime statistics (1981 to 1989) obtained from the

Hamilton-Wentworth Regional Police Department. It is organized on a monthly bases for individual crimes and then totalled for yearly summaries. The unit scale of data are planning divisions as specified by the Regional planning department of Hamilton-Wentworth.

After the data were obtained, it was then manipulated to the desired scale, in order to indicate the relative rate of criminal activity in a particular planning division (see Appendix E). This was obtained by calculating the crime rate in terms of incidents per thousand persons for each of the crime categories chosen for study. Although the calculated rate gives a appropriate measure of criminal activity, it does not give a true representation of actual crime. In order to obtain a more representative crime rate, the crime rate determined should be calculated on the basis of potential targets. For example, the crime rate representing theft of motor vehicles should idealistically be determined on the number of motor vehicle registrations not on the basis of population. Similarly, break and enter violations should be calculated on the basis of the potential targets; the number of dwellings. This is the ideal method. However, this was not carried out in this study due to time constraints and the unavailability of data.

Having obtained crime rates for all planning divisions in the Hamilton-Wentworth region, maps were

subsequently constructed to visually display the pattern of criminal activity in the region. Map scales were determined by 'natural breaks'. Natural breaks in the data were used for the scale was being used as tool rather than an ends in itself, that is, it was not the primary goal of this study to calculate actual crime rates but to illustrate the pattern of crime in the Hamilton-Wentworth region and determine whether there are any key factors associated with this pattern of crime rates.

The social data component in this study comprised of Census Canada information for the census years 1981 and 1986 obtained from the Social Planning and Research Council of Hamilton-Wentworth and District. The social factors used are ethnic origin, education, housing tenure (owner occupied & rental), dwelling value, household income, and unemployment. These factors combined would enable one to determine a applicable profile of the inhabitants of the study area.

The social factors were then manipulated to create location quotients in order to facilitate an easier comparison of crime rates and social factors. Location quotients measure the concentration of a particular social factor relative to the city average, with 1 representing equal representation both in the planning division being measured and the region as a whole. This allows an easy comparison between planning divisions and between the region.

CHAPTER 4.1: DATA ANALYSIS

Across Canada, Statistics Canada has stated that the total number of offences went up by 47 percent while the population rose by about 15 percent. Corresponding to these results, the findings of the yearly analysis of crime statistics provided by the Hamilton-Wentworth regional Police show that the region's numbers compare favourably with the national picture (Hamilton Spectator,Mar.8/90). The trend in Hamilton of crime levels, reflect the national trend with no startling differences. But in the examination of the actual number of offences committed per year, there appears to be a sharp and continual decline from 1981 to 1986 from approximately 65,000 offences to 45,000 offences, which is followed by a relatively small but sharp increase in 1987 to approximately 50,000 offences, where it has remained stable until the end of the study period (see Diag.1). A recent statistical summary released by the Regional Police department shows the number of reported offences has gone up at about the same rate as the region's population, a finding contradictory to this study. Furthermore, representatives of the Police Department claim "a lot of the reported crimes have certainly had there ups and downs but, generally speaking, there is not, overall a significant increase in the criminal activity [of the

region]" (Hamilton Spectator,Mar.8/90). In general, what can be concluded is that the number of offences committed per year varies and generally high rates coincides with difficult economic times.

Secondly, an analysis of monthly trends in crime occurrences was carried out to determine whether there were any concrete patterns on a temporal basis. Generally, reported crimes were found to be higher in the summer months than in the winter months. A yearly low occurred in February in each of the study years, followed by a dramatic increase,

of approximately 1000 offences, in March. This increase continued throughout the year until it hits the yearly peak from June to August with values of 6400, 4100, and 4600 in 1981, 1986, and 1989 respectively (see Diag 2(a,b,c)). Surprisingly, there was a decrease in the relative number of offences committed in the months before and after Christmas: an interesting finding considering the perceived increase in potential crime "pay off" associated with Christmas.

Thirdly, to illustrate the spatial distribution of crime occurrences and to determine high risk areas, an analysis of mapped crime patterns will be carried out. First, a spatial analysis of the total number of occurrences for 1981, 1986, and 1989 will be executed to establish the trends in criminal activity. Secondly, analysis of individual crimes will be carried out to highlight the

similarities and differences in patterns between various types of crime, such as offences against the person versus offences against property.

CHAPTER 4.2: YEARLY OFFENCE ANALYSIS

In the examination of yearly crime patterns from 1981 to 1989, one finds a dispersal in the total number of criminal activities occurring (see Map 1(a),1(b),1(c)). That is, the concentration of criminal activities is no longer occurring in just a few selected areas but is filtering to the peripheral regions as well. This increase according the Regional Police department is a reflection of the growing number of people in the Hamilton-Wentworth region and its' current residential expansion.

In 1981, the high crime areas were concentrated along the main commercial thoroughfare of the region, primarily Main Street and its' surrounding planning districts, with a risk factor greater than 150 reported offences per 1000 persons. Although the areas of extreme risk were the downtown core (planning districts 6700 and 6300), the pattern holds true (see Map 1(a)). In the peripheral areas of Flamborough and Ancaster (planning

districts 1200, 1400, and 3200) exhibit the only areas of significant crime levels but even these are relatively low rates. This may be accounted for by the perceived higher pay off potential of these districts in comparison to their peripheral counterparts. Interestingly, planning division 7500 (central mountain) has a relatively high rate in comparison to its neighbours. This may reflect the common association made between public housing and increased crime rates. Although this type of explanation is frequent, it is not altogether valid for it has not been proven to be a causal explanation.

The change from 1981 to 1986 is striking. There appears to a great deal more crime occurring in the region; the number of high risk areas has doubled, the crime rate of peripheral areas has increased as has the overall crime occurring in the east end (see Map 1(b)). But, the pattern of 1981 holds true, with high risk areas in the city core and the relative crime rates generally decreasing as one moves away form the city centre, confirming Shaw and McKay's findings.

Lastly, the analysis of the spatial patterning of crime prone areas in 1989 reflects the ever increasing dispersal of criminal ventures throughout the Hamilton-Wentworth region (see Map 1(c)). The number of actual crimes committed and their associated risk factors, in the peripheral areas, has dramatically increased. As has the

amount of criminal activity in the east end, particularly in the Town of Stoney Creek. Notably, planning division 6300 or commonly known as the beach strip, an area previously associated with high crime rates, has virtually none in 1989. Where as the Hamilton mountain has experienced quite an increase in its crime levels, not only in areas associated with public housing.

Through the examination of the spatial patterning of reported crime offences in 1981, 1986, and 1989, an number of general statements can be drawn. Firstly, areas of high risk were concentrated in the city core primarily along major commercial routes. Secondly, the incidence of crime decreased from the city centre as the distance increased. Thirdly, over time the dispersal of criminal activity was occurring inflating the crime rates in the peripheral areas. Lastly, the overall number of crimes reported increased, both in the city centre and in the peripheral areas.

CHAPTER 4.3: OFFENCES AGAINST PROPERTY

The category of offences against property constitute total break and enters, break and enter of residence and break and enter of other buildings (i.e. commercial establishments)(see Appendix E). In the examination of the number of offences against property from

1981 to 1989, there appears to be a steady and continual decrease in the number of offences, with slight fluctuations in 1986, that is, a relatively decrease in 1986, in all three categories (see Diag.3). The number of occurrences has settled in and around 5000 to 5500, at about 6 percent above the regions population growth (Hamilton Spectator,Mar.8/90). According to, Regional Police, in reference to these figures, claim there really has not been that significant increase in residential break and enters (Hamilton Spectator,Mar.8/90).

In a spatial examination of the total break and enter rates, there appears to a general trend towards spatial concentration. In 1981, there was a fairly dispersed pattern of offences, with areas of concentration in the downtown core and virtually no occurrences in the Township of Flamborough (see Map 2(a)). This pattern is confirmed by the spatial distribution of residential break and enters. Although the pattern of incidence of residential break and enters are more concentrated, the general pattern holds true (see Map 3(a)). This implies that in areas of overall low break and enter, the majority of these incidence can be attributed to the number of residential break and enters as opposed to the 'other' category; e.g. planning division 3200 in Ancaster.

In 1986, the overall proportion of break and enters decreased in both categories. Although the occurrence of

residential offences is slightly more dispersed and has a higher crime rate associated with affected areas, such as planning divisions 6600 and 6800 in the central core and 7400, 7500, and 7600, at the city boundaries on the mountain (see Map 2(b),3(b)). In 1989, the relative rates appear to increase in comparison to 1986 levels, but are more concentrated with the high risk areas being in the downtown core and in Stoney Creek. There is some increase in the amount of peripheral break and enters with the majority of occurrences in Flamborough and Ancaster (planning divisions 1400 and 3200) but again the majority of these occurrences are residential break and enters (see Map 2(c),3(c)).

In general, through the examination of offences against property one may conclude that the prevalent pattern produced is a concentration of occurrences in the downtown core accompanied by a minimal number of offences in the peripheral area with the exception of three sectors: Ancaster, East Glanbrook and sporadic incidence in Flamborough. In essence there is no obvious pattern produced through the temporal analysis from 1981 to 1989.

CHAPTER 4.4: OFFENCES AGAINST THE PERSON

The examination of offences against the person involves mainly non-indecent assault (see Appendix E).

Sexual assault will be addressed but not on a spatial basis due to the lack of available data. Although not related by definition, prostitution offences will be considered in this section as an indication of the trends in sexual misconduct.

In the case of non-indecent assaults there appears to be a continual increase in the number of offences from 1981 onwards with some fluctuation from 1986 to 1988, but then the trends continues until the end of the study period (see Diag.4(b)). The reported fluctuation in and around 1987 is contributed to police recording problems. The trend may peak or dip in 1987 and thus conclusions can not be drawn. Spatially, the changes from 1981 to 1989 are dramatic, the number of incidence has spiralled. The number of high crime areas has increased five fold and the number of affected areas has increased substantially with the majority of this growth in the peripheral areas (see Map 4(a,b,c)). In all of the study years, the areas of higher crime are in the downtown core but surprisingly in 1989 the Town of Stoney Creek figures predominantly as an area of great risk, with a risk factor of greater than 30 offences per 1000 persons (see Table 3).

In the case of sexual assault and prostitution, only a yearly analysis can be done due to insufficient data. The number of reported sexual assaults overall has increased but the trend has not been continuous from 1981 to 1989 (see Diag.4(d)). From the beginning of the study period to 1986

the number of reported offences decreased with a sharp drop in 1982 but followed by all time highs of over 500 reported occurrences per year in 1988 and the trend has continued since. The trends in prostitution are comparable to those of sexual assault in the sense that there has been a dramatic rise in the number of reported cases since in 1986 (see Diag.4(d)). Whereas post-1986 levels were minimal with less than twenty reported occurrences per year.

The dramatic increases in the number of reported offences of sexual assault and prostitution can be attributed to two factors. Firstly, the increases in sex offences and assaults are in large part a result of changing public attitudes (primarily encouraging the reporting of occurrences) toward such things such as child abuse and domestic violence. Secondly, the increase in reported prostitution can be attributed to Police initiatives such as Project Dating Game (Apr.88) and to the increased awareness of the public to the problems of prostitution (Hamilton Spectator, Jan.20/90). This is reflected in a 34 percent increase in the number of prostitution related cases (Hamilton Spectator, Jan.20/90).

CHAPTER 4.5: THEFT OF MOTOR VEHICLES

In the study of motor vehicle theft on a temporal basis, there is very little change from 1981 to 1989 (see

Diag.5(a)). Theft has remained relatively constant with values fluctuating from approximately 1500 to 2000 thefts per year. Spatially, the thefts of motor vehicles exhibit no predictable pattern. In each study year the areas of high risk change with the exception of the central core which displays a continuous risk of theft throughout the years. Surprisingly, in 1981 the peripheral areas experienced a high incidence of auto theft primarily in Glanbrook and Stoney Creek but in the following years had relatively low levels (see Map 5(a)). The mountain had relatively few thefts in 1981 and 1986 but increased considerably in 1989 (see Map 5(b,c)). Thus it could be concluded that thefts such as auto theft are determined largely though opportunity rather than by calculated effort for the section which figures predominantly as a high crime area (downtown core) is an area which contains a large number of vehicles during the day as well as at night.

CHAPTER 4.6: THEFT UNDER $200 OR $1000

As stated before the analysis of theft is quite difficult, in light of the changes in data classification. By examining the graphic representation of the total number of thefts under $200/$1000 there appears two distinct trends (see Diag.5(a)). Post-1986, there is a decrease in the

number of thefts until 1986, when the categorization changed and this trends would appear to have continued with some fluctuation, had the change not occurred. This decrease is assumed to be related to the rising costs of goods rather than a decrease in the actual number of offences committed. The second trend discovered is the constant level of theft occurrences in the post 1986 period, settling at about a value of 13500 reported occurrences per year. Although there is a dramatic increase in the actual number of occurrences from pre 1986 to post 1986 this increase is insignificant due to the change in occurrence classification.

Spatially, the pattern produced through the examination of mapped occurrences from 1981 to 1989, the high risk areas appear to go through a period of concentration and then dispersal. In 1981, the downtown core and the east end figured predominantly as the areas of high crime (see Map 5(a)). In the peripheral areas, there was evidence of a number of occurrences but at insignificant levels. In 1986 the areas of high risk increased within the downtown core, primarily along the main thoroughfares. Conversely, the peripheral areas experienced a decrease in the overall number of offences committed, with areas of low occurrences in Ancaster and Glanbrook (planning divisions 3200 and 4200). Lastly, in 1989 the total overall number of occurrences appear to increase, with the dispersal of high risk planning divisions accompanied by an increase in the

number of occurrences in the peripheral area (see Map 6(c)).

CHAPTER 4.7: THEFT OVER $200/$1000

In the case of theft over $200/$1000, similar trends occur (see Diag.5(a)). In the pre 1986 period, there is a decline in the number of reported offences, but the decline is gradual. In the post 1986 period levels stabilize, but at a lower level than experienced in the pre 1986 period. Again, as in the case of theft under $200/$1000 the dramatic change in values is due to the change in offence classification.

Spatially, the trends in theft over $200/$1000 generally experience a pattern of dispersal followed by concentrated crime levels (see Map 7(a)). The change from 1981 to 1986 is one of dispersal, the peripheral areas experienced an increase in levels, particularly in Stoney Creek, east Glanbrook, Ancaster, and northern Flamborough. Whereas, in the downtown area overall levels increased. From 1986 to 1989, the opposite trend occurs (see Map 7(b,c)). The risk factors in the downtown core became concentrated and the risk factors in the peripheral areas decreased slightly.

CHAPTER 4.8: ROBBERIES

Robberies, related to thefts by definition (see Appendix E). Since 1981, the number of offences generally has decreased hitting a peak in 1982 with a value of 380 and an all time low of 239 in 1986 (see Diag.5(b)). This trend is confirmed by the mapped analysis of offences. In 1981, the majority of offences occurred in the downtown core accompanied by high crime areas in the southern portion of the region, particularly in Glanbrook and the central mountain (planning divisions 7600 and 4200). Whereas the rest of the region experienced fairly uniform levels of occurrences (see Map 8(a)). In 1986, the overall levels throughout the region decreased, with only three planning divisions having high crime levels of occurrences; the downtown core (planning divisions 6300, 6600, 6700)(see Map 8(b)). Lastly, in 1989 it appeared that the overall levels increased slightly with slight increases in high risk zones, the downtown core and portions of Stoney Creek respectively (planning divisions 6200,6600,6700,5100,and 5200).

CHAPTER 5:SOCIAL FACTORS AND THEIR RELATIONSHIP TO CRIME RATES

Through the examination of the spatial patterning of risk factors of various criminal offences associated socio-economic characteristics may be determined. Location quotients were calculated for seven variables. These variables are ethnic origin, education, tenure (owner occupied & rental), dwelling value, household income and unemployment (see Table 4 & 5). The areas which can be concluded as high risk areas, based on crime rates, are planning divisions 6200, 6300, 6600 and 6700 in the central core and planning divisions 3200, 4200, 5200 in the periphery (portions of Ancaster, Glanbrook and north-east Stoney Creek)and planning division 7600 on the mountain.

In light of ethnicity, location quotients were determined on the basis of British origin, in order to determine whether the portion of people of British origin in the high risk areas was higher or lower than the city average. In relating ethnic origin to high risk areas, there appears to be little correlation between ethnic origin and crime rates, for the majority of planning districts had approximately the same proportion of people of British descent than the city as a whole.

The correlation found between education and crime rates was mixed. The areas of high risk were associated with either educations levels high above the city average or extremely below, indicating that there are two types of high crime areas, these being an area to which offenders travel

and local neighbourhood crime. The same holds true for the social variable of dwelling value in planning division 3200 but not 6700 but the is accounted for by the large number of rental accommodations in this particular planning division.

The social characteristic of owner occupation seems to be highly associated with areas of extreme high risk (referring to pl. div. 6600 and 6700) for only these two districts have owner occupation location quotients which are lower than the city average. The reverse is true for rental occupation location quotients.

Household income and unemployment rates, appear to have an inverse relationship to each other but have a high correlation with high risk areas. The high risk crime areas in the downtown core area associated with below city average household incomes and above city average unemployment rates. Whereas the peripheral high risk areas have above average household incomes and relatively low unemployment rates. Thereby, confirming the previous assertion of two distinct crime prone areas, the high opportunity areas (downtown) and the high 'payoff' areas or target areas (peripheral).

There appears to be no single socio-economic characteristic which can be considered an predictive variable of crime rates. However, it must be stressed that, of the social indicators examined, unemployment rates appear to have the strongest associative relationship to high levels of crime (see Table 4 & 5). A causal relationship

between socio-economic variables and crime rates is difficult to prove valid without falling in to the trap of ecological fallacy. The conclusions drawn between social characteristics and crime rates can only be said to be a associative, not causal.

CHAPTER 6: CONCLUSION

The spatial analysis of crime rates in the Hamilton-Wentworth region has provided an understanding to the nature and extent of crime in the region. Crime areas of high rates and low rates were determined. The patterns found in the region coincide with some of the key findings common to previous studies of criminal activity. In the Hamilton-Wentworth region:

i) risk factors decreased as the distance from t h e city centre increased

ii) throughout the study period there appears to be a dispersal of from criminal activity towards the periphery

iii) findings coincide with the spatial model of criminal activity proposed by Shaw & McKay

iv) a combination of socio-economic characteristics provide an useful indicator of potential crime rates rather than a single indicator, although unemployment rates are the best single indicator.

v) there is no single pattern which can be applied to all the offences studied

vi) the key periods of high criminal activity coincides with hard economic times

vii) much of the decreased levels of criminal activity in 1986 can be accounted for by change in policing policy rather than an actual decrease in crime

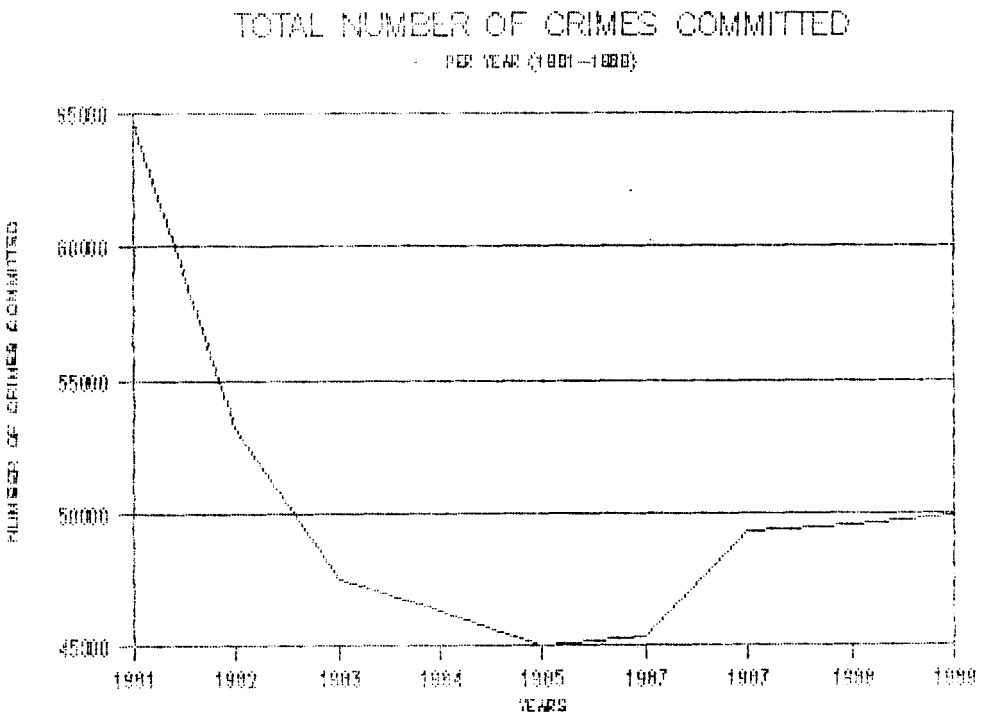
The conclusions or general statements drawn from this study are sweeping, in the sense that the determination of a causal relationship in these types of studies is virtually impossible, without falling into the trap of the ecological fallacy and therefore only broad conclusions or statements can be drawn. The conclusions above provide support for the theory of anomie, by the associative relationship determined between areas of high crime rates and unemployment levels. Furthermore, the general statements proposed by Shaw and McKay were confirmed in the Canadian context, confirming that concentric zones of crime are applicable to all North American cities.

Although, these findings are inconclusive and further research is necessary, the potential implications upon planning policy are evident. First, studies of this type are an indication of the needs for social planning policies such as, policing policy. Secondly, it may aid planners in determining zoning by-laws to reduce criminal activities, based on the concepts of Oscar Newman. Lastly, this type of study may aid in the identification of social and economic factors which may be influenced by policy, to reduce crime.

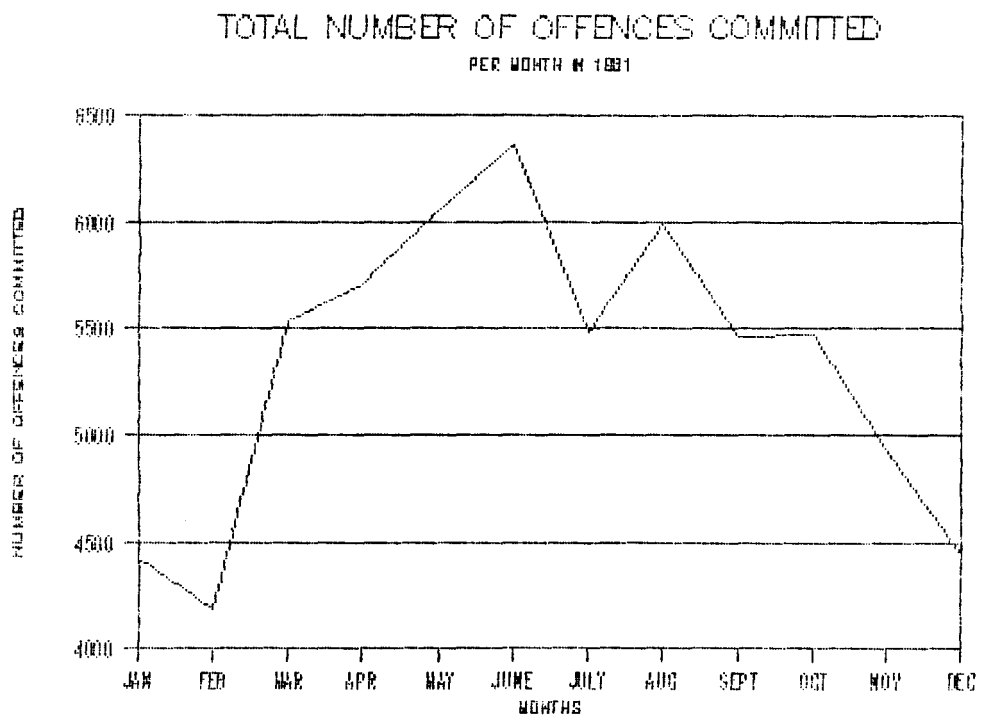
Thus, not only are studies such as this applicable to the individual city alone but, it has broad implications concerning the nature, extent and direction of future

planning policy.

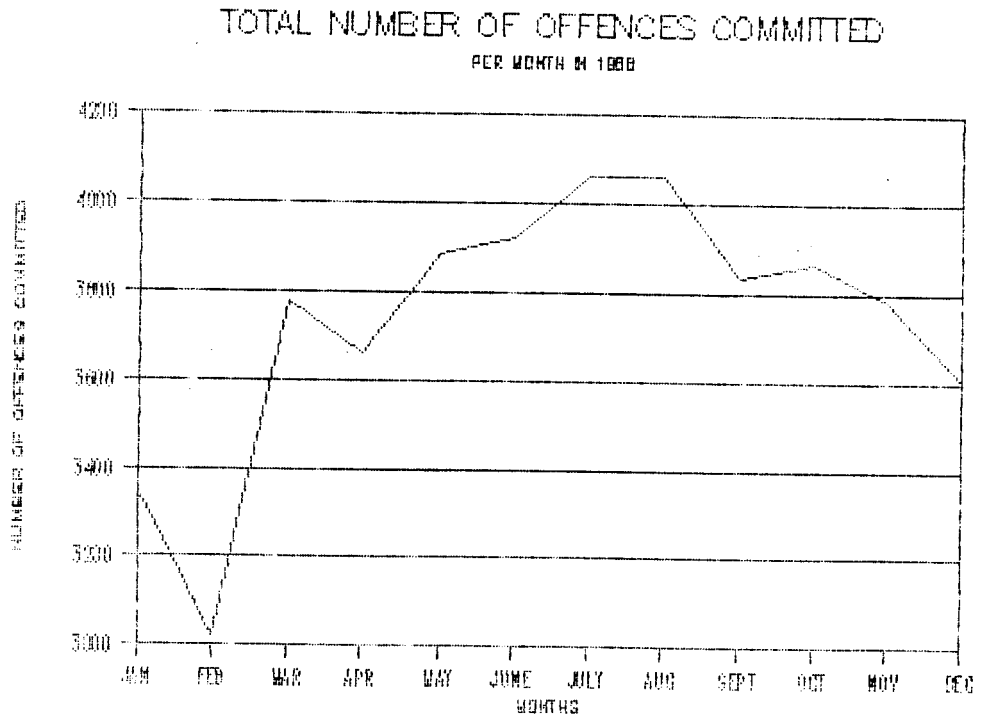
APPENDIX A



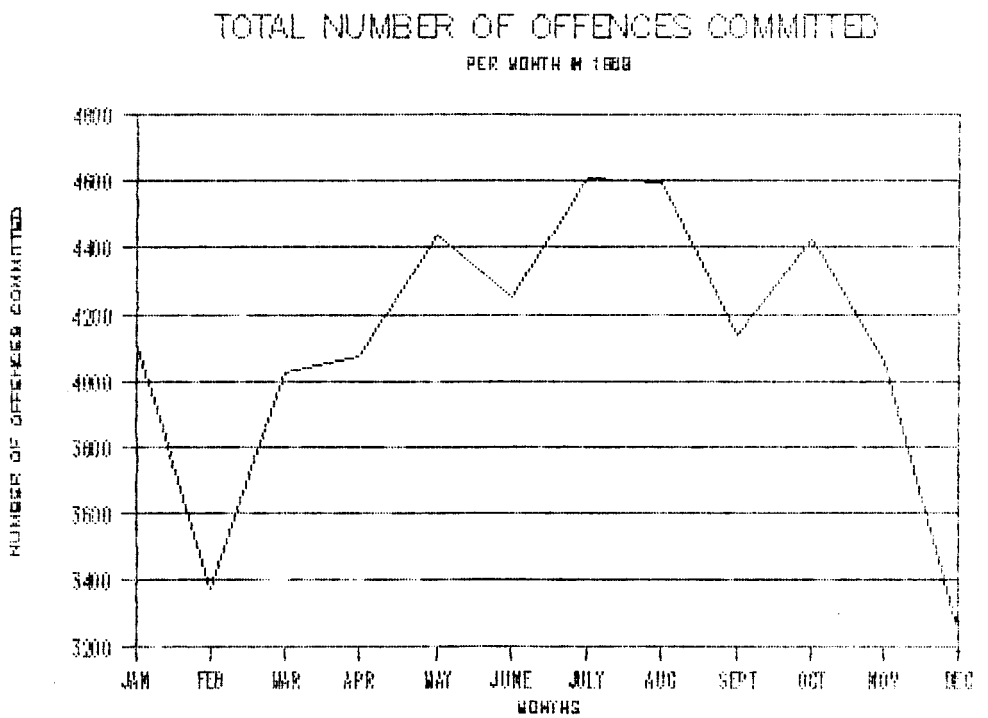
DIAG 1



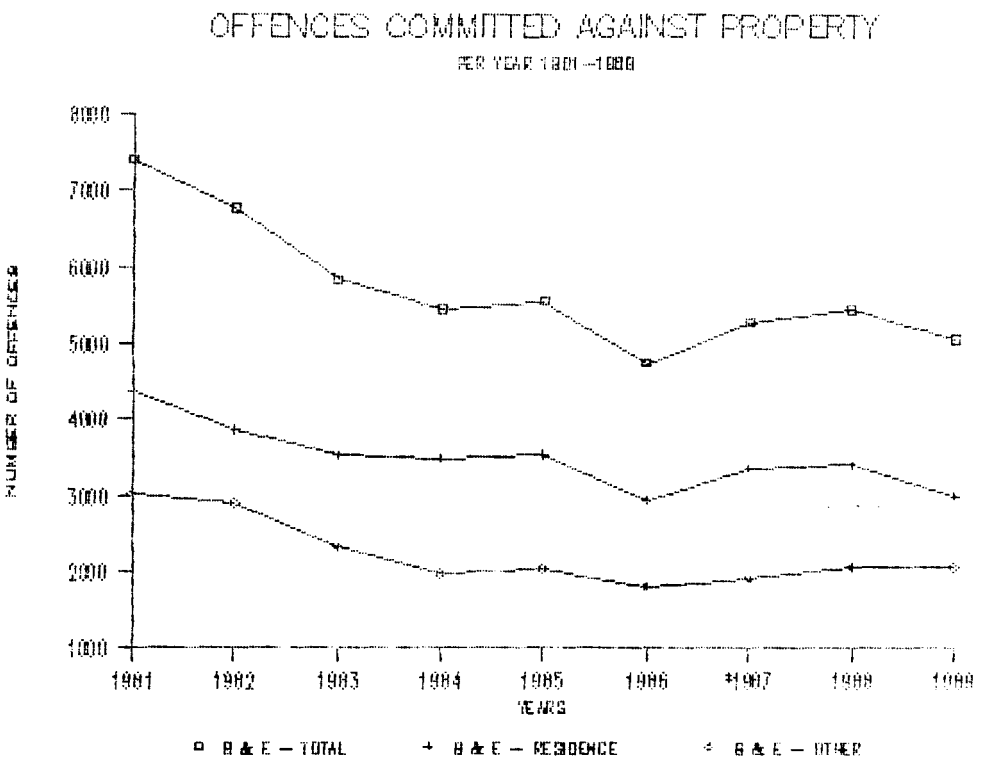
DIAG 2(A)



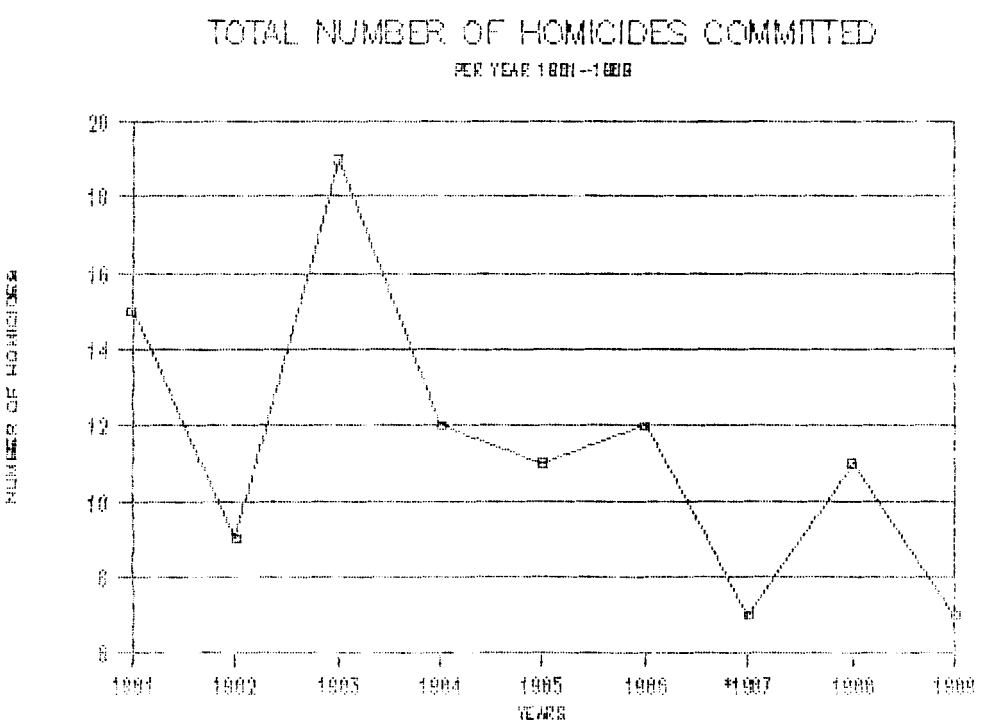
DIAG 2(B)



DIAG 2(C)



DIAG 3



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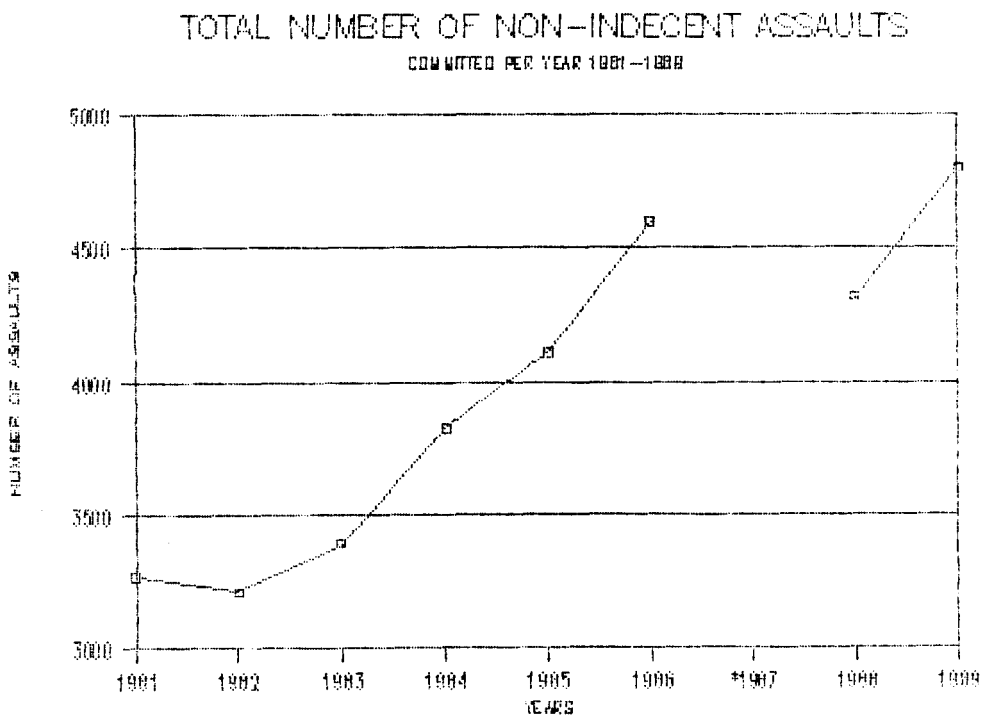

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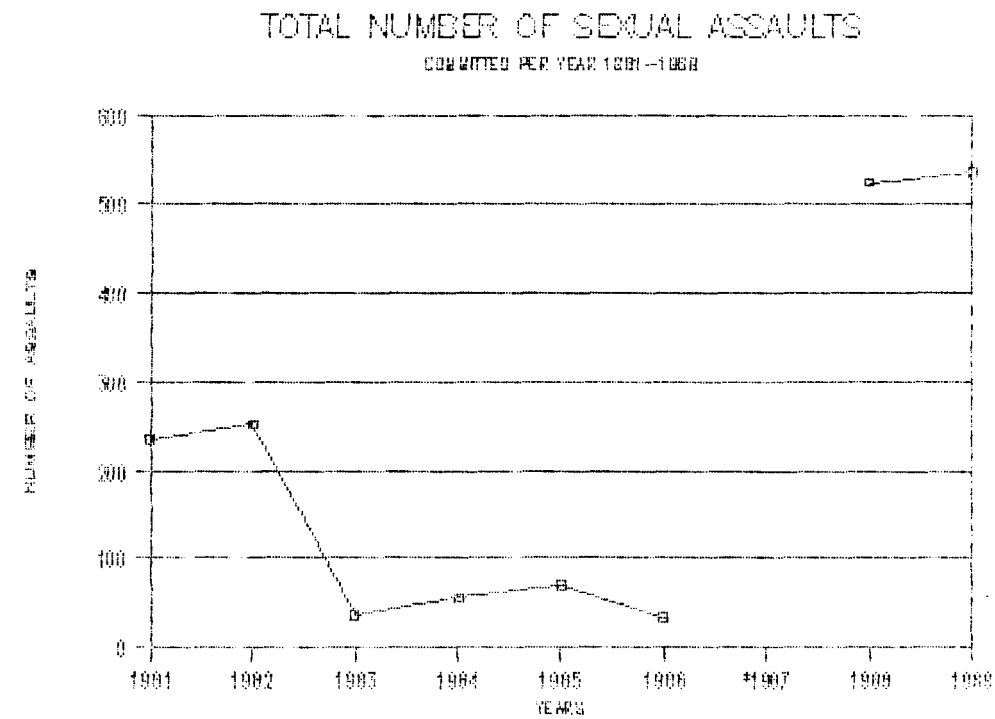
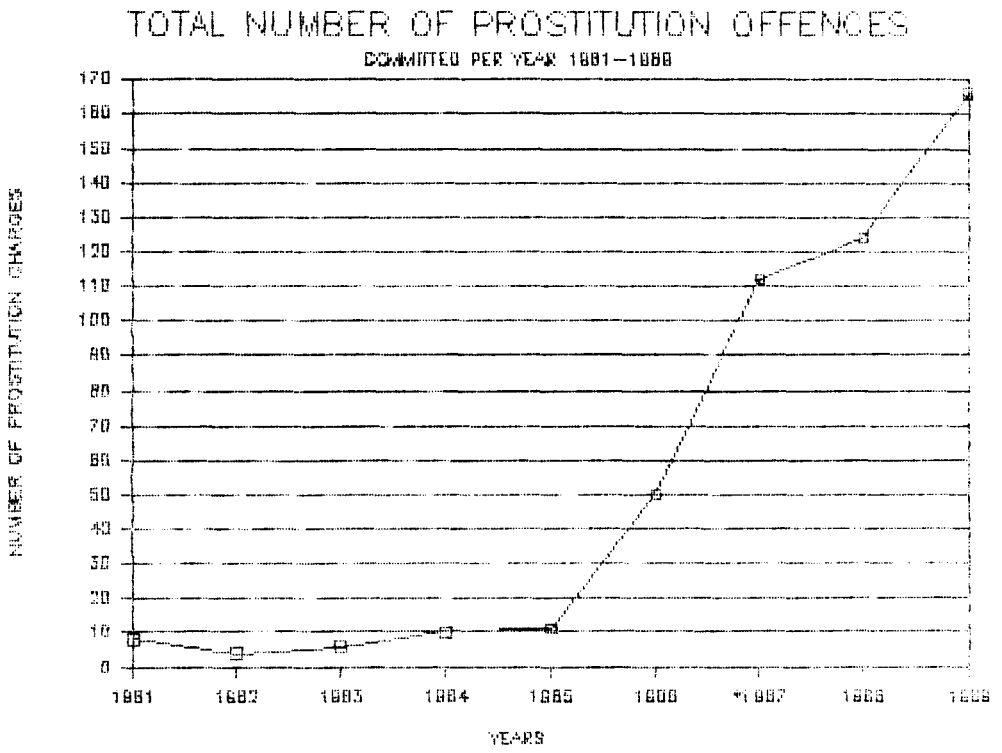


DIAG. 4(C)



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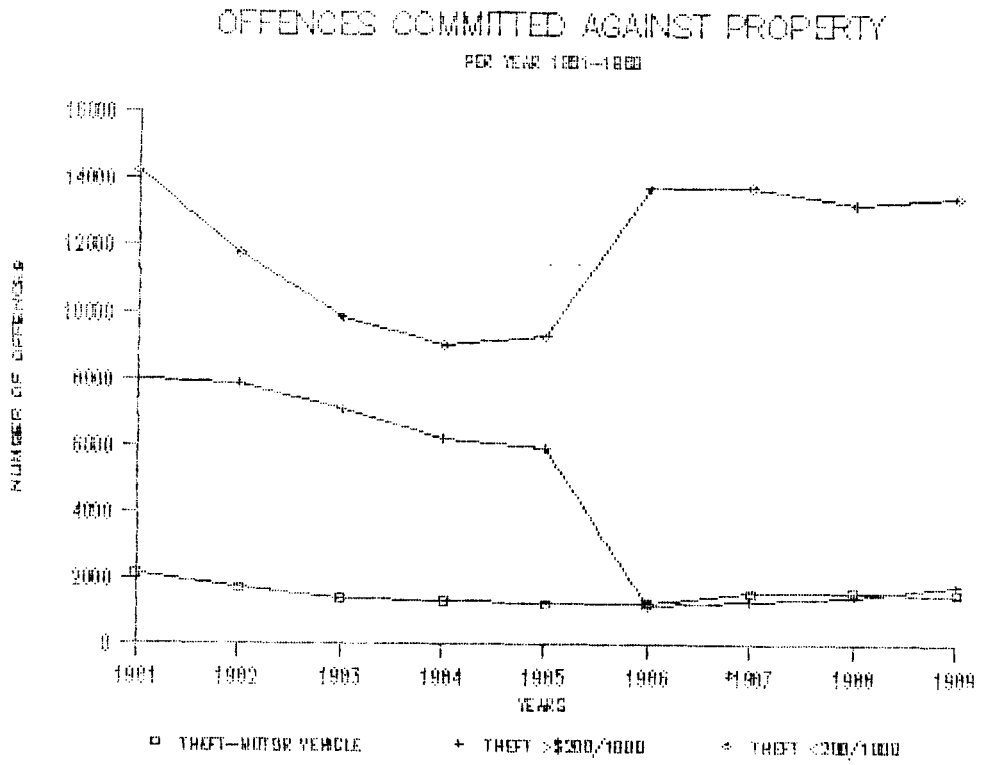
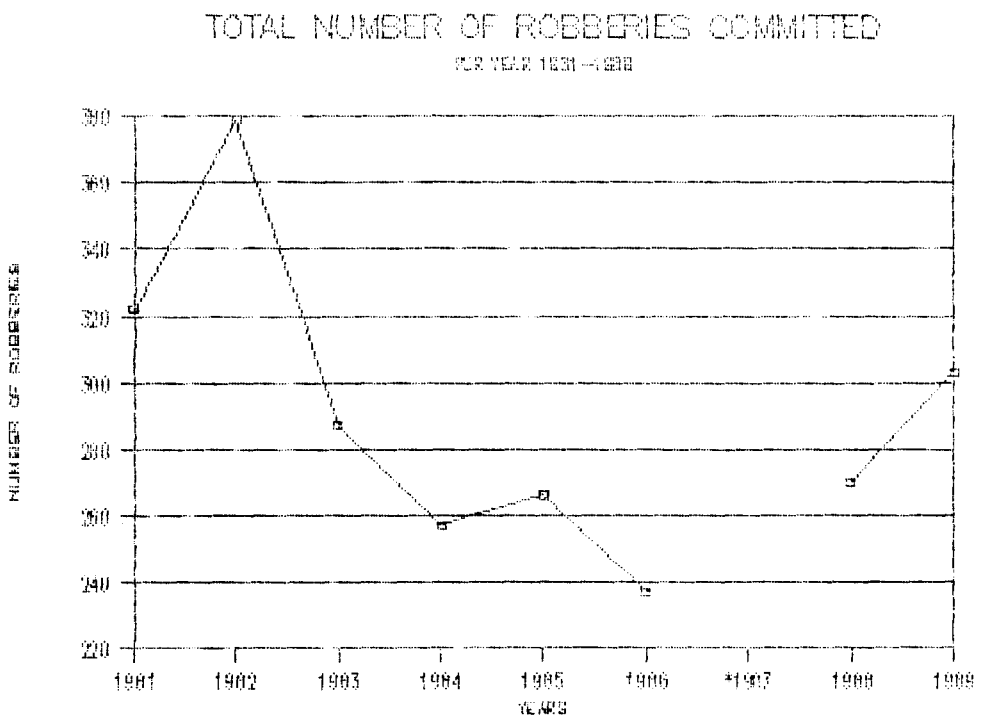


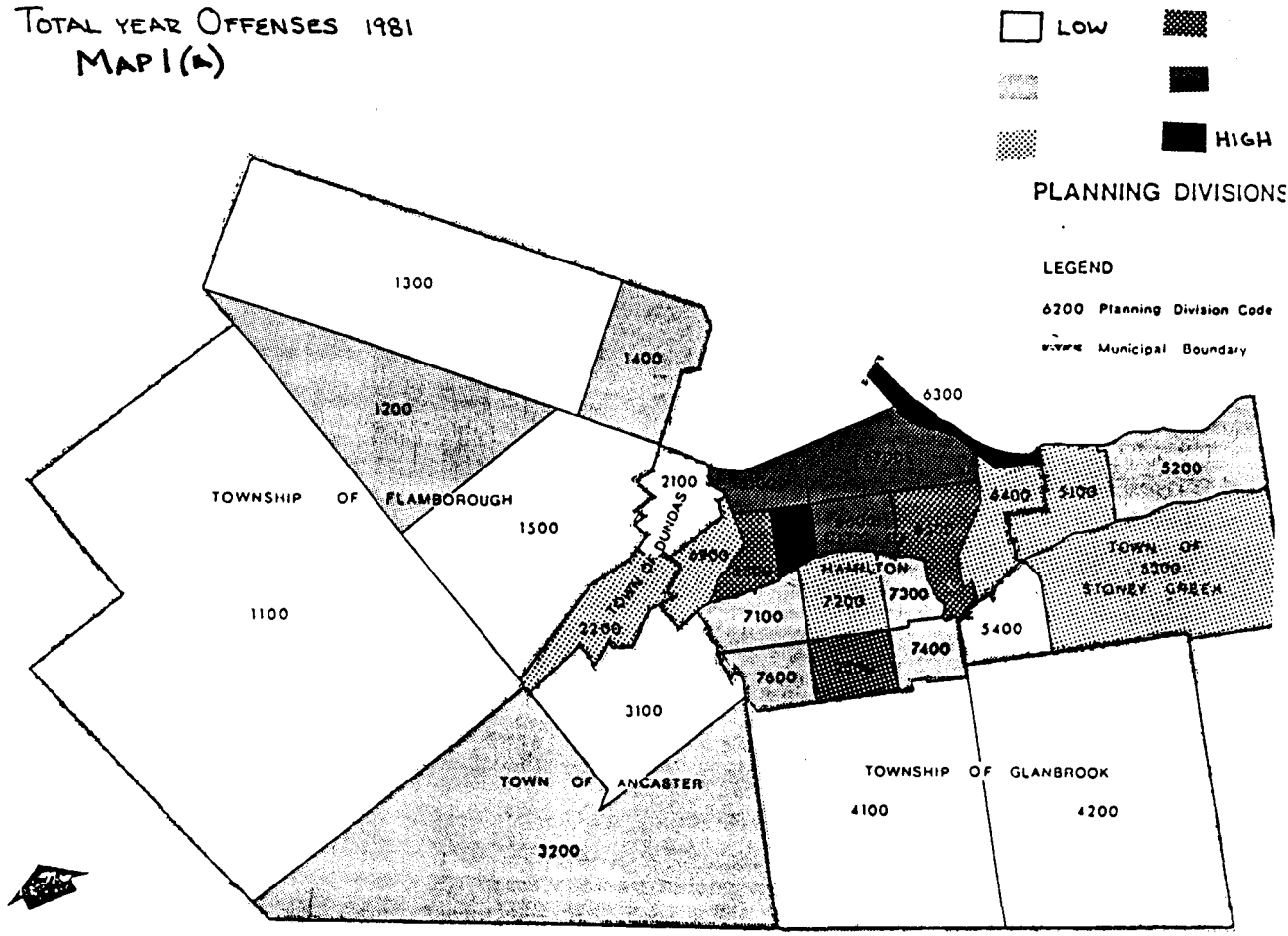
DIAG 5(A)


TOTAL NUMBER OF ROBBERIES COMMITTED
FOR YEAR 1981 - 1989
NUMBER OF ROBBERIES
380
360
340
320
300
280
260
240
220
1981
1982
1983
1984
1985
1986
*1987
1988
1989
YEARS

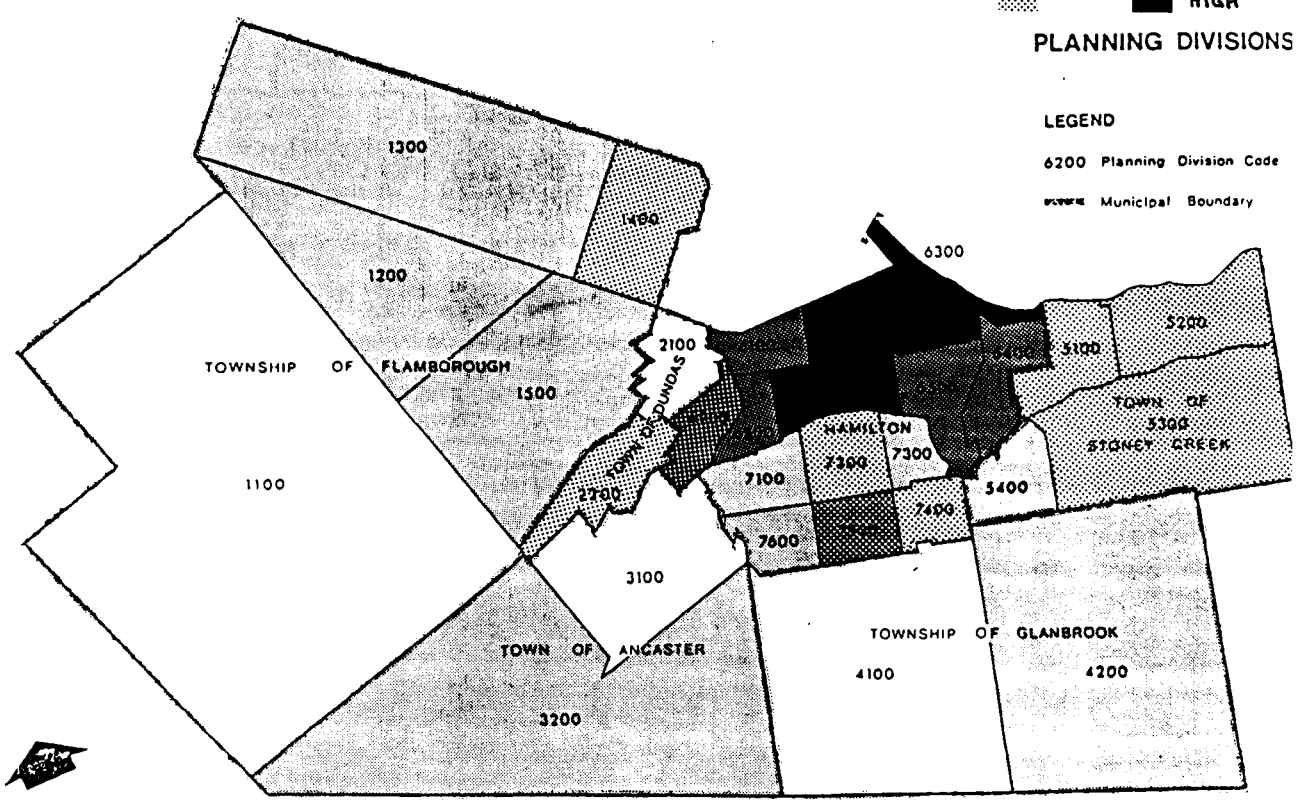
DIAG 5(B)

APPENDIX B

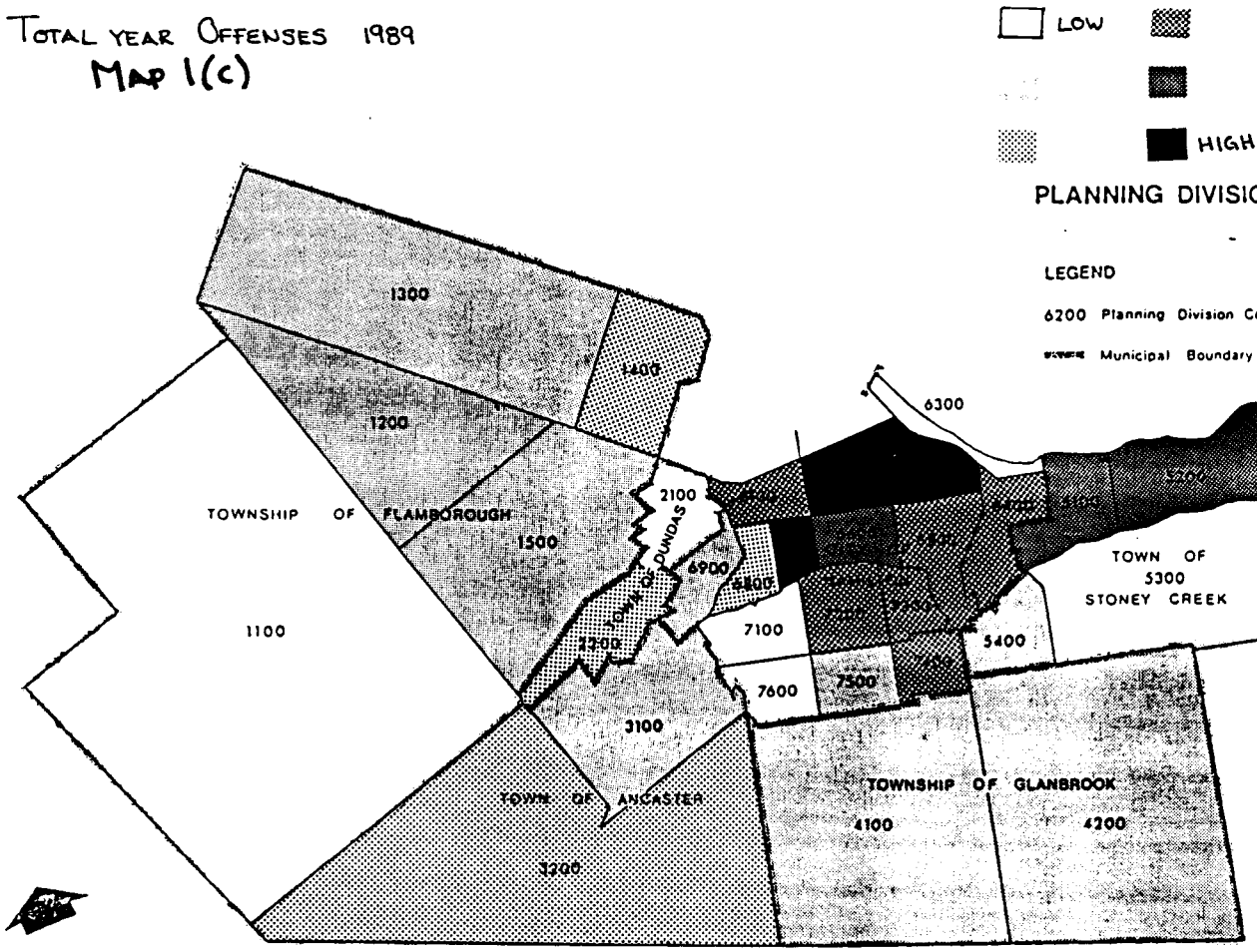
TOTAL YEAR OFFENSES 1981
MAP 1(A)



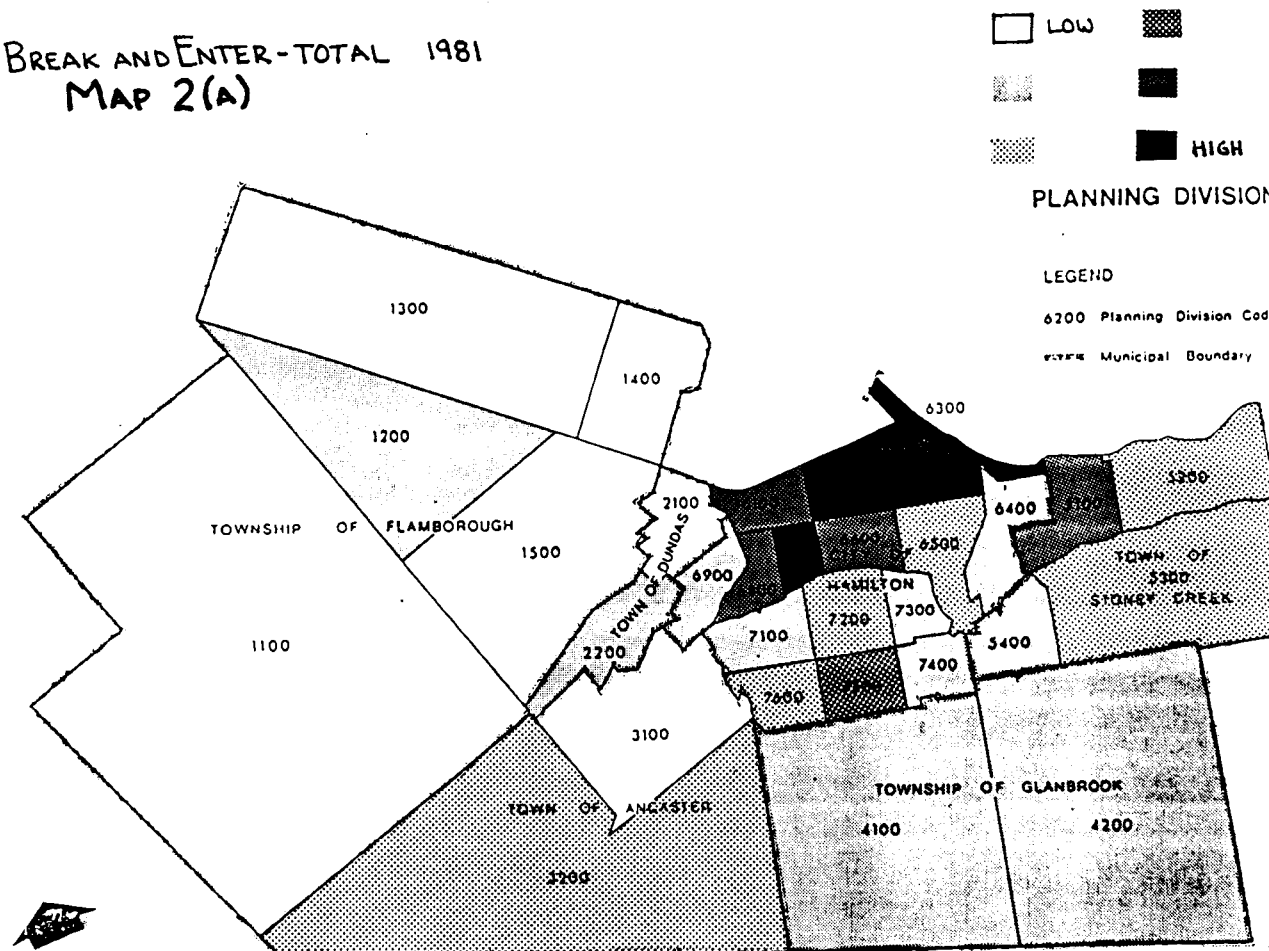
TOTAL YEAR OFFENSES 1986
MAP 2(B)



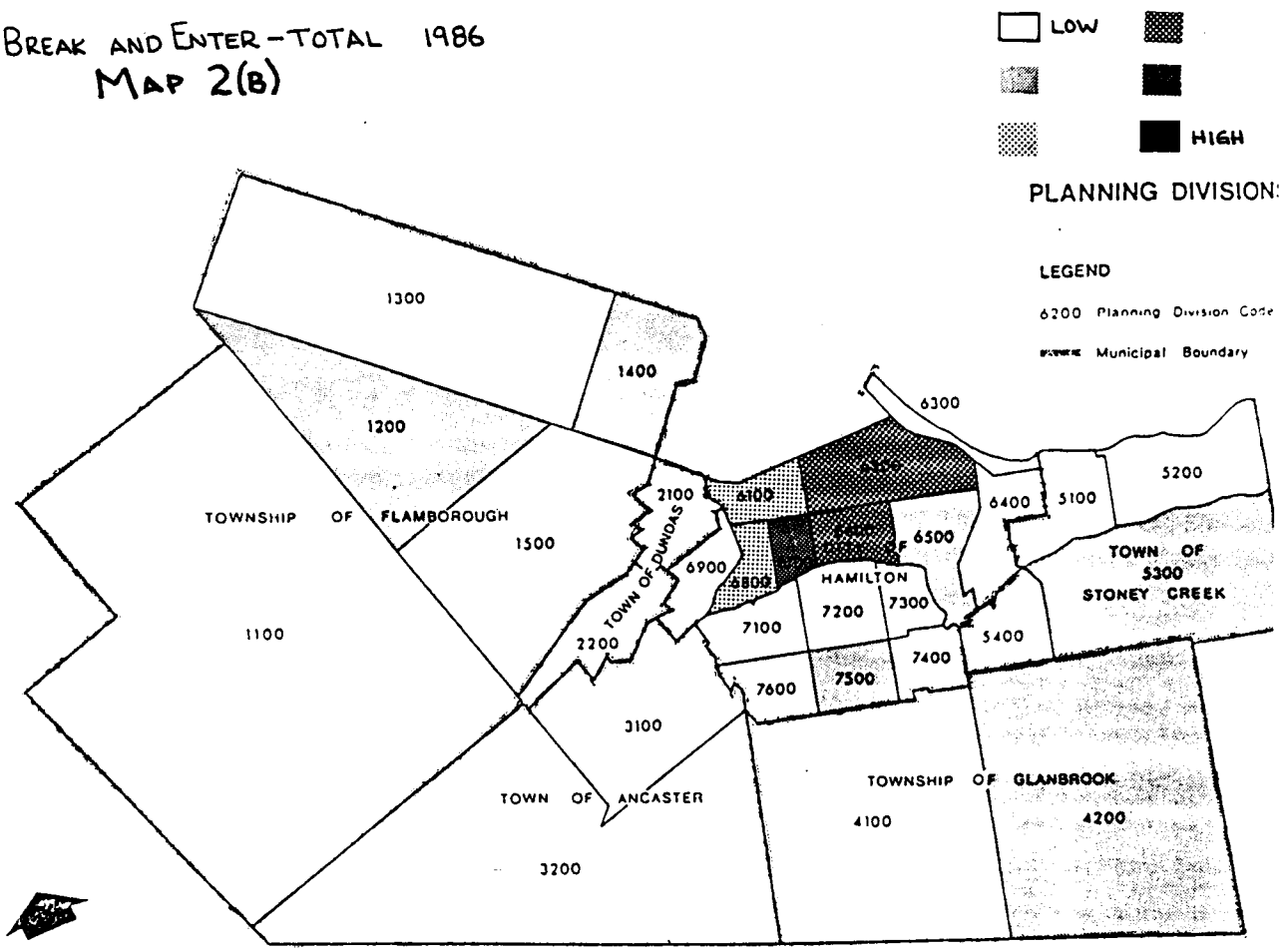
TOTAL YEAR OFFENSES 1989
MAP 1(c)



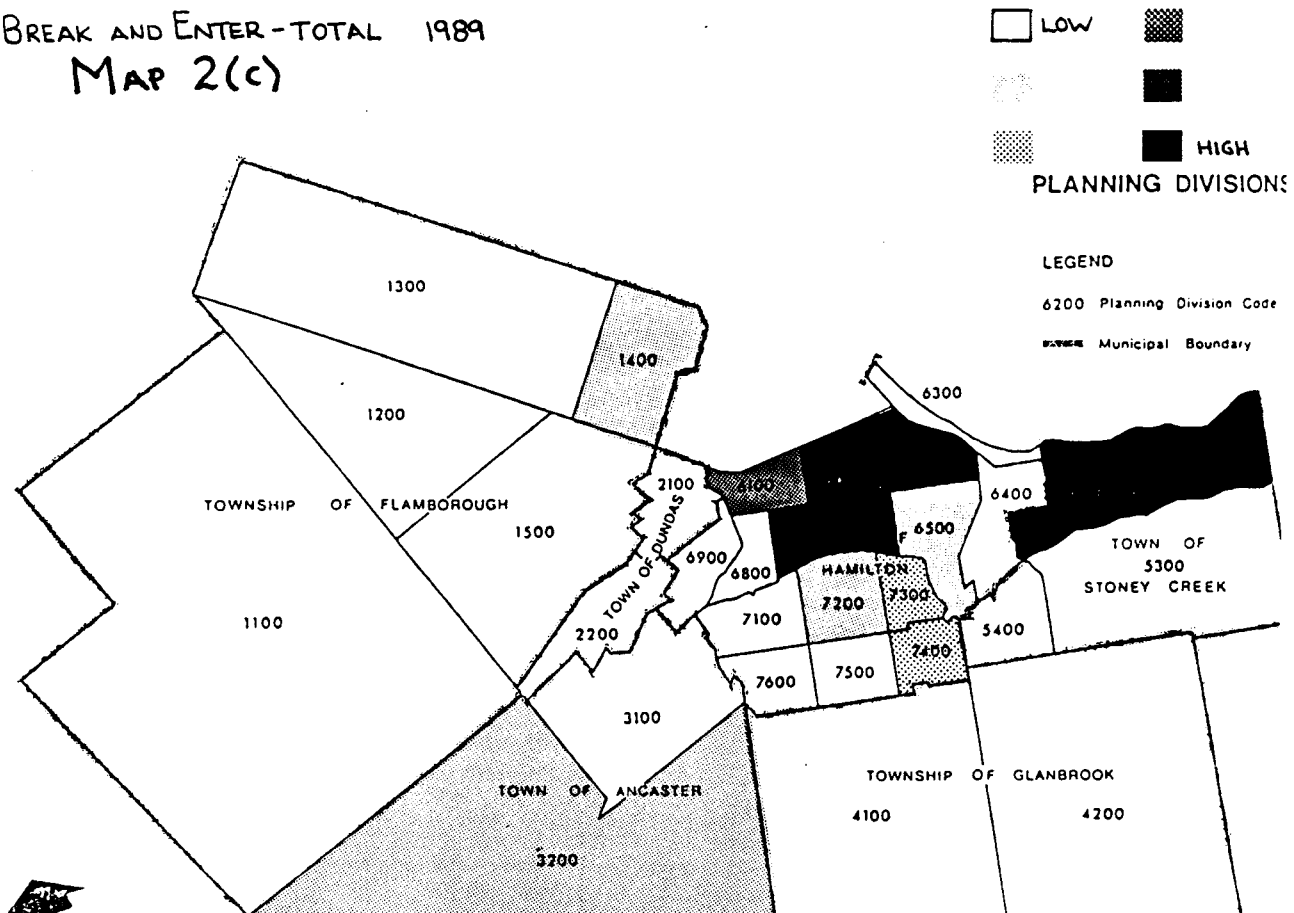
BREAK AND ENTER-TOTAL 1981
MAP 2(A)



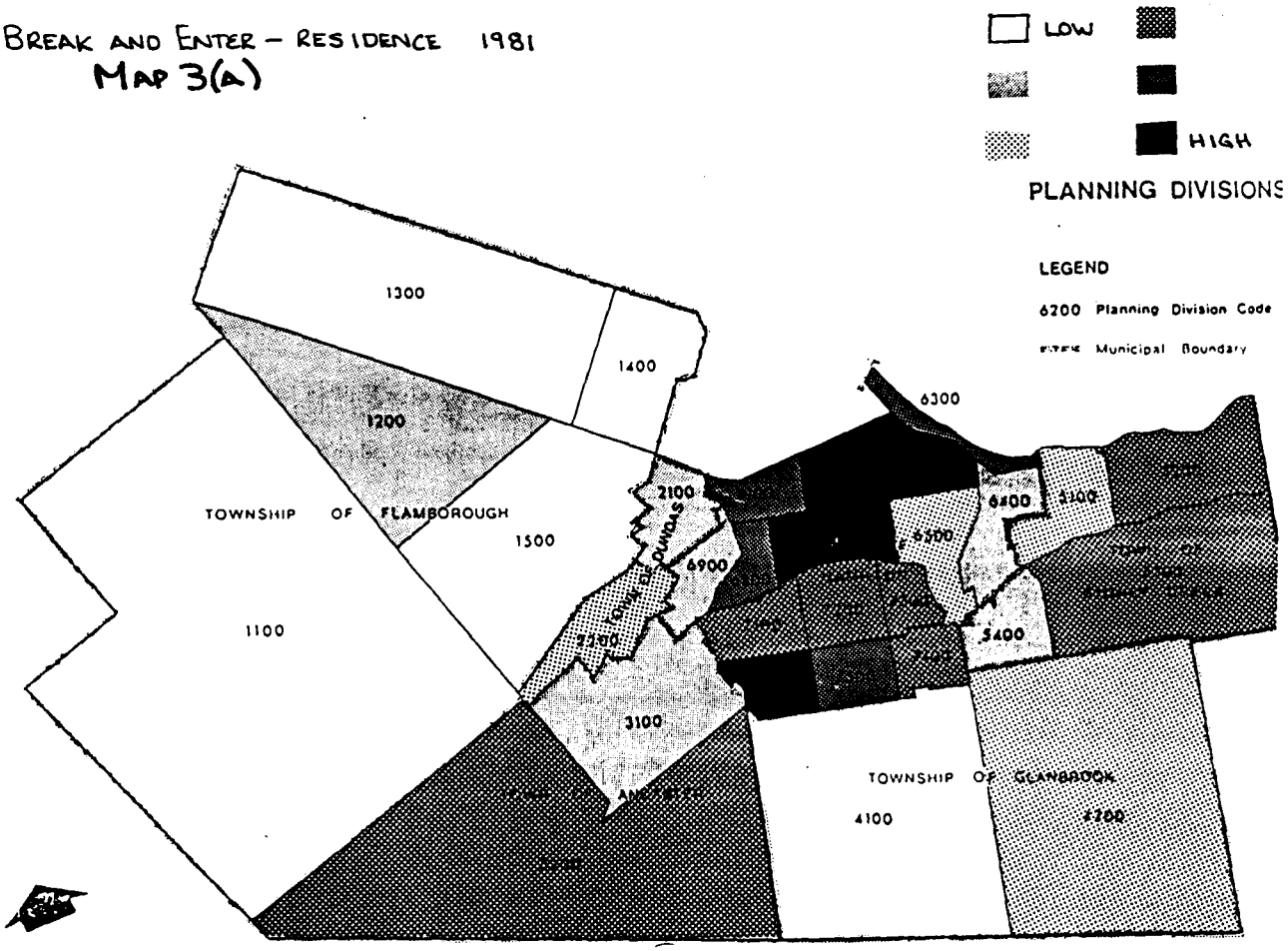
BREAK AND ENTER - TOTAL 1986
MAP 2(B)



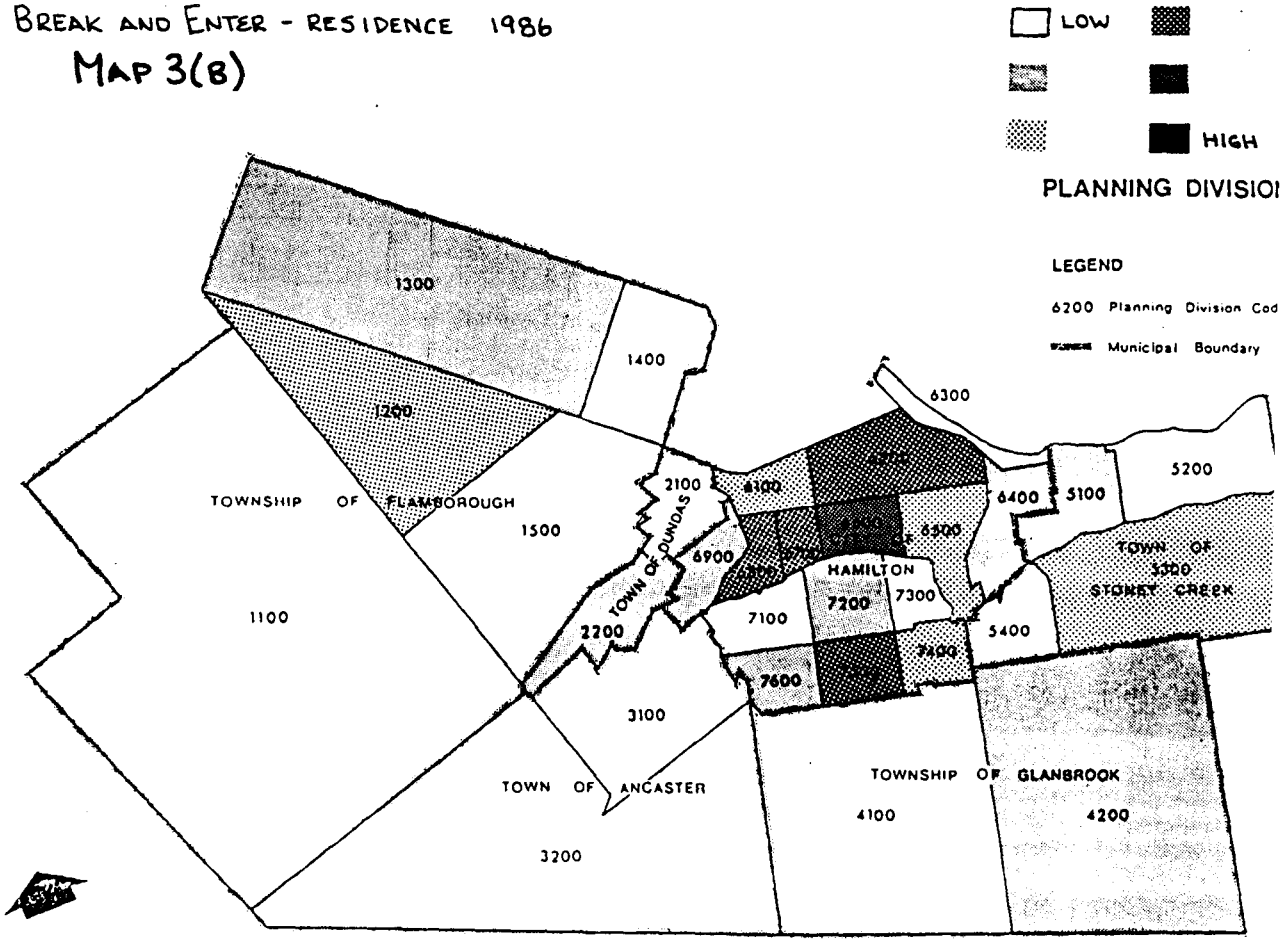
BREAK AND ENTER - TOTAL 1989
MAP 2(C)



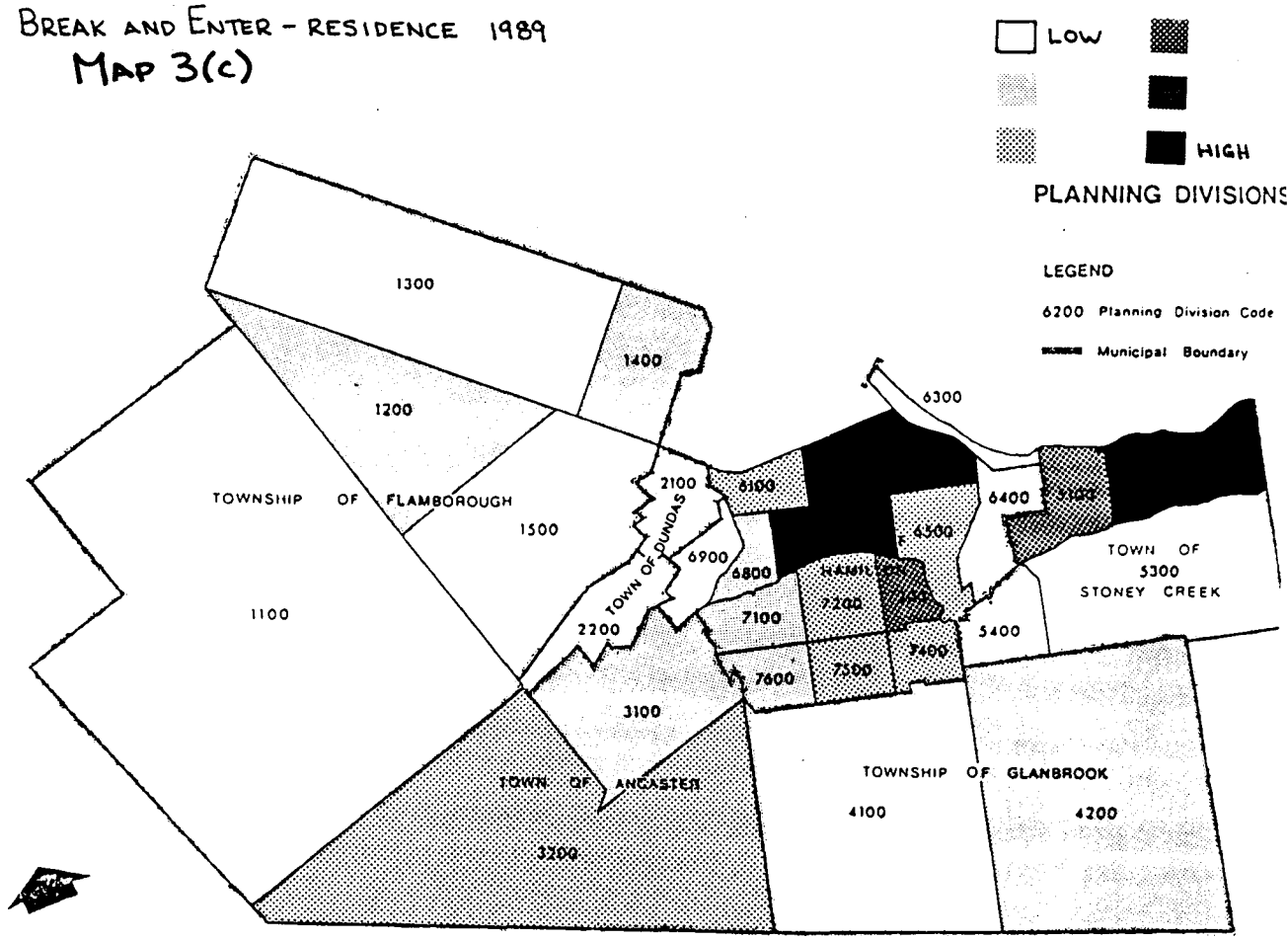
BREAK AND ENTER – RESIDENCE 1981
MAP 3(A)



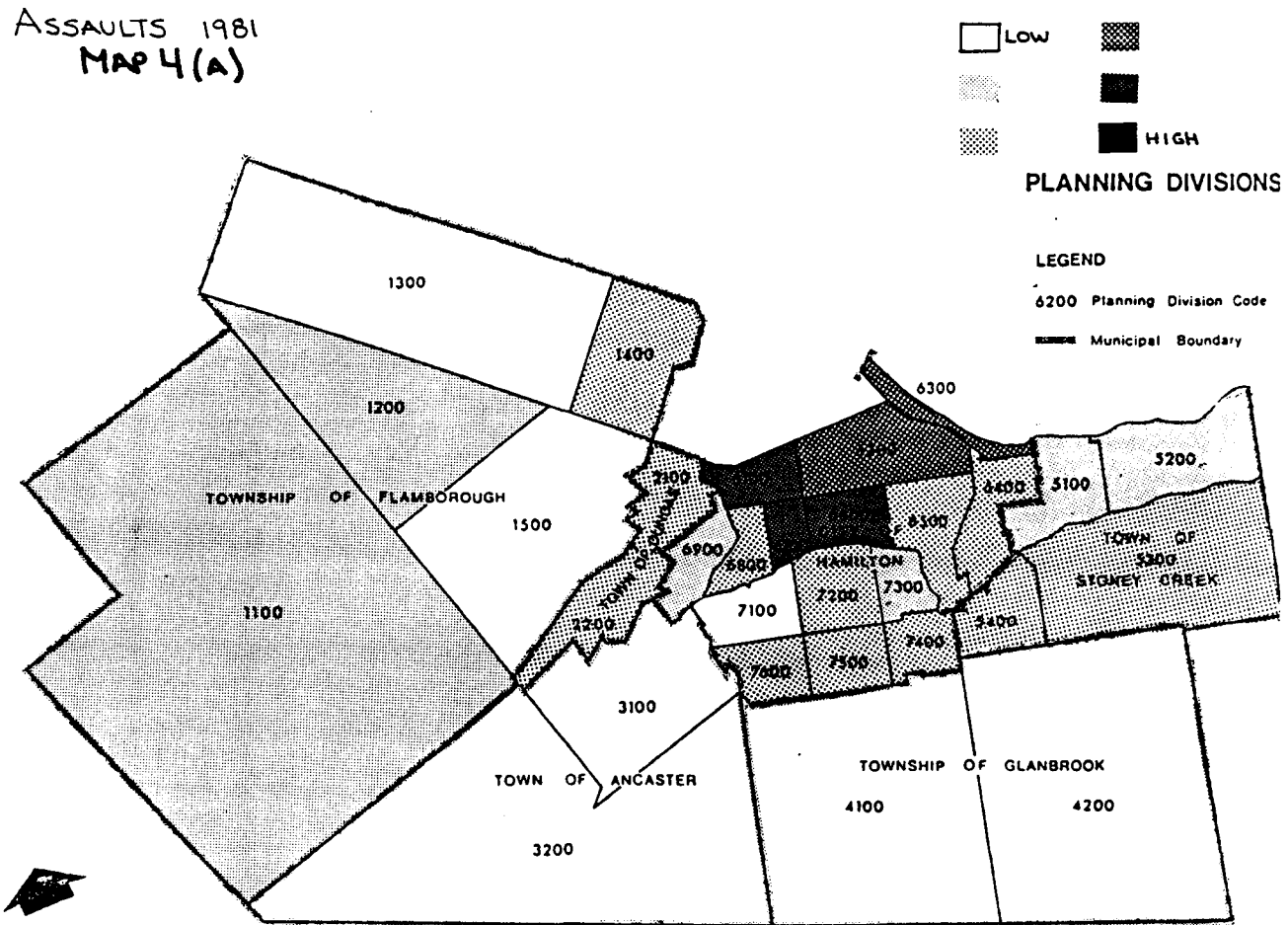
BREAK AND ENTER - RESIDENCE 1986
MAP 3(B)



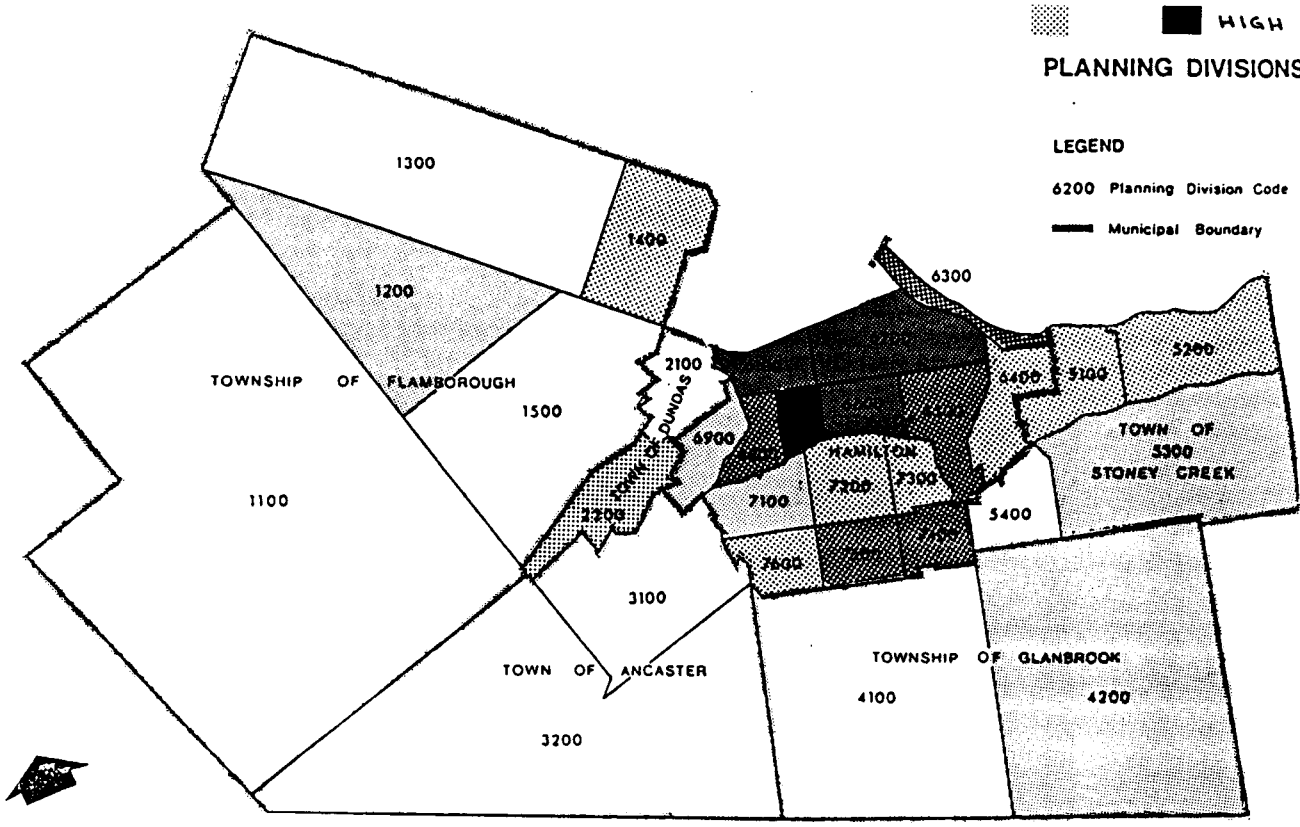
BREAK AND ENTER - RESIDENCE 1989
MAP 3(c)



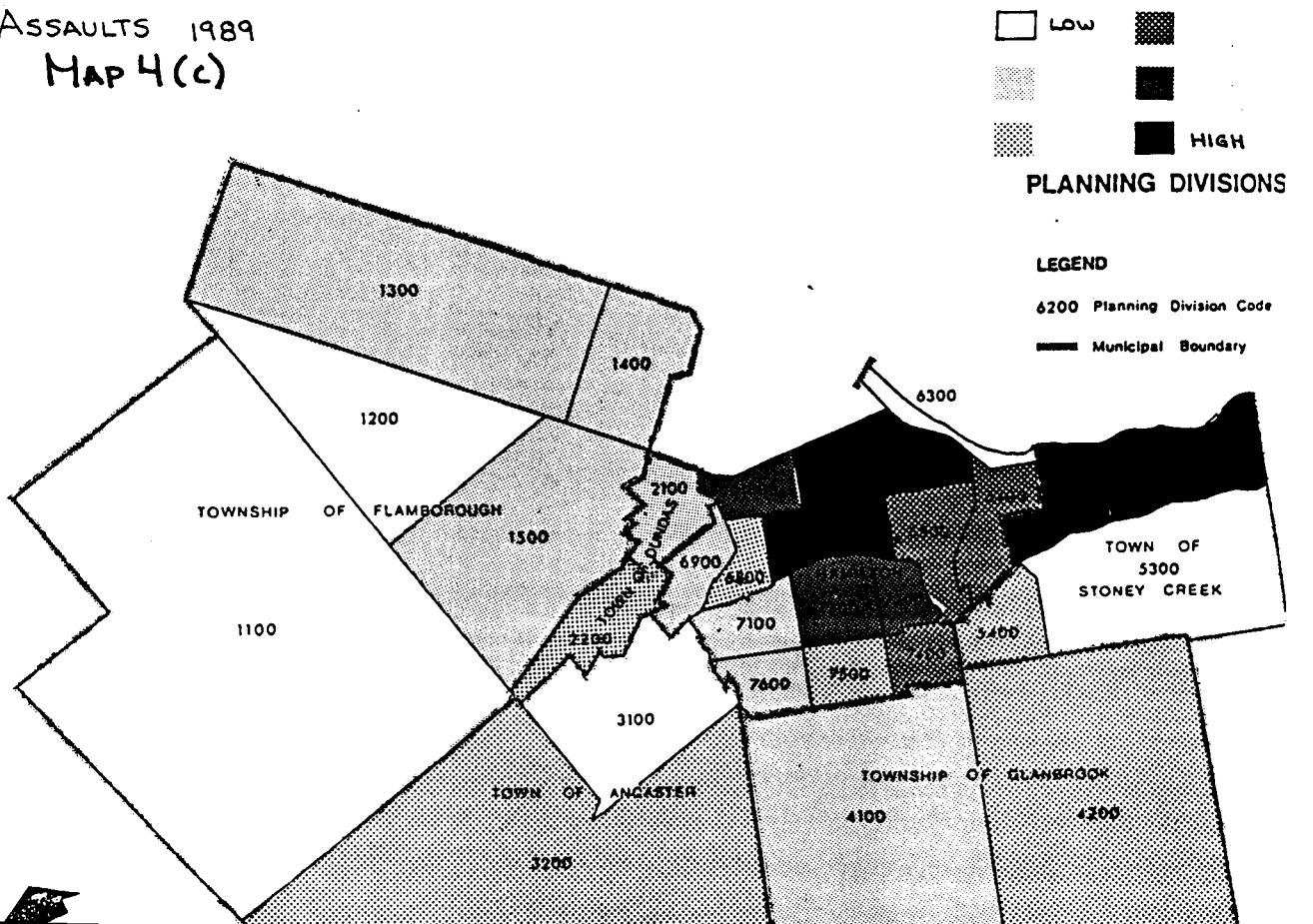
ASSAULTS 1981
MAP 4(A)



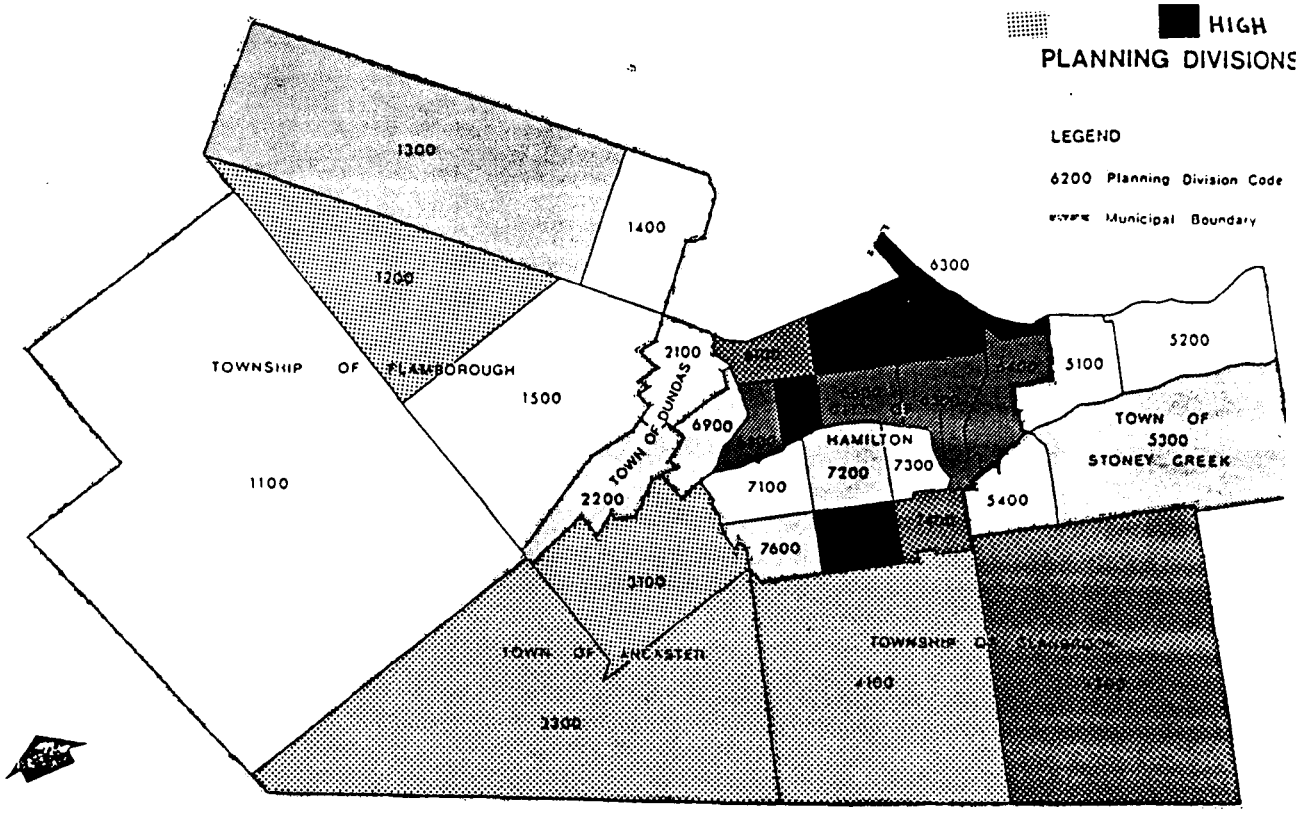
ASSAULTS 1986
MAP 4(B)



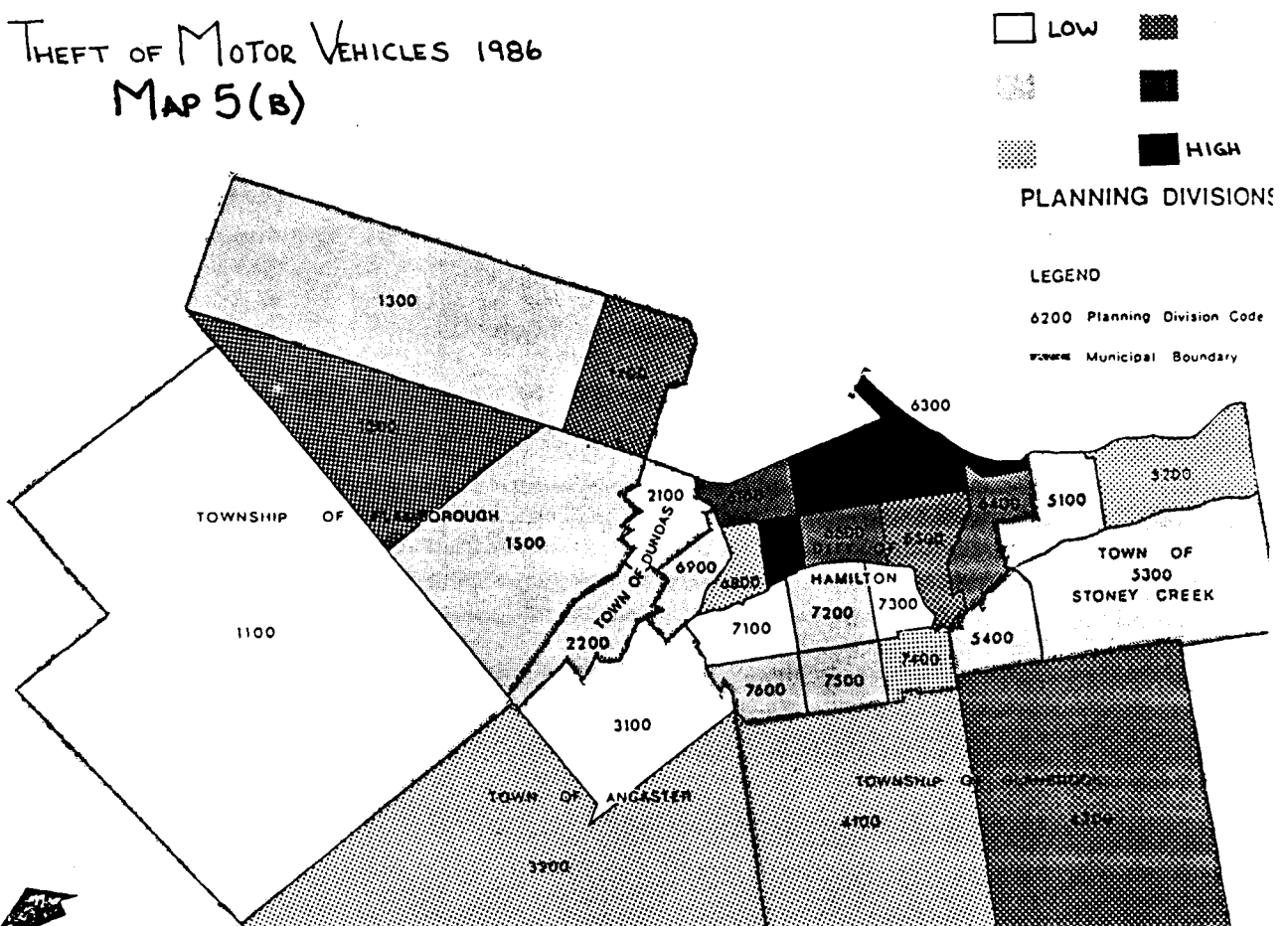
ASSAULTS 1989
MAP 4(C)



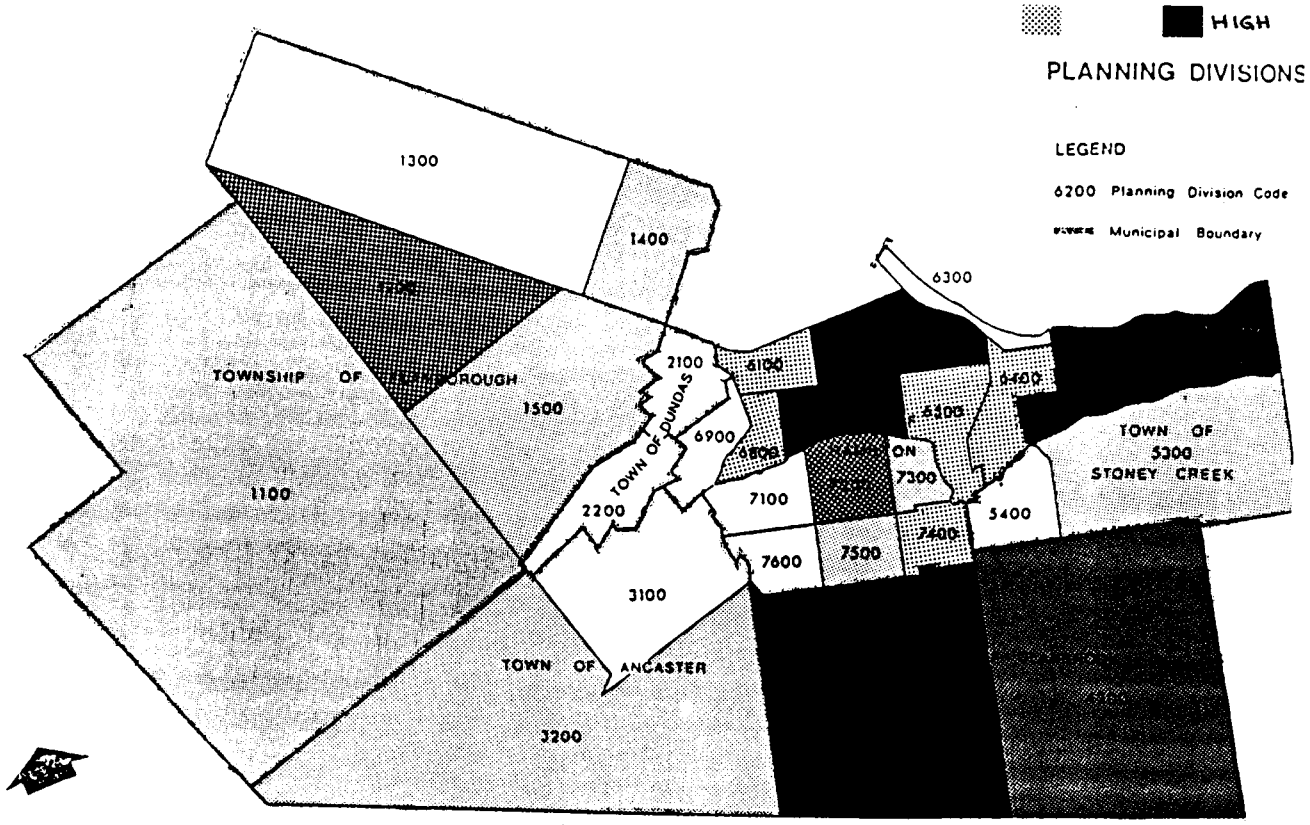
THEFT OF MOTOR VEHICLES 1981
MAP 5(A)



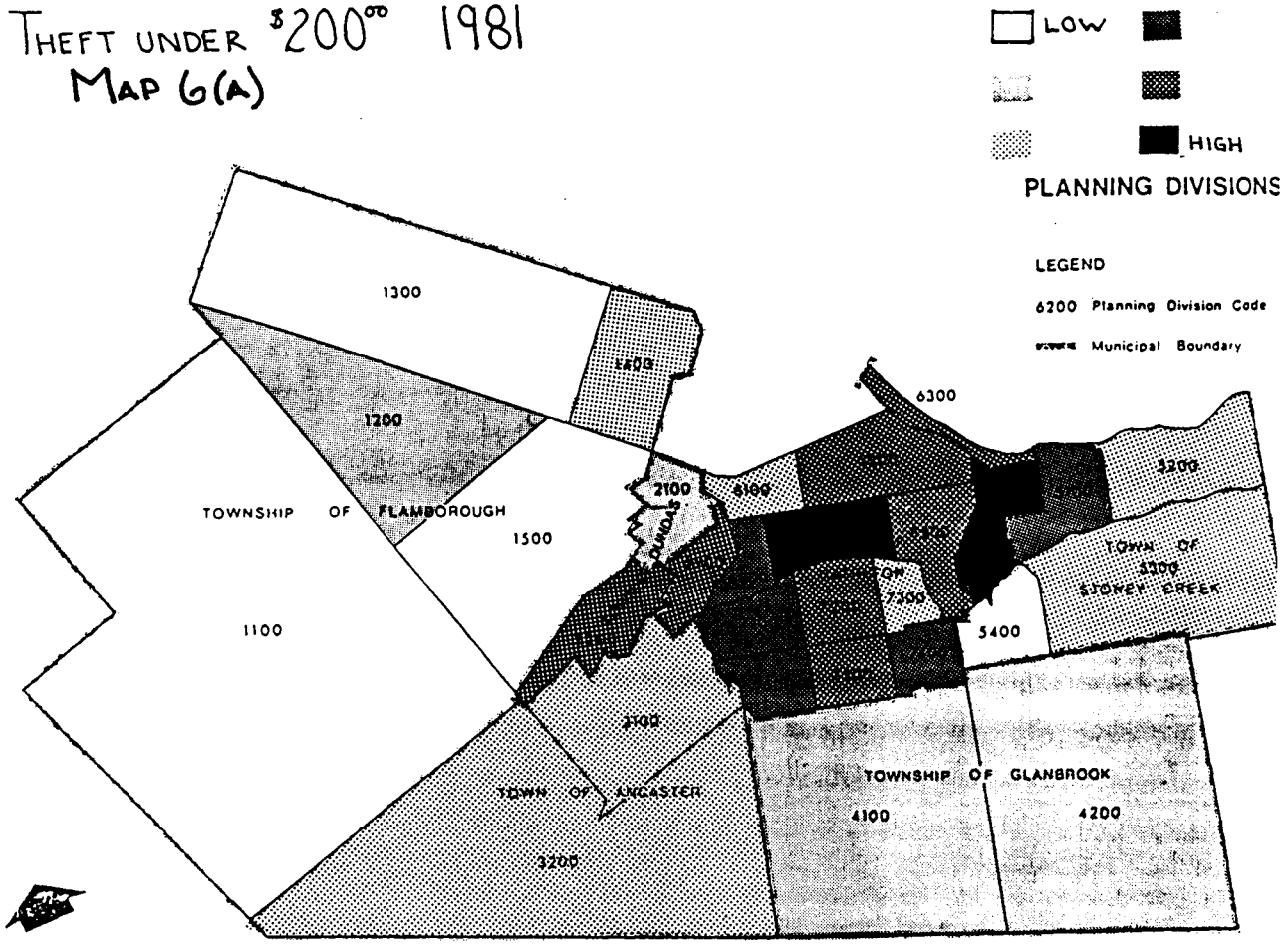
THEFT OF MOTOR VEHICLES 1986
MAP 5(B)



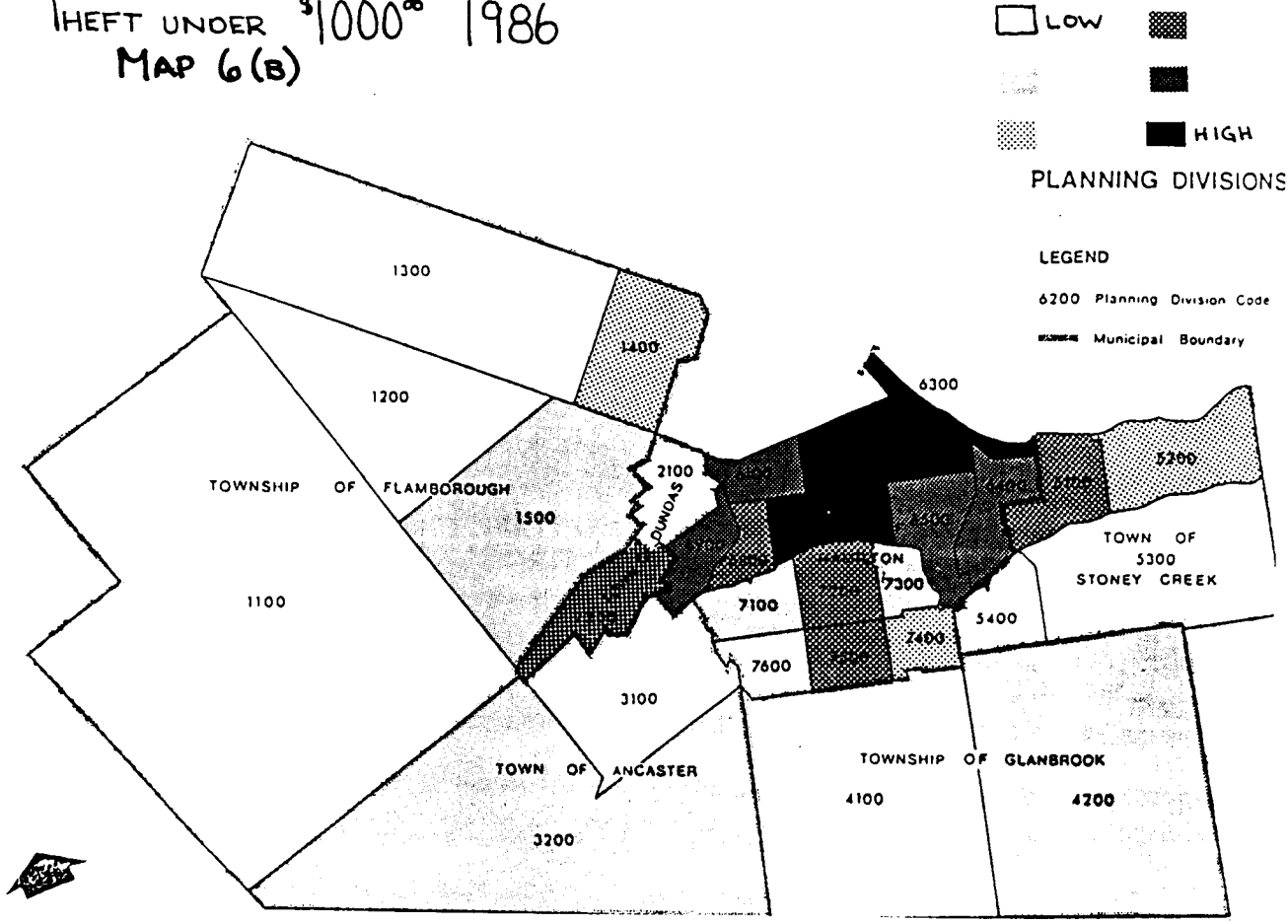
THEFT OF MOTOR VEHICLES 1989
MAP 5(c)



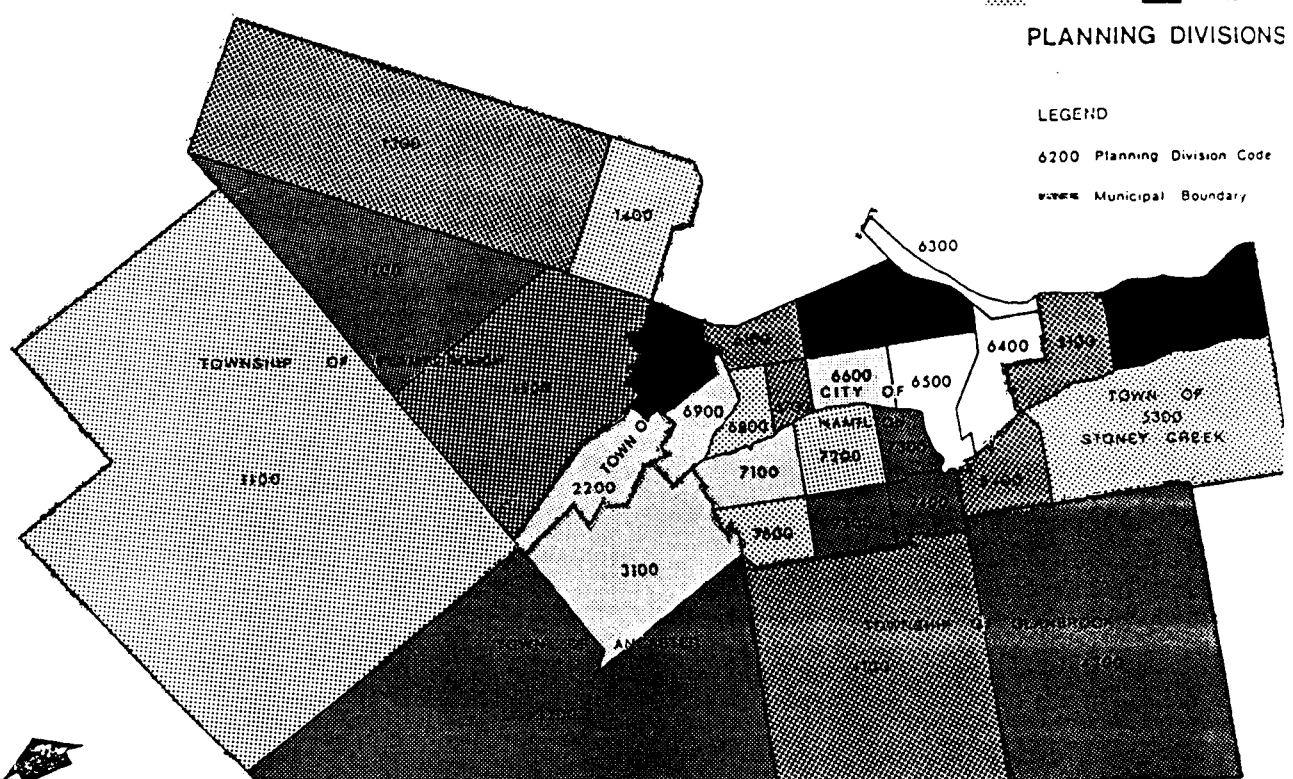
THEFT UNDER 200^{00} 1981
MAP 6(A)



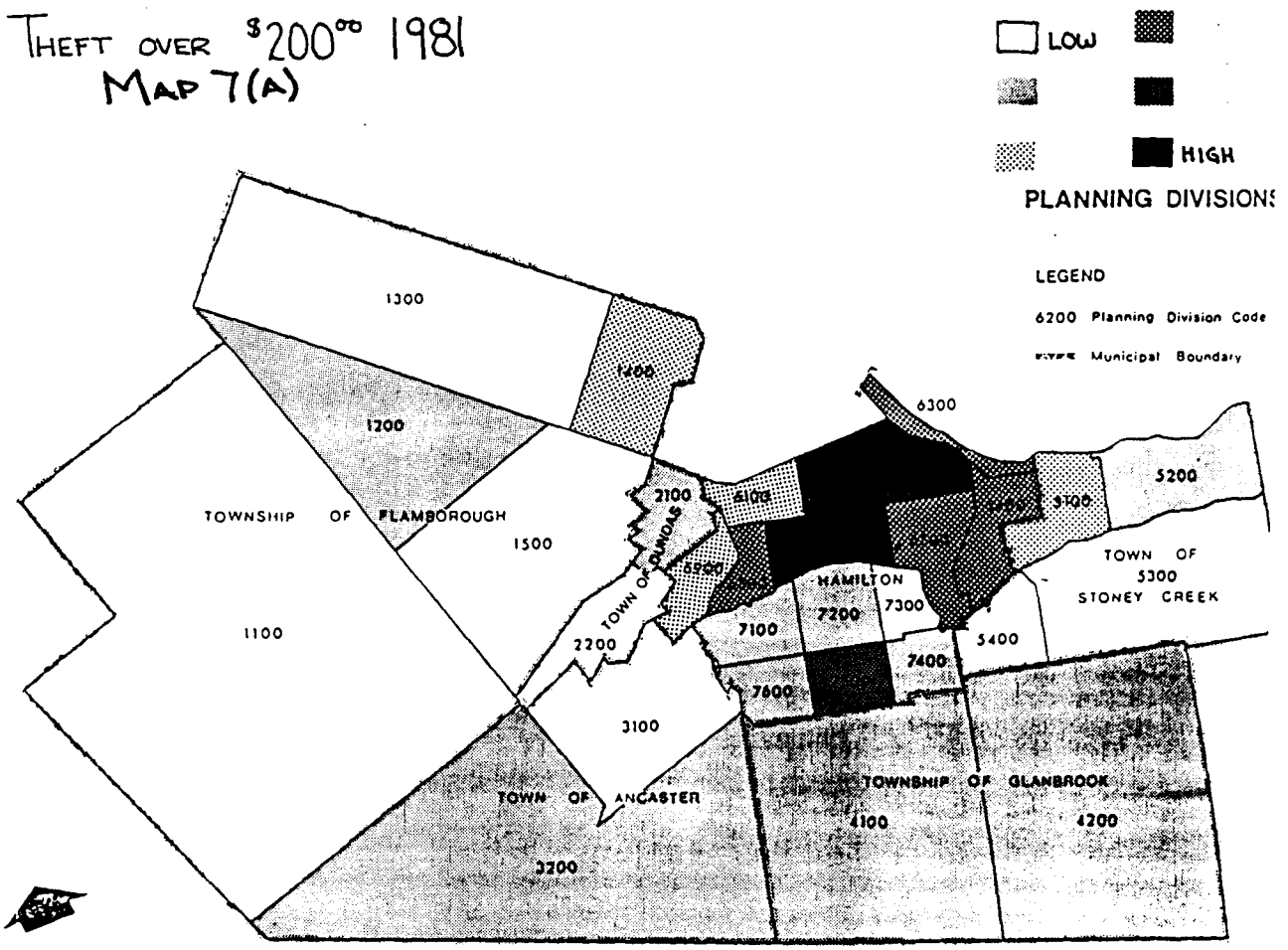
THEFT UNDER $1000.00 1986
MAP 6(B)



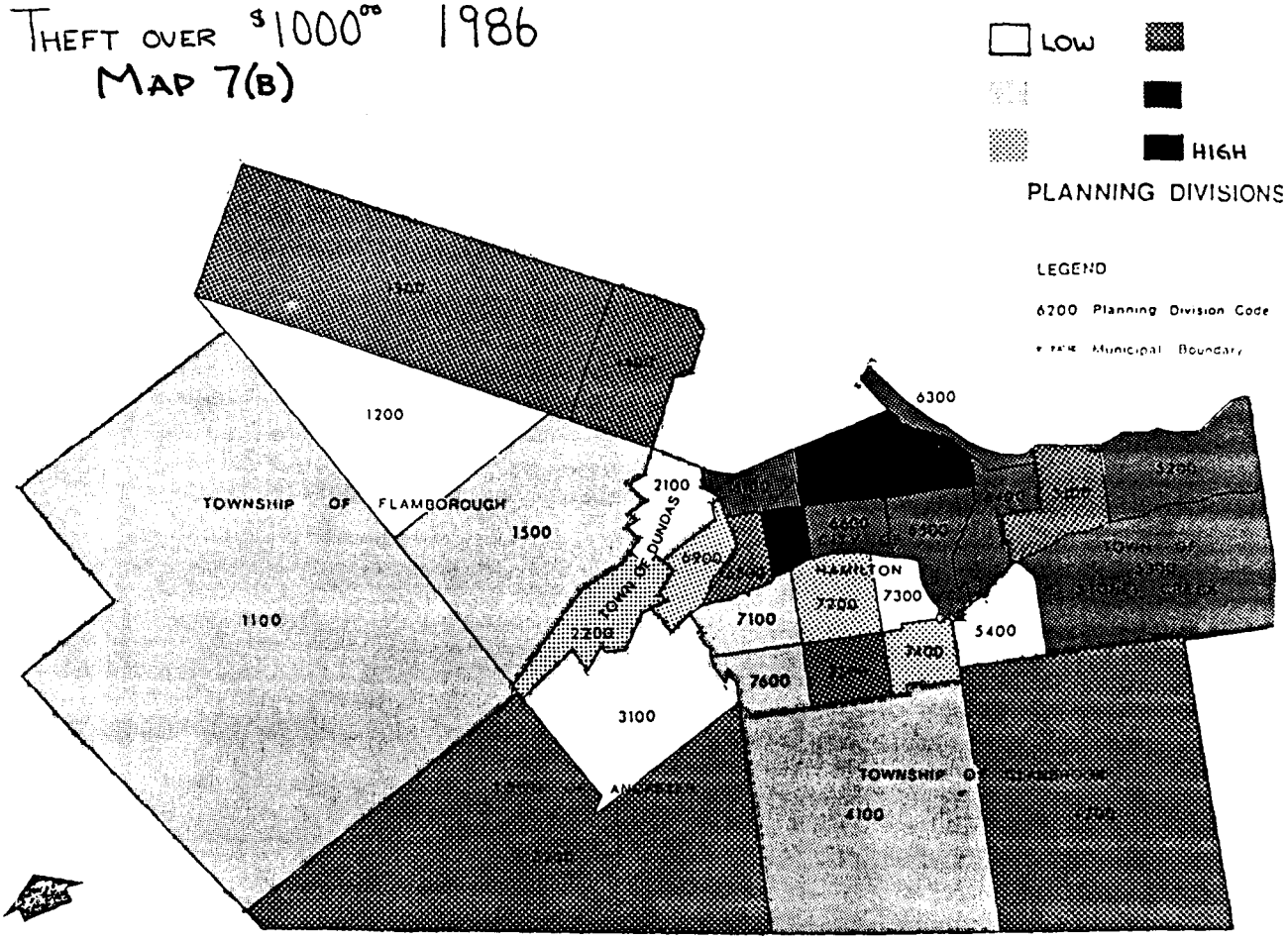
THEFT UNDER $1000.00 1989
MAP 6(C)



THEFT OVER 200^{00} 1981
MAP 7(A)

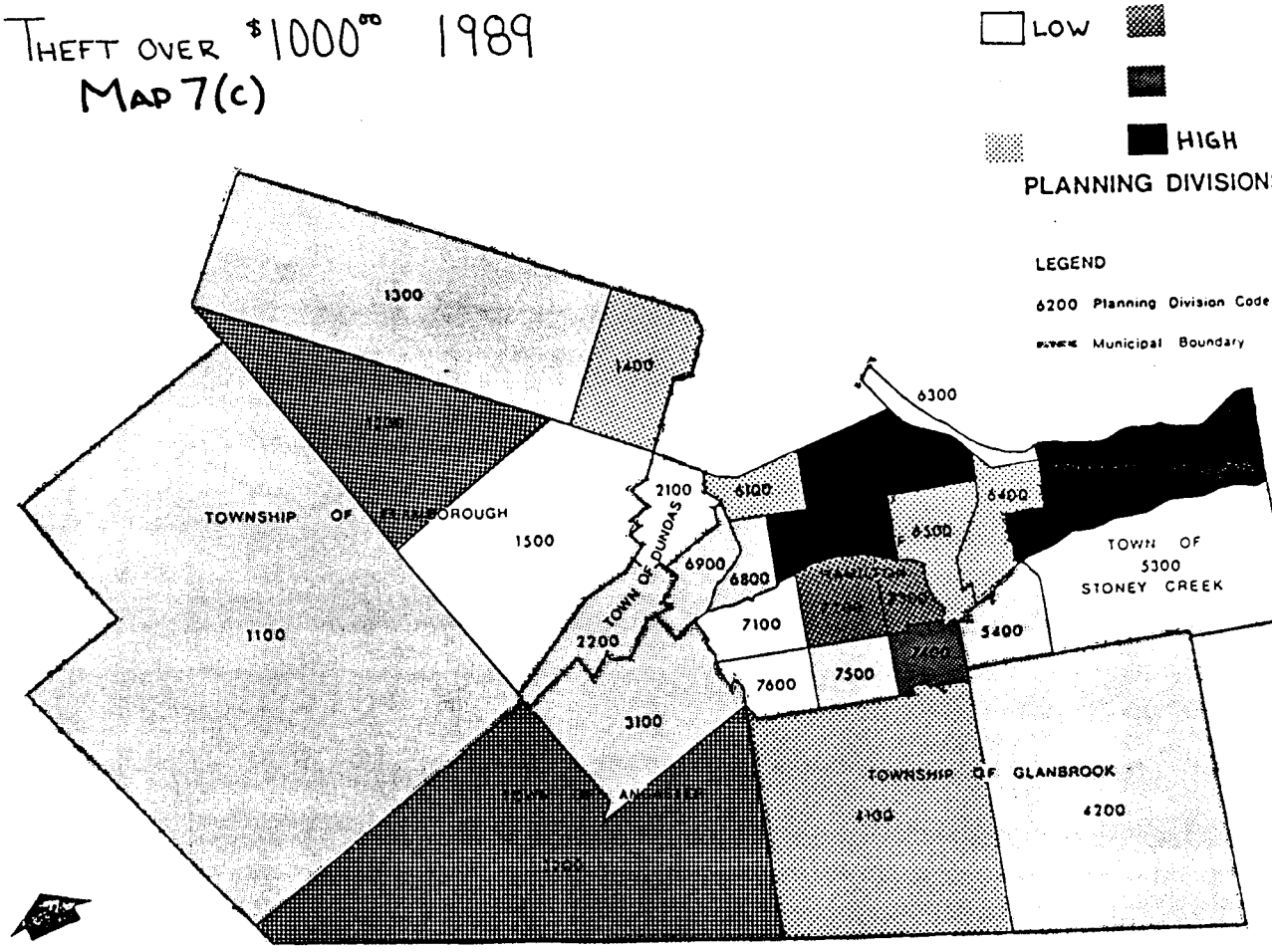


THEFT OVER 1000^{00} 1986
MAP 7(B)



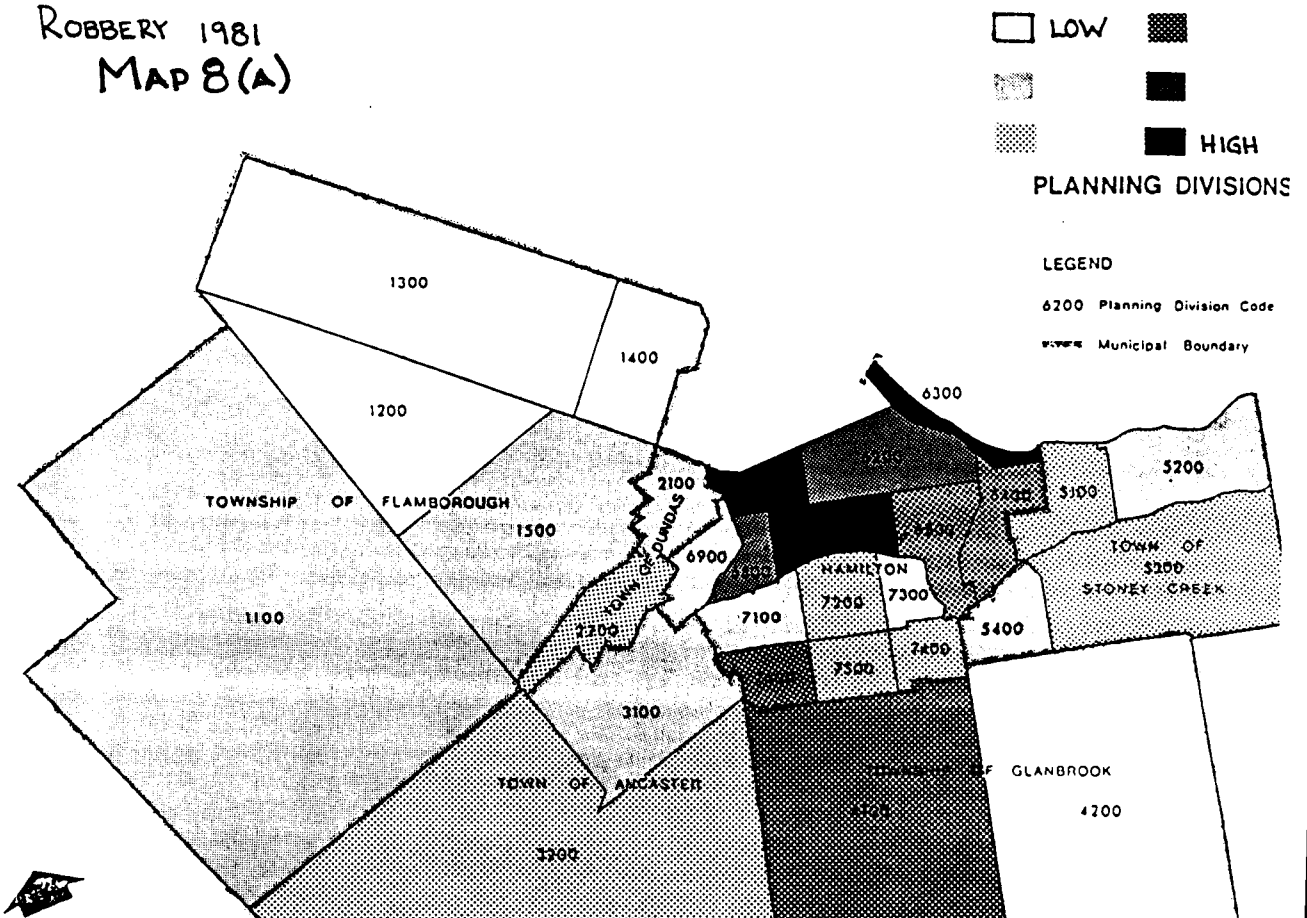
THEFT OVER $1000.00 1989

MAP 7(c)

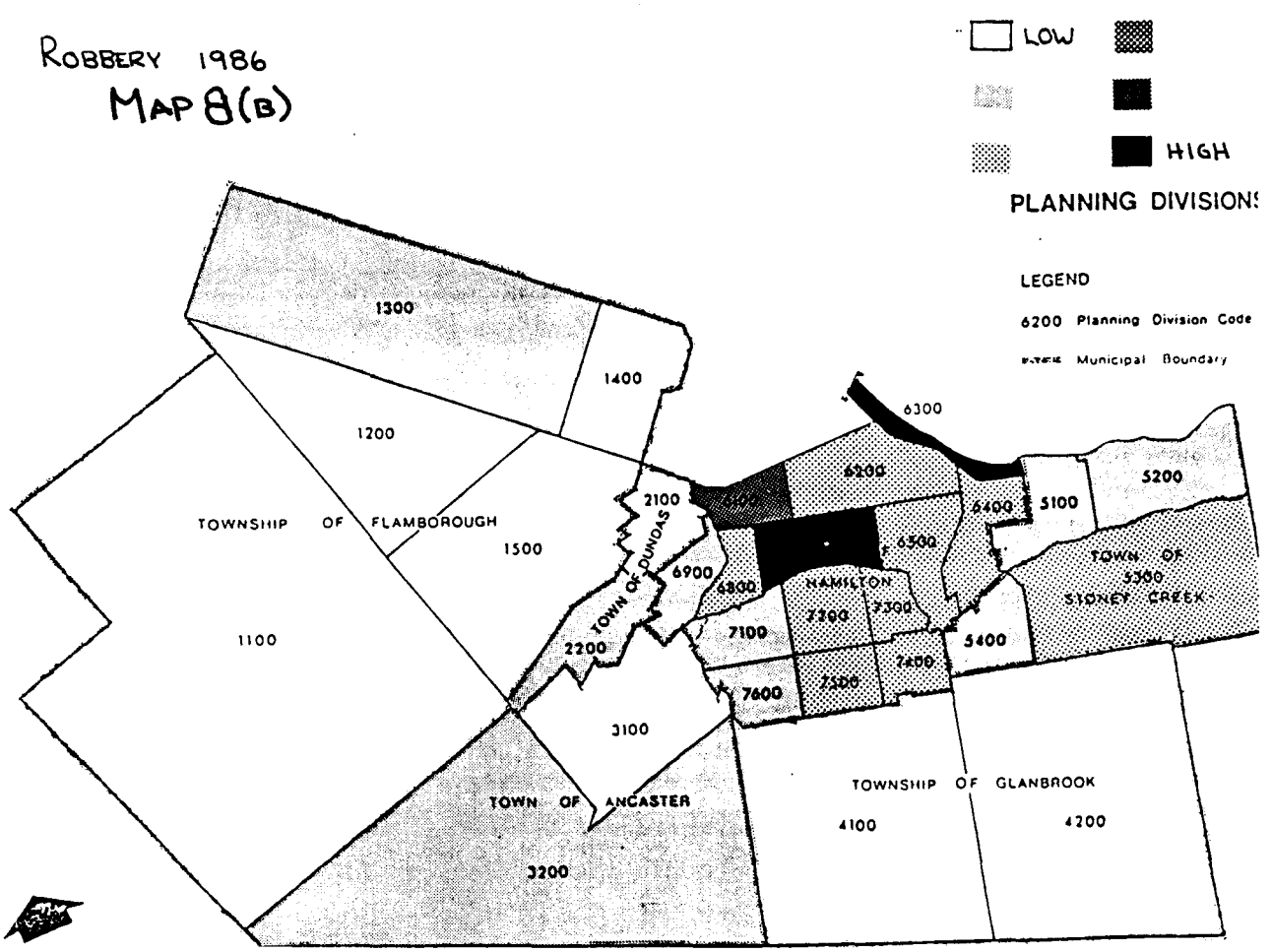


ROBBERY 1981

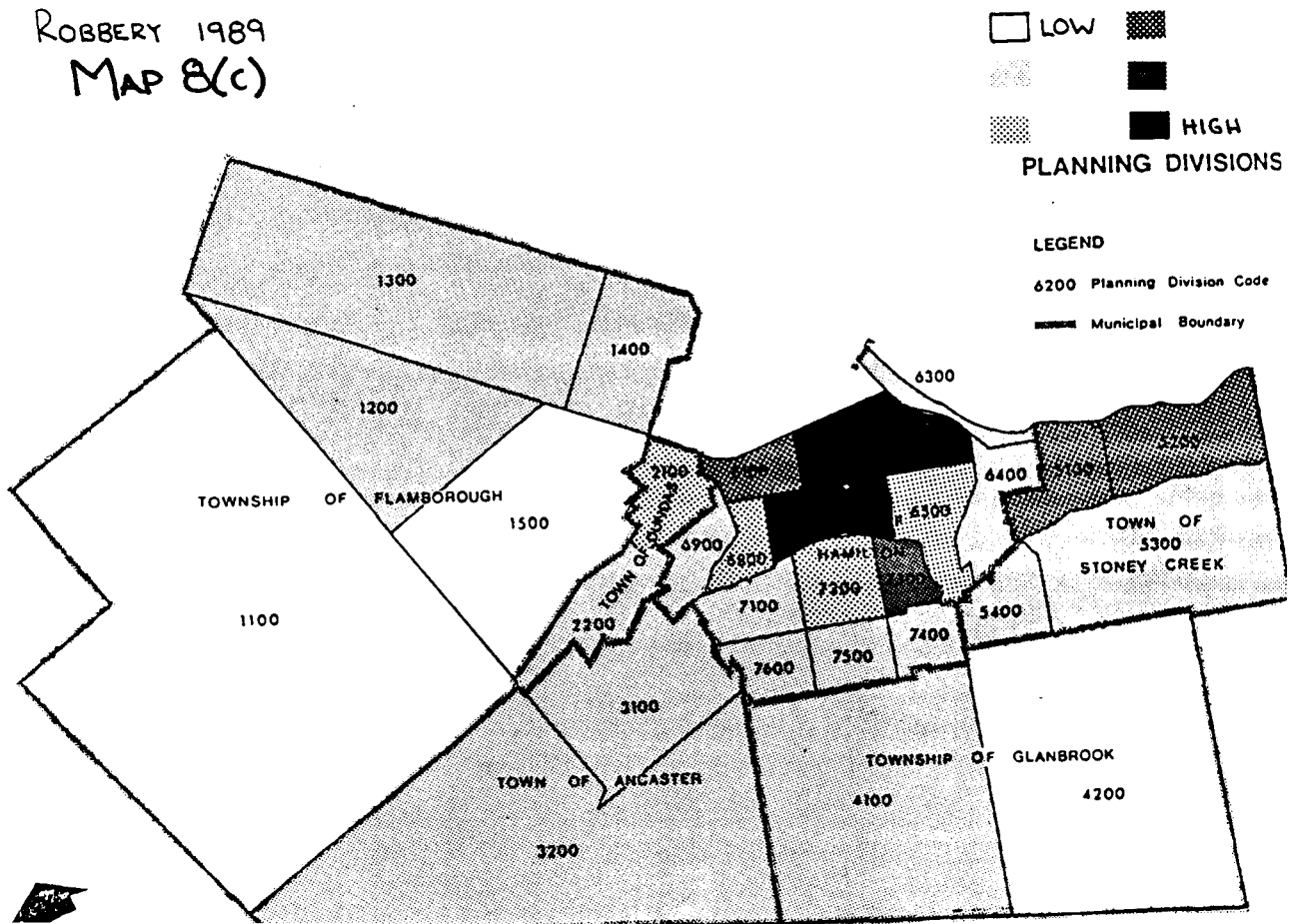
MAP 8(A)



ROBBERY 1986
MAP 8(B)



ROBBERY 1989
MAP 8(C)



APPENDIX C

TABLE I

1981- SUMMARY SHEET OF CRIME RATES PER 1000 PERSONS

DISTRICTS	ROBBERY	B & E TOTAL	B & E RESID.	THEFT AUTO	THEFT > $200	THEFT < $200	CANNABIS	ASSAULT	YEARLY TOTAL
UNKNOWN									
11	.15	8.45	4.76	2.30	9.52	8.45	.92	4.30	60.68
12	.00	14.55	6.75	5.71	14.03	14.55	.52	4.68	82.60
13	.00	4.83	2.22	3.42	5.84	9.47	2.82	1.81	49.95
14	.00	7.67	3.21	2.68	16.41	19.98	.54	5.17	94.92
15	.18	5.49	4.03	1.28	6.78	5.49	.92	1.28	43.59
21	.25	8.60	6.57	2.28	4.05	10.37	4.05	5.06	74.84
22	.23	14.38	9.79	3.57	13.60	30.31	1.71	6.84	122.62
31	.08	6.55	5.05	2.24	8.62	16.24	1.41	1.74	57.66
32	.28	15.68	10.45	2.20	13.76	15.96	2.48	.83	88.03
41	.72	10.65	4.69	5.60	12.09	12.09	3.07	2.71	63.54
42	.00	12.56	8.53	6.16	10.43	11.14	2.61	2.84	73.46
51	.46	25.05	9.72	5.89	18.67	29.48	3.65	4.88	118.38
52	.16	15.47	10.89	4.42	12.15	17.52	5.84	4.10	91.53
53	.43	16.71	10.71	3.43	9.85	16.28	15.00	5.14	140.10
54	.18	11.58	6.67	2.81	7.54	9.81	1.75	5.26	62.09
61	1.87	27.43	14.31	6.64	16.35	19.59	7.33	15.50	202.04
62	1.15	42.45	15.04	16.44	40.92	39.01	6.63	13.51	231.74
63	8.02	30.86	14.20	22.22	21.60	34.57	35.19	12.96	328.40
64	.81	13.67	5.71	7.75	22.95	48.81	4.42	7.96	142.06
65	.97	18.88	9.80	7.94	21.44	38.31	11.10	9.58	179.79
66	2.28	29.51	18.29	9.62	31.81	47.08	9.42	15.15	236.19
67	2.35	36.35	17.30	14.20	50.70	102.65	24.04	23.29	502.08
68	1.08	25.65	14.59	7.00	21.64	29.60	6.94	8.61	164.72
69	.23	13.21	6.84	3.98	18.42	30.05	2.92	4.74	106.52
71	.24	12.66	10.25	2.10	10.56	22.38	2.17	2.92	77.80
72	.47	15.65	10.90	3.97	13.61	32.27	2.94	5.73	111.52
73	.09	13.70	11.73	2.63	7.72	15.93	1.70	4.68	79.37
74	.36	14.23	10.99	6.85	14.23	22.34	1.44	8.65	98.92
75	.34	20.54	13.80	13.80	27.27	31.99	10.10	9.76	180.13
76	.54	19.91	16.60	3.00	10.71	24.61	1.93	6.85	96.57
AVG. RATE	.85	18.97	10.95	6.27	19.79	34.78	6.21	8.26	155.70

TABLE 2

1986-SUMMARY SHEET OF CRIME RATES PER 1000 PERSONS

DISTRICT	ROBBERY	B & E TOTAL	B & E RESID.	THEFT AUTO	THEFT > $1000	THEFT < $1000	CANNABIS	ASSAULT	YEARLY TOTAL
UNKNOWN									
11	.00	5.14	3.52	.44	1.03	7.34	.15	2.20	22.76
12	.00	11.21	6.06	3.03	.91	6.06	.30	3.63	37.25
13	.18	8.82	5.70	1.10	2.21	8.27	.18	1.84	35.85
14	.00	10.15	2.61	3.08	2.31	17.54	1.54	5.38	62.61
15	.00	3.50	1.75	1.97	1.31	10.06	.66	2.41	28.44
21	.00	3.48	2.09	.70	.00	5.10	.23	2.32	23.17
22	.08	7.77	5.08	1.77	1.92	26.15	1.46	6.92	73.67
31	.00	4.16	2.60	.52	.97	8.25	.06	1.49	23.90
32	.24	7.05	2.92	2.92	2.43	11.91	.24	2.92	44.25
41	.00	3.76	2.44	2.26	1.32	5.64	.38	.94	20.48
42	.00	12.18	5.39	3.75	2.34	12.88	.23	3.51	48.70
51	.08	6.82	4.14	1.71	2.34	20.28	.75	7.86	59.33
52	.23	8.94	3.48	2.21	3.37	17.42	.70	5.34	55.06
53	.43	10.38	7.78	1.73	3.89	9.08	2.16	3.03	52.75
54	.11	3.21	2.75	1.15	.57	8.71	.23	2.64	25.67
61	.99	17.54	9.93	4.96	3.14	31.60	1.16	21.51	129.03
62	.28	22.84	10.50	7.23	6.81	45.96	2.55	24.68	170.64
63	1.47	9.56	3.68	5.15	3.68	41.18	2.94	12.50	150.00
64	.42	8.07	4.66	4.28	3.44	39.50	1.47	9.36	106.47
65	.33	12.17	7.95	3.89	3.21	39.80	1.59	14.26	119.89
66	1.18	24.40	16.45	4.63	3.85	44.36	2.35	23.02	170.94
67	4.01	25.66	14.02	8.76	8.68	112.21	7.79	33.52	388.83
68	.36	15.34	10.79	2.49	2.30	28.98	1.21	11.03	102.76
69	.24	9.10	5.48	1.87	1.81	33.44	1.02	4.22	77.79
71	.17	5.62	3.84	.94	1.22	13.75	.38	4.57	42.21
72	.28	6.33	4.30	1.23	1.65	27.54	.74	6.14	70.35
73	.31	3.87	2.83	.85	.85	13.17	.36	5.53	42.66
74	.31	9.86	8.01	2.00	1.54	15.56	.62	12.33	63.02
75	.27	14.36	10.90	1.60	2.13	25.80	4.26	11.97	88.83
76	.24	5.24	4.59	1.37	1.37	9.41	.32	6.45	39.56
AVG. RATE	.59	11.33	7.08	3.17	2.86	32.62	1.59	11.36	106.00

TABLE 3
1989-SUMMARY SHEET OF CRIME RATES PER 1000 PERSONS

DISTRICT	ROBBERY	B & E TOTAL	B & E RESID.	THEFT AUTO	THEFT > $1000	THEFT < $1000	CANNABIS	ASSAULT	YEARLY TOTAL
UNKNOWN									
11	.00	5.87	3.63	1.82	1.68	619.08	1.12	1.82	28.22
12	.41	9.86	5.75	4.93	4.93	1828.61	1.23	2.47	57.54
13	.17	6.06	2.94	1.21	2.08	776.72	1.56	3.29	41.23
14	.14	10.65	5.73	2.18	3.28	627.35	2.59	3.82	68.11
15	.00	5.40	3.20	1.80	1.40	924.35	2.80	3.80	45.83
21	.52	3.14	1.57	.52	.52	2425.78	.00	3.14	31.90
22	.11	6.41	3.62	1.37	2.15	259.95	2.78	6.62	63.08
31	.12	7.69	4.99	1.14	2.88	306.91	.96	2.94	42.61
32	.27	11.16	7.70	2.92	5.84	1354.32	1.86	5.84	62.42
41	.38	7.78	3.79	7.97	3.22	970.98	.19	3.60	42.48
42	.00	9.48	5.21	6.16	2.84	1219.62	.47	7.11	51.88
51	1.07	32.78	13.88	9.00	15.25	871.00	2.90	30.65	288.96
52	1.26	48.00	21.05	15.58	22.74	2425.26	1.26	26.95	268.21
53	.11	2.86	1.16	1.59	1.48	607.83	.42	2.01	20.41
54	.17	6.35	3.78	1.37	1.89	995.54	.34	6.18	48.07
61	1.33	29.11	9.16	4.43	3.25	878.10	2.36	14.63	127.66
62	7.01	121.59	41.31	77.94	42.09	4851.91	21.82	214.34	1162.12
63	.06	.36	.24	.21	.30	186.00	.21	.30	7.37
64	.26	9.14	4.35	3.32	4.08	195.88	.63	11.73	112.38
65	.72	10.48	6.12	4.05	4.02	216.83	2.29	13.56	143.98
66	2.93	37.91	26.33	8.62	9.05	416.81	3.43	41.18	348.06
67	5.79	39.50	21.74	14.77	13.46	780.00	12.83	50.78	631.90
68	.98	9.37	5.86	3.16	2.47	731.33	1.09	9.71	95.14
69	.36	4.38	2.13	1.28	2.03	466.77	.96	3.95	54.11
71	.07	5.66	4.38	1.18	1.27	311.31	.23	3.64	36.46
72	.56	14.99	9.39	4.58	5.55	677.94	2.04	16.65	195.47
73	1.71	17.13	11.86	2.64	4.61	1962.05	2.24	17.26	178.31
74	.24	17.07	8.41	3.24	6.25	1806.89	1.32	11.90	104.67
75	.07	9.06	6.83	1.67	2.93	1055.67	.84	6.27	56.16
76	.07	5.78	4.65	.69	1.05	554.76	.22	3.96	32.52
AVG. RATE	.74	12.02	7.05	3.69	4.11	582.02	1.93	12.57	127.29

APPENDIX D

TABLE4

LOCATION QUOTIENTS FOR THE SOCIAL CHARACTERISTIC VARIABLES-1981

HAM-WENT	BRITISH ORIGIN	UNIVER. EDUC.	OWNER OCCUP.	RENTAL OCCUP.	DWELLING VALUE	HHLD. INCOME	UNEMPLOY RATES
11	1.077	.774	1.422	.321	1.229	1.044	.742
12	1.143	1.115	1.443	.309	1.428	1.112	.677
13	1.152	1.241	1.427	.314	1.694	1.447	.524
14	1.228	1.532	1.124	.788	1.371	1.150	.710
15	1.094	1.419	1.454	.262	1.423	1.284	.516
*21			1.221	.654		1.210	
*22			1.025	.954		1.175	
31	1.202	2.421	1.496	.203	1.516	1.548	.621
32	1.023	1.053	1.392	.381	1.460	1.162	.750
41	1.203	.489	1.442	.289	1.257	1.224	.669
42	1.266	.752	1.446	.283	1.304	1.181	.871
*51			1.147	.763		1.066	
*52			1.392	.372		1.300	
*53			1.444	.292		1.183	
*54			1.444	.292		1.183	
61	.819	.175	.960	1.064	.713	.773	2.065
62	4.559	.202	1.265	.574	.599	.871	1.613
63	1.579	.346	1.169	.752	.662	1.046	1.468
64	.887	.572	.672	1.527	1.061	.969	1.097
65	1.025	.336	1.168	.729	.769	.878	1.105
66	.803	.620	.843	1.254	.695	.774	1.500
67	.965	1.909	.256	2.195	.958	.738	1.113
68	.908	1.591	.879	1.197	.856	.912	1.218
69	1.015	3.029	.953	1.078	1.026	1.029	.863
71	.962	1.240	1.210	.661	1.476	1.232	.484
72	1.101	.597	1.061	.901	.880	.968	.879
73	1.065	.862	1.137	.780	1.046	1.174	.839
74	1.039	.471	.999	1.002	1.044	1.071	.702
75	.868	.566	1.384	.383	1.085	1.141	1.056
76	1.023	.849	1.413	.330	.993	1.245	.790

ABLE 5
OCATION QUOTIENTS FOR THE SOCIAL CHARACTERISTIC VARIABLES-1986

AM-WENT	BRITISH ORIGIN	UNIVER. EDUC.	OWNER OCCUP.	RENTAL OCCUP.	DWELLING VALUE	HHLD. INCOME	UNEMPLOY RATES
11							
12							
13							
14							
15							
*21	1.096	1.986	1.140	.772	1.120	1.226	.697
*22							
31	1.106	2.490	1.478	.201	1.554	1.635	.530
32							
41	1.170	.548	1.418	.301	1.136	1.192	.758
42							
*51	.878	.758	1.253	.577	1.185	1.186	.909
*52							
*53							
*54							
61	.926	.320	.898	1.184	.641	.725	1.129
62	1.181	.088	1.206	.649	.472	.722	1.591
63	1.235	.171	1.171	.741	.581	.864	.985
64	.921	.537	.705	1.494	1.089	1.023	.947
65	1.116	.400	1.133	.743	.728	.872	1.120
66	.902	.544	.807	1.324	.736	.764	1.326
67	.954	1.580	.256	2.242	.807	.671	1.659
68	.914	1.645	.849	1.250	.948	1.017	.706
69	.977	2.716	.178	1.085	1.301	1.280	.689
71	.980	1.271	.596	.785	1.131	1.308	.798
72	.978	.608	1.070	.889	.881	.964	.873
73	1.070	.737	1.077	.872	1.035	1.102	.785
74	.836	.584	1.064	.886	1.159	1.257	.955
75	.844	.617	1.365	.485	1.326	1.196	.659
76	1.019	.897	1.332	.445	.973	1.169	.705

APPENDIX E

Sexual Offences

Rape - S. 143 C.C., and 145 C.C.

Indecent Assault - Female - S. 149 C.C.

Indecent Assault - Male - S. 156 C.C.

Other Sexual Offences - These include:

1. Sexual intercourse:
   (a) females under 14 years of age - S. 146 C.C.
   (b) females between 14-16 years of age - S. 146 (2) C.C.
   (c) Feeble-minded females - S. 148 C.C.
2. Incest - S. 150 (1) C.C., S. 150 (3) C.C.
3. Seduction:
   (a) females 16-18 years of age - S. 151 C.C.
   (b) under promise of marriage - S. 152 C.C.
   (c) ward, step-daughter, foster-daughter - S. 153 (1) (a) C.C.
   (d) female employees - S. 153 C.C.
   (e) female passengers on vessels - S. 154 C.C.
4. Buggery or bestiality - S. 155 C.C.
5. Acts of gross indecency - S. 157 C.C.

Assaults (Not Indecent)

Wounding - S. 228 C.C. - Includes:

(a) Wound, maim, disfigure - S. 228 (a) C.C.

(b) Endanger the life - S. 228 (b) C.C.

(c) Prevent arrest or detention - S. 228 (c) C.C.

Bodily Harm - S. 228, 229, 230, 231, 232, and 245 C.C. - Includes:

(a) Bodily harm with intent - S. 228 (a) (b) (c) C.C.
(b) Administering noxious thing (poison) - S. 229 (a) (b) C.C.
(c) Attempt to choke, suffocate or strangle - S. 230 (a) C.C.
(d) Administers drugs - S. 230 (b) C.C.
(e) Traps likely to cause bodily harm - S. 231 (1) (2) C.C.
(f) Interfering with transportation facilities - S. 232 C.C.
(g) Causing bodily harm - S. 245 (2) C.C.

Assault - Other Public - Peace Officer - S. 246 2(a) and (c) C.C. - Includes:

(To be all-inclusive regardless of degree, i.e., wound, bodily harm, assault and resist arrest).

Other Assaults (Not Indecent) - Defined - S. 245 C.C. - Includes:

1. Common assault - S. 245 (1) C.C.
2. Assault with intent - S. 246 (1) C.C.
3. To resist arrest - S. 246 (2) (b) C.C.
4. To rescue goods seized - S. 246 (2) (c) C.C.

Robbery - S. 302, 304 C.C.

Force or threat of force is a necessary ingredient in robbery whereas stealing from the person may be, and usually is, done secretly. Robbery includes stealing with violence or threats of violence, and stealing while armed.

Firearms - S. 302 (d) C.C.

Other Offensive Weapons - S. 302 (d) C.C.

Other Robbery - Includes:

1. Robbery (assault with intent) - S. 302 (c) C.C.
2. Stopping the mail with intent - S. 304 C.C.

Breaking and Entering - S. 306 C.C., 307 C.C.

"Break" - Definition - S. 282 (a) and (b) C.C.
"Entrance" - Definition - S. 308 (a) and (b) C.C.
"Place" - Definition - S. 306 (4) C.C.

Hotel room, suite, motel room. Count one offence for each room or suite which is registered to a guest.

Includes:

(1) Breaking and entering with intent - S. 306 (1) (a) C.C.
(2) Breaking and entering and committing - S. 306 (1) (b) C.C.

(3) Breaking out - S. 306 (1) (c) C.C.

(4) Being unlawfully in dwelling house - S. 307 (1) C.C.

Do not include cases of breaking into a motor vehicle, as these are classified as thefts.

Business Premises - S. 306 (1) (b) C.C.

Offices, Warehouses

(1) Score one offence where the whole of the building is occupied by one firm.
(2) Score one offence for each office where the building consists of separate offices for different firms, services or professions.

Residence - S. 306 (1) (d) C.C.

Multiple dwellings, apartments, suites, house trailers (when used as dwellings).

Other break and enter.
Trains, box-cars, "piggy-backs".
Count one offence for any number of box-cars **grouped in one location** even if several are broken into.
Grouped in one location - Means **on the same spur or siding.**
The number of box-cars entered makes no difference.
Count one offence for **each distinct location.**

Theft of Motor Vehicle - 295 C.C.

The definition of "motor vehicle" used in the UCR Programme is to include mopeds and motorized snow vehicles such as ski-doos, snowmobiles, etc., for crime statistics purposes.

Include cases where a motor vehicle is taken without the owner's consent.

Automobiles

Motor vehicles stolen or recovered are to be reported annually on Form "A" - items 20-21.

Trucks
(Include all commercial vehicles that are not automobiles)
Motorcycles
Other motor vehicles

The theft or attempted theft of motorized snow vehicle is to be classified and scored under Theft - "Other Motor Vehicles".

Theft Over $200 - S. 290, 292 and 294 (a) C.C.

Include cases of thefts and attempted thefts over $200. The recovery of stolen property does not clear an incident.

Bicycles - S. 294 (a) C.C.
From motor vehicles - (Include parts and contents)
Shoplifting - S. 294 (a) C.C.
Other thefts over $200

These include:

1. Theft by person required to account - S. 290 C.C.
2. Misappropriation of money - S. 292 C.C.
3. Theft of telecommunications services - S. 287 (1), (2) C.C.

Theft $200 and Under - S. 287(1), (2), 290, 292, 294 (b) C.C.

Include thefts and attempted thefts where the alleged value does not exceed $200.

Bicycles
From motor vehicles - (Include parts and contents)
Shoplifting
Other thefts $200 and under

Includes:

1. Theft by person required to account - S. 290 C.C.
2. Misappropriation of money - S. 292 (1) C.C.

Prostitution. Bawdy houses, procuring, soliciting and related offences as defined in the Criminal Code.

Bawdy house - S. 193, 194 C.C.
(Include keeping, found-in, inmate, etc.)

Procuring - S. 166, 167 and 195 C.C.
Other prostitution
Includes:
Soliciting for the purpose of prostitution - S. 195.1 C.C.

Homicides - S. 214 C.C.

In 1976, the Criminal Code was again amended; capital punishment was abolished and replaced with a mandatory life sentence for all those offences for which death penalties existed. The amendment also reclassified murder, from capital and non-capital murder to first and second degree murder. Four forms of homicide constitute first degree murder: planned and deliberate murders, murder of a peace officer in the line of duty, murder committed in the course of certain criminal acts and murder committed by a person who has been previously convicted of first or second degree murder. All other murder is second degree murder.

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