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The spatial and temporal distribution of residential burglary in Brownsville, South Texas

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THE SPATIAL AND TEMPORAL DISTRIBUTION OF RESIDENTIAL BURGLARY IN BROWNSVILLE, SOUTH TEXAS

A Thesis

by

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ABSTRACT

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The study utilized existing theories, including the pattern theory/environmental criminology, and the routine activities and lifestyles theories and also existing technology to examine the spatial and temporal patterning and variations in residential burglary, the processes that produce this type of burglary, and its incidence rates among the twelve law enforcement zones/districts (PPZ's) in the South Texas border city of Brownsville from 2006 to 2014. The data and information for the thesis were the raw Brownsville Police Department (BPD) data on residential burglary incidents that showed the addresses where, and the times, days, months and years when the incidents occurred. The study concluded that residential burglary is spatially patterned in the city of Brownsville. Certain police zones record higher burglary cases than other. PPZ 10 attracted and generated the highest cases of residential burglary. Crime prevention strategies and interventions have been suggested.

DEDICATION

The completion of my thesis studies would have not been possible without the support and encouragement of my friends and family. I would like to thank my father, Joaquin Felipe Figueredo, and my mother, Maria Guadalupe Parra, for all their love and support they have given me throughout this journey. I thank you both for always believing in me and motivating me to accomplish great things in life. To my siblings, Andres, Eduardo, and Rebecca, I thank you for being my foundation and source of inspiration. Thank you all for your love and patience.

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CHAPTER I

INTRODUCTION

This study examined the spatial and temporal patterning, as well as the variations in residential burglary, the processes that produce this type of burglaries, and the incidence rates among the twelve law enforcement zones in the South Texas border city of Brownsville from 2006 to 2014. Largely exploratory and dealing primarily with the offense locations as officially recorded by the city of Brownsville Police Department (BPD), the study focused on the "kinds of places," that is, the unique characteristics of the environments within which the residential burglary occurred, rather than the "kinds of peoples," that is, the characteristics of the offenders or suspects, per se. Thus, the factors that accounted for the concentration of residential burglaries within some Brownsville neighborhoods, but not other neighborhoods were examined and the residential burglary sites mapped out. The features of the environment, that is, the land use patterns and the architectural design types, and how much each generated or attracted the residential burglaries was also examined. As Jeffrey (1978; also Brantingham, and Jeffrey, 1991) eruditely concluded years ago, land use and housing types offer different sets of criminal opportunities, which in turn often affect the crime patterns of a neighborhood. This study about the incidence and volume of residential burglary in Brownsville was conducted via a number of differing, but related theoretical approaches, including Brantingham and Brantingham's (1984, 1991, 1993a, 1993b) pattern theory/environmental criminology; and the lifestyle, routine activities and the crime hot spots, hot products theories.

Together, the theories explore the tangible links between crime and the broader contexts of changes in society, and broaden criminology to consider the conduct of both offenders and victims or non-offenders in any crime as crucial in understanding the phenomena of crime. These theories assume, inter alia, that crime is the unintended by-product of the daily routines and lifestyles of both offenders and victims. Criminal opportunities develop out of the routines and lifestyles of people. Studies have shown that most burglars offend near their own residence and in familiar locations (Eck, and Weisburd, 1995). Occasionally, however, some burglars travel far – when target is lucrative (Gabor, and Gottheil, 1984). Journey to crime, akin to journey to legitimate work by law-abiding people, is enhanced when targets are clustered together within specific geographic spaces and locations. Stahura and Huff (1979) concluded that metropolitan zones with the highest crime rates are slowly decentralizing into the suburban fringes. They suggested that gradients of crime in SMSAs may no longer approximate inverse linear relationship between crime rates and distance from the city center and that shifts in spatial and temporal patterns and distribution of crime may have been facilitated by the emergence of new and affluent neighborhoods and suburbs, as well as improved transportation and communication networks. Evidence was sifted, sorted and evaluated from multiple sources and presented to show the spatial differentiation of the trends, patterns and distribution of residential burglary in Brownsville. The rates of residential burglary per 100,000 of residents was analyzed, while computer graphics, isoplethic and descriptive were used to present the burglary "hot spots" in the city.

Several national and cross-national studies have concluded that burglaries are not random. Similarly, studies show that the victims or targets of burglaries are not random, but are selected based on certain personal and environmental cues (Brantingham, and Brantingham,

2003). While certain environmental cues and characteristics may and often attract or generate burglary, the seasons, days and times, and the conditions under which burglaries occur often follow predictable trends and patterns. In other words, burglary, like any crime, follows predictable trends, patterns and conditions such as the time of day, day of the week and the season of the year. Burglary is neither random nor is it equally distributed within any geographic space. Studies have shown that particular cues and the unique characteristics of a particular geographic space can attract or generate burglary victimization.

Residential burglary is one burglary category that has been studied extensively. As some studies concluded, opportunity appears to be the one plausible reason for residential burglaries to occur (Scar, 1973; Rengert, and Wasilchick, 1985, 1989; Cromwell, Olson, and Avary, 1991). As Shover (1971), concluded, most offenders often rely on "alert opportunism" to assess their chances before they act. Mental maps, that is, the mental images that offenders form in their heads about a target/residence and the potential payoffs before they strike. According to Weisel (2002), property offenders select their targets because of familiarity convenience, occupancy, visibility and surveillability, accessibility, vulnerability or security, and the potential rewards. Similarly, Felson and Clarke (1998, p. 5) offered four key variables that influence property crime commission – represented by the acronym VIVA. These included the value (the value of the good to the offender); Inertia (the ease with which the good can be transported, with the weight and size of the good being most paramount); Visibility (the extent to which the target is visible to the offender and the extent to which the offender may be visible to others when committing the crime); and Access (the extent to which the offender can access the property and then escape quickly, easily, and undetected). Cromwell's (1991, also, Rengert, and Wasilchick, 1985, 1989) ethnographic study of residential burglaries found that most burglaries occurred between 9:00am

and 11:00am and mid-afternoon, or during school or work hours when residents/occupants were away from their homes or the targets are left vacant and unguarded. Residential burglaries that occur in the evening or late at night often occur because the offenders became aware that such home were unoccupied or without capable guardians (Cromwell, 1991, p. 292; Cromwell, and Olson, 2004). One study that examined the characteristics of both the victims and offenders and/or targets of burglaries concluded that the majority of both the victims and the offenders were white, between 25 and 49 years (Walters, Moore, Berzofsky, and Langton, 2013). One main objective of this study was to compare the extent of burglary in the city of Brownsville to that at the nation in an attempt to determine whether the Brownsville burglary picture is consistent with the national average.

1.2 Objectives of Study

The study aimed at examining the incidence and volume as well as the trends and pattern of residential burglary in the south Texas border city of Brownsville from 2006 to 2014. It must be pointed out that no such empirical study of any category of crime appears to have ever been done in any South Texas city. Therefore, this maiden study appears to be the first or a baseline study that would inform any future study of crime sites and spots in south Texas. Specifically, the study examined the spatial clustering, that is where (address or offence spot), days of week, times of day and months when the most residential burglary occurred in the city of Brownsville as recorded by the BPD. Where included the addresses where the burglaries were committed, the months, days and times of the day when the burglary occurred or when the calls were made to the BPD. As one major objective of the study was a visual presentation of the spatial clustering

of residential burglary among and within each of the twelve police zones (PPZ), and recommendations and strategies to reduce residential burglary in the city of Brownsville.

1.3 Research Questions

It was argued throughout the study that the characteristics of a particular environment are critical in explaining residential burglary. That is, some geographic spaces are more vulnerable than others in how they affect or are affected by residential burglary. Informed generally by the above assumption, this study investigated: the spatial and temporal distribution of residential burglary in the city of Brownsville; the factors that contributed to the spatial and temporal distribution of residential burglary in the city of Brownsville, and the prevention strategies that have been designed by the Brownsville Police Department (BPD) to address this crime problem.

This study addressed the following questions: What is the nature of the broad crime trends and patterns in the city of Brownsville, TX? What is the nature of the trends, patterns, spatial ecology and distribution of residential burglary in the city Brownsville, TX? What are the generators and attractors of, or the antecedent conditions that foster residential burglary in the city of Brownsville, TX? The above thematic research questions offered explanations to the prevalence of residential burglary in the city of Brownsville, Texas. Answers were sought to the above questions via archival examination, statistical documentation, primary data search, and crime mapping. Social indicators were presented to show the extent to which social change have affected the trends, patterns and spatial distribution of crime in the city Brownsville. As well, how specific housing designs types encourage or discourage residential burglary were examined.

1.4 Data Sources and Research Methodology

The quantitative data, perhaps the cornerstone of the spatial ecology studies, relied mostly on official crime statistics and census data. Even so, qualitative data were used whenever feasible. The study relied on the official and unofficial (primary) BPD crime statistics. The raw or primary residential burglary data and information for the study were acquired from August to October 2015. The request for the data and information acquisition was approved by the Brownsville Police Chief, Mr. Orlando Rodriguez after a former request was made to the BPD. Chief Rodriguez who took personal interest in this study granted me an interview and encouraged all the BPD officers not only to assist, but also ensure the success of the study. The BPD Information Technology Manager, Mr. Paul Cantu III who also took personal interest supplied the actual data, information and the maps, and clarified the terms used by the BPD and the criteria used to create the PPZ's. Furthermore, Mr. Cantu III explained how the BPD operates, beginning from calls received from the public or victims to the final disposition of a case. Moreover, Mr. Cantu III arranged for a tour of the BPD with the Thesis Committee Chair, Dr. Joseph A-Gyamfi where the data collection process and operation of the BPD were further explained.

The data acquired included the total annual reported residential burglaries from 2006 to 2014, the addresses where, and the times and days when each residential burglary occurred, and the total number of cases solved. The data and information were analyzed in an effort to determine not only the trends and patterns, but also the spatial distribution of this crime within each and among the twelve police zones. Maps that visually show the residential burglary "spots" have been presented. Additionally, an archival search to ferret out data and information on the history, socioeconomic institutions and activities, and the sociodemographic background

characteristics of the population of Brownsville. Data and information for the above indicators were retrieved from U.S. Census Reports and the Brownsville Chamber of Commerce.

Since no study on residential burglary has ever been done in Brownsville, this study adopted an eclectic approach, methodologically and theoretically. Thus, this maiden study attempted to set the stage for future studies not only of burglaries, but also for the crime situation not only in the city of Brownsville, but the entire cities of the Rio Grande Valley of South Texas. This particular geographic region appears to offer several unique backdrops and opportunities for the study and or application of the pattern/environmental and the opportunity-based theories.

1.5 Limitation of Data

The BPD supported and assisted immensely in the data and information acquisition, but the study still encountered some problems that are worth mentioning. The initial challenge met with this study was the limited data available. Because of a system upgrade, the city of Brownsville did not have data prior to the year 2005. Furthermore, because the BPD updated their mapping system ten years ago, this accounted for non-geo verified addresses. That is, since the 2006 system upgrades, new neighborhoods and streets that have proliferated do not exist in the BPD's mapping system. As would be shown later in the data analysis (see 3.5), there were 543 non-geo verified cases in this study. How much this and other limitations may have affected the end result this study is unclear, but it could be enormous.

The BPD currently employs the Spillman: Integrated Public Safety Program for all of their annual reports and related data entries. "Spillman's police software offers completely integrated, real-time data to every police division. From command staff to the records division,

dispatch to investigations, and patrol to evidence, the software helps public safety professionals throughout your department work safely and efficiently" (www.spillman.com, 2016). The Spillman Software is limited to only pinpoint maps, which is not representative of crime density mapping. In essence, the current Spillman program could not map out if a residential burglary occurred in one specific geographic location numerous times. Hence, this study did not have the ability to map the residential burglary and indeed, crime hot spots.

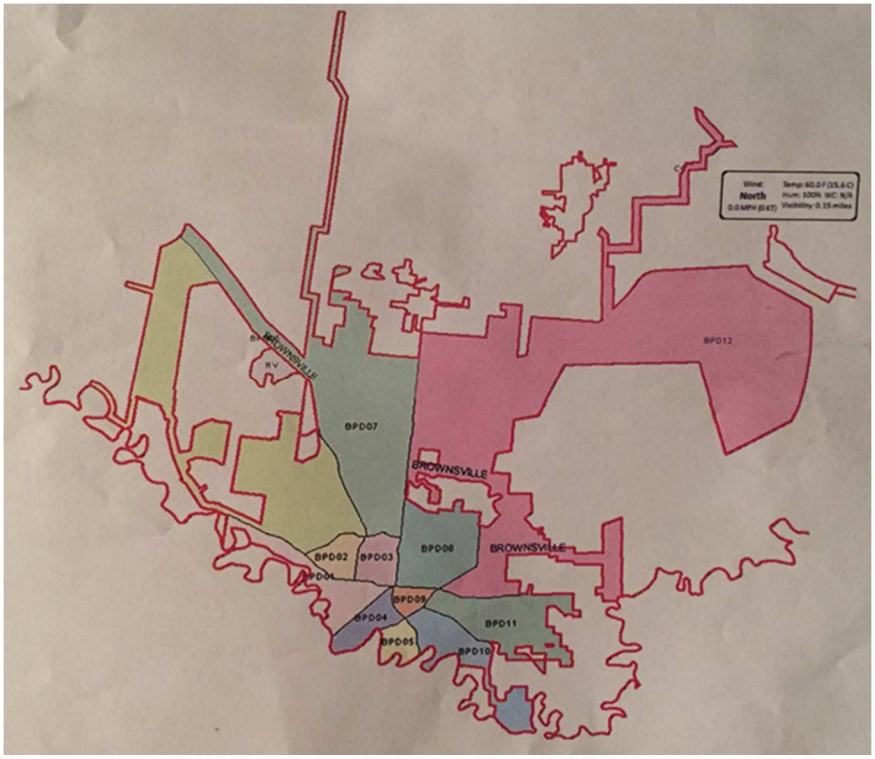
1.6 Area of Study

The city of Brownsville, a Standard Metropolitan Statistical Area (SMSA), with a resident population of 181,860 of which the overwhelming majority, 93.4 percent are Hispanic, is considered the southernmost city of Texas, and indeed, the USA (USA Census Bureau, 2013). The city of Brownsville's population consists of 47.3 percent males (n = 84,053) and 52.7 percent females (n = 93,742). While the medium age is 29.2 (Texas medium age, 33.8), household income was $32,105 (USA Census, 2013). Established in 1848, the city of Brownsville, within the Cameron County, one of three Rio Grande Valley counties of South Texas is bordered on the south by the Atlantic Oceans' Gulf of Mexico, and on the north, separated by the Rio Grande river, by the United States of Mexico (the Republic of Mexico), where a Bridge links it with Mexico's Tamaulipas' Region city of Matamoros (population, 489,193{2010} Instituto Nacional de Estadistica y Geographia {INEGI} 2010). Since 2000, the city of Brownsville and the entire south Texas region has expanded greatly in population and in commerce. In 2010, the U.S. Census Bureau predicted that the population of the Brownsville-Harlingen region alone would increase to 420,392 by the year 2014. This would make the Brownsville-Harlingen region the ninth most populous region in the state of Texas.

The Brownsville/South Padre Island International Airport is located in the city of Brownsville. Two higher institutions of learning, University of Texas Rio Grande Valley (Brownsville Campus) and Texas Southmost College are located in the city of Brownsville. Brownsville has fifty-eight high, middle, elementary, and alternative schools with a population of 50,000 students (Brownsville Independent School District [BISD], 2014). Several vocational training institutions, such as South Texas Votech and Southern Careers Institute are also located in the city of Brownsville. Health care facilities that serve the city and its localities include the Valley Regional Medical Center and the Valley Baptist Health systems. These institutions and facilities together account for nearly 31 percent of the city's workforce (USA Census Bureau, 2014).

The city of Brownsville is home to several federal, state and local government criminal justice agencies and institutions. Among the federal agencies that are located in Brownsville are the Drug Enforcement Administration (DEA), the Bureau of Alcohol, Tobacco and Firearms (ATF), Border Patrol, Customs Enforcement, Immigration Services, the FBI, the Fifth Circuit of the U.S. Federal Court. However, traditional law and order enforcement maintenance and duties are the sole responsibility of the local Brownsville Police Department (BPD). For the purposes of efficient law enforcement and order maintenance, the BPD divides the city of Brownsville into twelve (12) zones. Each zone was created based on population density/size and socioeconomic activities. Even so, some zones could be described as more affluent than others. As well, some zones are within areas of intense socio-economic activities, including the Central Business District and state and federal institutions are sited.

Figure 1.1 Brownsville Police Department Zone Map



In 1982, the city of Brownsville and the entire south Texas region experienced economic "bust" following the devaluation of the Mexican Peso. The dramatic increase in unemployment, failed businesses and financial institutions not only created untold hardships for residents, but also a rise in crime (Miller, Hoppe, & Martin, 1986). Some areas of the Rio Grande Valley have been designated as Empowerment Zones (Omnibus Budget Reconciliation Act, 1993). Empowerment zones (EZs) are "…are designated areas of high poverty and unemployment that benefit from tax incentives provided to businesses in the boundaries of the EZ" (U.S. Department of Housing and Urban Development, 2014). Brownsville does not fall directly within the Empowerment Zones, but the city is one of the highly impoverished areas in the USA (Hurley, 2014). According to Hurley (2014), the city of Brownsville has the highest number of residents living below the official USA 36 percent poverty line. One recent Census Report showed that the

medium household income between 2009 and 2013 in Brownsville was $32,105 while that of the state of Texas was $51,900 (USA Census Bureau, 2010). As the study will show, crime rates in Brownsville may have increased during the periods of high unemployment and recession as well as during the periods of economic growth. Crimes, such as illegal drug use and drug trafficking, homicides, larceny theft, burglaries, arson, robbery, auto theft and human trafficking may have increased over the years. As the U.N. Office of Drugs and Crime Report (UNODC, 2011) on crime rates in relation to economic growth concluded, crime trends are influenced by economic factors. This UN Report suggests that economic factors play a pivotal role in crime trends at all times – during economic crisis and during economic booms.

Since the year 2000, the city of Brownsville and the rest of the South Texas region have experienced tremendous social and economic improvements. The Port of Brownsville and the Mexican border have been pivotal in bringing commerce and revenue to the city (U.S. Department of Housing and Urban Development 2013). The city of Brownsville like most cities of the USA has experienced a boom and bust economy in two decades. Improved socioeconomic activities have led to increased upper and middle income families. Several residents have moved into mosaic neighborhoods that have multiplied. As Brantingham and Brantingham (1991) have submitted, "… cities with a mosaic urban form" where socio-economic activities are dispersed into the suburban fringes affect the spatial and temporal patterns and distribution of crime beyond the city center. The opulence and/or conspicuous consumption habits and lifestyles displayed by these affluent appear to facilitate their properties being targeted by criminals. Thus, residential burglaries in Brownsville may be explained in part by the specific socioeconomic conditions, the kinds of relationships, routines and activities people nurture, and the kinds of neighborhoods within which people live. There is little doubt that the rapid socioeconomic

opportunities in Brownsville have dispersed several people, over space and time, away from families, household settings, property, guardians, and handlers, which may have in turn increased crime. As Werthman (1970) suggested, opportunities affect the behavior, attitudes, and decisions people make. As Felson (1986) also asserted, societal changes alter the stage, the probability that motivated offenders and suitable targets will converge without the presence of capable guardians. According to Felson, the rational order of urban/city life is one in which likely offenders have a large supply of choices and opportunities. As increased socio-economic opportunities take people away from their homes to their workplaces, these homes become easy burglary targets.

1.7 Summary Review of Federal and State Burglary Law

Under Common Law, residential burglary, and indeed, all the other types of burglaries and larceny theft is described as a property offense. Both burglaries and larceny theft are further classified as acquisitive or/and expropriative crimes (Cohen, and Machalek 1995; Cohen, Vila, Machalek, 1995; Cohen, and Machalek, 1988). According to the Uniform Crime reports (UCR: http://www.ucrdatatool.gov/offenses.cfm), Burglary (breaking or entering) is "The unlawful entry of a structure to commit a felony or a theft. Attempted forcible entry is included." The criminal codes of both the US Federal government and the State of Texas define burglary as the unauthorized entry into a structure (not just a residence or business) with the sole intent to commit a crime (not just theft/larceny). According to the Federal Bureau of Investigations (FBI, 2010), burglary is the "…the unlawful entry of a structure to commit a felony or theft." The UCR classifies burglary as a Part I felony offense (FBI, 2004). Burglary, whether residential or commercial need not have an/the element of force, but may occur by simply entering a structure that has been left unlocked with the intention to commit a crime. The Bureau of Justice Statistics

(BJS, 2014) divides burglary into attempted forcible entry, completed burglary, forcible entry, and unlawful entry without force. The BJS data show that most burglaries in the USA are residential, which was the focus of this study. Even so, the BJS data and information, which constitute the second highest crimes recorded nationwide, show that both residential and non-residential burglaries have steadily decrease over the last decade nationwide. Residential burglary alone account for 13 percent of all the crimes recorded by law enforcement (Weisel, 2002). The BJS data show that, 3,394,700 households were burglarized in 2011, a decrease from 6,353,700 in 1994. According to the BJS, attempted forcible entry, completed forcible entry, and completed unlawful entry, decreased by 56 percent in 17 years.

Under the Texas Penal Code, § 30.02, residential burglary is a part of the broad title of burglary. Section 30.02 defines burglary as:

(a) A person commits an offense if, without the effective consent of the owner, the person:

(1) enters a habitation, or a building (or any portion of a building) not then open to the public, with intent to commit a felony, theft, or an assault; or

(2) remains concealed, with intent to commit a felony, theft, or an assault, in a building or habitation; or

(3) enters a building or habitation and commits or attempts to commit a felony, theft, or an assault.

(b) For purposes of this section, "enter" means to intrude:

(1) any part of the body; or

(2) any physical object connected with the body.

(c) Except as provided in Subsection (d), an offense under this section is a:

(1) state jail felony if committed in a building other than a habitation; or

(2) felony of the second degree if committed in a habitation.

(d) An offense under this section is a felony of the first degree if:

(1) the premises are a habitation; and

(2) any party to the offense entered the habitation with intent to commit a felony other than felony theft or committed or attempted to commit a felony other than felony theft.

The Texas Penal code definition of burglary includes "home invasion," which can be any structure or vehicle used for lodging. (TX. Stat. & Code Ann. § 30.02). Residential burglary is a second degree felony under the Texas Penal code. Under Texas law, burglary of a building that is not a habitation is a state jail felony, but burglary of a habitation, or home invasion, is a second degree felony). It can be concluded that under both federal and state laws, a residential burglary, a Part I Offence, is where an offender(s) break(s) into someone else's residence and steal(s) his or her belongings. Residential burglary is a property crime under the UCR because there is no force or threat of force to a person (http://www.ucrdatatool.gov/offenses.cfm).

1.8 Organization of Chapters

The thesis is organized into four chapters. Chapter One is the Introduction; Objectives of study; Research Questions; Data Sources and Research Methodology; Problems with data collection, and limitations of data; Area of study; Summary Review of Federal & State Burglary Laws; Organization of the chapters. Chapter Two is the Review of Literature and the Relevant

Theories. The sub-topics discussed in this chapter include the: Literature Review; Theoretical Models/Perspectives. Crime Attractors & Crime Generators; The Routine Activities Theory. Chapter Three focused on Data Analysis and a Discussion of the results to discover the variations among the twelve police zones (PPZ's) and their implications for crime prevention and control, Chapter four, the last chapter is the conclusion and recommendation. Here, specific recommendations are offered.

CHAPTER II

REVIEW OF LITERATURE AND RELEVANT THEORIES

2.1 Introduction

In this chapter, the some of the relevant extant literature on residential burglary were reviewed. As well, the chapter discussed the relevant theoretical frames that informed this study of the incidence and volume, as well as the trends and patterns of residential burglary in the city of Brownsville, south Texas. The aim is to demonstrate how these extant studies and theories relate to the Brownsville study of residential burglary where no such study has ever been done.

2.2 Literature Review

There appears to be an abundance of literature on the various types of burglaries. Burglaries may broadly be identified or classified as residential or commercial depending on the type of premise it occurred. Studies have either focused on each of the types or all the types. The literature review was derived from academic journals and books, as well as official records and credible/approved databases (i.e. JSTOR, EBSCOhost, Google Scholar, BJA, Criminal Justice Abstracts, etc.). The literature review covers studies on the theories that inform this study, as well as those that looked at burglaries. A case was made for the spatial ecology theories, especially pattern theory/environmental criminology, lifestyles, routine activities, hot spots and the opportunity-based theories.

According to the spatial ecology theories, at every level of aggregation, some geographic areas record more crimes than others. In other words, crime varies from one region to another, one city to another, and within the same region and city (Brantingham, and Brantingham, 1982; Harries, 1980). Spatial ecologists have argued that crime and delinquency relate to the characteristics and features of particular environments. The recognition of spatial and temporal variations in crime has a long history and tradition (Eck, and Weisburd, 1995). This history and tradition is often traced to the 19th century 'statistical-cum-cartographic school' through the Chicago School (1920s-1970s) to the 1970s 'patterns theory/environmental criminology' (Brantingham and Brantingham, 1991). Miethe et al. (1991) maintain that both the traditional ecological and contemporary opportunity theories account for social change. The opportunity theories account for temporal changes in crime rates, while the traditional ecology theory emphasizes how a changing ecological structure influences both stability and change in crime rates over time (Cohen, 1981; Cohen and Felson 1979; Cohen, Felson et al., 1980).

Brantingham and Brantingham (1991, pp. 21-22) break down the spatial ecology approaches into macro, meso and micro levels of analysis. Macro analysis deals with high levels of spatial aggregation, such as the distribution of crime between countries, regions, and cities, or within regions, states, provinces, cities and neighborhoods. Meso level analysis deals with the distribution of crime at the intermediate level of aggregation, while "micro analysis involves the study of specific crime sites." Harries (1980) similarly examines the relationship between the physical environment and the origins of criminal behavior from macro and micro levels of analysis or environment. The macro-environment includes processes operated or considered at the national, regional, or urban levels. It places emphasis on the effects of urbanization, city size and population density on crime. Crime-specific approaches to micro-environments, which are

intra-urban in nature, include burglary, rape, assault, and robbery. The problems posed by population density and overcrowding, as well as the relationship between crime and distance are also examined at both macro and micro levels of analysis. The link between the physical environment and human behavior, the interrelationships between and among crime, land use patterns, land value, building design, proximal space, and climate are assessed by contemporary spatial ecology approaches. Any crime, Brantingham and Brantingham (1991) contend, consists of four dimensions of the law, offender, target, and place or location. The four could be integrated to provide an overall understanding of crime, but each is capable of being the focus of study in its own right. The fourth dimension, the study of the relationship between the environment and crime, is the discrete location in time and space at which the other three dimensions intersect for a criminal event to occur. This dimension carries its particular hallmark of interest in spatial structures, or the special qualities of places. The quality of administration of justice also impacts on the spatial patterning of crime. When law and order are enforced differentially and people treated harshly either because of their ethnicity, status, or where they live, it alters the ecological balance, patterns and distribution of crime.

A place centered research reveals spatial patterning in laws, and identifies ways in which legal rules create crime sites. It may as well reveal why some places or neighborhoods are or may be slighted for socio-economic development due to their real and perceived notoriety as criminogenic. Thus, emphasizing the important features of place in any analysis and understanding of crime also emphasize differential planning and execution of public policies. Differential planning and execution of public policies may result in over-concentration of socio-economic activities in particular geographical locations and helps us to understand why areas with high concentration of socio-economic activities tend to have a volume of crime. That some

communities are more vulnerable to certain types of criminal events than others, that some types of structures generate and enhance certain types of criminal activities without necessarily changing individual criminal inclinations, are now indisputable. The analysis of places therefore makes it possible to address the question of why criminal events occur in certain areas but not others. It has been recognized that over-populated areas, affluent suburbs, and areas with large concentration economic activities have high volume of property crime (Guerry, 1831; Quetelet, 1842; and Mayhew, 1850; Brantingham, and Brantingham, 1984; Eck, 1994; Harries, 1974; McEwen, and Taxman, 1995). Flango and Sherbenou (1976) concluded that urbanization and poverty are the most important variables in explaining variations in inner city crime rates. Five characteristics that influence deviant places or prone areas have been identified by Stark (1996) as density, poverty, mixed use, transience and dilapidation. Hernando et al., (1989) concludes that differential distribution of crime is cross-cultural.

Brantingham and Brantingham (1984) present a broad range of information on spatial and temporal patterns of crime in the United States, England, Wales and Canada. The longitudinal crime trends in these countries focus on social, economic, demographic, and institutional changes as the major correlates influencing spatial and temporal patterns of crime over time. The spatial dynamics of crime, that is, macro geographic crime patterns at the international, intra-national, and inter-city levels; crime patterns in urban areas, and the micro-spatial crime patterns have been examined. Moreover, the spatial and temporal patterning of targets and how the physical environment and social structure inhibit or enhance criminal events have been examined by Brantingham and Brantingham in Patterns in Crime (1984).

It has been concluded that criminals who fear being recognized in their own communities, make long trips to commit crime. Hence, Capone and Nichols (1976), Phillips

(1980), Rhodes and Conly (1991), and Brantingham and Brantingham (1991) discuss the concept of 'journey to crime.' Boggs (1970) and Brantingham and Brantingham (1991) have concluded that most property offenders travel some distance, sometimes long to avoid being recognized. Boggs (1970) is concerned with the geographical relationship between residence of urban criminals and location of their crimes. Boggs relates crime to the criminal opportunities available in the neighborhood where the crime occurs, which is considered separately from the neighborhood where the criminal resides. Different kinds of crime occur in different kinds of neighborhoods. Cantor and Land, (1985; also, Cohen et al., 1981; Gurr et al., 1977) argued that crime occurs in spatially and temporally organized social contexts that create environmental conditions for crime. The location of crime is a primary function of either the profit to be derived in committing the crime in a particular area, or the familiarity of offenders with the neighborhood.

The role and advantages of maps and computer graphics in a study of the spatial and temporal patterns and distribution of crime are both profound and transparent. Joelson and Fishbine (1980) see maps as the most lucid form of graphic display in situations where the primary interest is the nature of area wide distribution of crime. Maps show the occurrence patterns for different crimes, as well as inter and intra-regional and city variations. Brantingham et al., (1976) have discussed the problems that can result, as well as the useful information that can be obtained from spatial and temporal analysis of crime using mapping techniques. Brantingham and associates see a "cone of resolution," as moving downward from national to city-block level analysis to illustrate crime at all levels. At the national level, crime occurrences cluster into clear regions of high and low rates of occurrences. Maps show that the occurrence patterns for different crimes may be distinctly different from one another. Block level maps

permit analysis of neighborhood physical and institutional patterns. Mapping allows for the explorations of the "high vulnerability of some neighborhoods or demographic groups" and crime events and enhance understanding of how crime clusters within specific locales and spots more than others (McEwen & Taxman, 1995, p.37). Computer graphics and descriptive mapping techniques and strategies graphically show crime sites which words may be difficult to describe adequately. The educational and policy values of computer generated maps are immense.

2.3 Theoretical Models and Perspectives

As mentioned already, this baseline and pioneering (perhaps, the first of its kind in the city of Brownsville) study was informed by the crime pattern theory/environmental criminology, and the opportunity, lifestyle, routine activities, and hot spot theories. These theories assert that any examination of the characteristics of both crime commission and criminal victimization will show several victim-offender dynamics – including, but not limited to daily routines and lifestyles, spatial dynamics or spatial-temporal movement patterns, victim-offender relationships, time-setting, and journey to crime (Brantingham, and Brantingham, 1982; Sherman 1995). The pattern theory proposes that crime and criminal behavior fit patterns that can be identified and understood when viewed in terms of where and when they occur. Crime patterns can be understood because of similarities that emerge when "the specific criminal event, the site, the situation, the activity backcloth, the probable crime templates, the triggering events, and the general factors influencing the readiness or willingness of individuals to commit crimes" are examined (Brantingham, and Brantingham, 1993b, pp. 284-285). The key to understanding patterns include environmental backcloth, and the social, economic, cultural, and physical conditions within which people live and operate.

The "Crime pattern theory is particularly important in developing an understanding of crime and place because it combines rational choice and routine activity theory to help explain the distribution of crime across places" (Eck, and Weisburd, 1995, p. 6). Pattern theory proposes that crime and criminal behavior fit patterns that can be identified and understood when viewed in terms of where and when they occur. Crime patterns can be understood because of similarities that emerge when "the specific criminal event, the site, the situation, the activity backcloth, the probable crime templates, the triggering events, and the general factors influencing the readiness or willingness of individuals to commit crimes" are examined/considered (Brantingham and Brantingham, 1993b, pp. 284-285). Ideally, any study of crime and place should examine the relationship between not only the offenders and victims, but also their socio-physical environments. Studies suggest that the specific environments that surround offenders often influence their target selection. Brantingham and Brantingham (1993) found that the spatial distribution of crime is dependent on how offenders are able to access their target location.

Pattern theory departs from the traditional criminological approaches to placing emphasis on the uniqueness of environments within which crimes occur when explaining criminal events. The theory synthesizes the opportunity-based theories: rational choice, routine activity, opportunity, strategic analysis, lifestyle/exposure, crime prevention through environmental design, situational crime prevention, hot spot analysis, and environmental criminology. These theories differ somewhat in their exact terminology, but they share common themes in dealing with, and explaining the spatial ecology of crime. The strengths of the theories are profound, but none appears adequate enough to explain the spatial and temporal patterns and distribution of crime in Brownsville. It is in recognition of the strengths and limitations of the approaches that a synthesis was adopted.

Harries (1980) asserted that environmental criminology, couched in terms of ecological (spatial) analysis lends itself to other approaches in any discussion of crime. Downey and Hunt (1974) suggest that environmental criminology ideally synthesizes the ecological and other theoretical approaches and variables. The theory borrows techniques and knowledge from different disciplines to aid in the study and understanding of the criminal events (Brantingham and Brantingham, 1991:19). Environmental criminology is concerned with criminal mobility patterns, journey to crime, the relationship between criminal residence and crime location, as well as spatial and temporal patterning of crime. It addresses the issues of where crime occurs, why it occurs where it does, whether crime trends and patterns can be predicted, and whether crime policy can intervene in spatially ordered criminal events. Environmental criminology treats crime as discrete events and deals with perceptions and awareness spaces of criminals, target selection and decision to commit crime (Brantingham, and Brantingham, 1993a, 1991; Kennedy, 1990). Brantingham, and Brantingham (1991, p. 2) assert that:

> Environmental Criminology's concentration on the role of location and movement, of the position and juxtaposition in criminal events does not deny the legitimacy of studies conducted in the other dimensions of crime; indeed a full understanding of crime must synthesize information for all the dimensions against the prevailing situational backcloth.

One major underlying assumption of the opportunity-based theories is that criminals who fear being recognized in their own neighborhoods travel to offend in other neighborhoods, far and near. The process of searching for hot spots and or targets has been referred to as criminal commute, journey to crime or distance decay, and deals with proximity of crime sites to offenders' residence. Fearing recognition in their neighborhoods, some, if not most criminals travel to other locations, far and near, to commit crimes. The process of searching for potential

victims, targets or vulnerable crime spots and locations has been referred to as criminal commute or journey to crime. Journey to crime, is akin to journey to work. Like work, which is the main source of income for (legitimate) workers, theft is the main source of livelihood for property offenders. Criminals like workers travel to crime sites and hot spots to make a living. Crime trips studies have examined a variety of offense types and offender characteristics. Offense variables covers types of crimes, target area attributes, and perceived cost-benefit to be derived from committing a particular type(s) of criminal events. Offender characteristics include age, sex, race, prior experience and nature residential area.

Journey to crime has been reported under three broad headings. These are the mean crime trip distance(s), medial circles or mobility triangles; usually, this is computed in arithmetic average for distance traveled by offenders from home to offense location, or use of geometric mean to avoid distortion of extreme values. The process may also involve descriptive statistics, such as the mode, maximum crime trip distance, and directional information (Rossmo, 1993). While Burgess (1925) utilized a mobility triangle to examine patterns of offense and offender locations, Rengert (1992, p. 109) draws an analogy from transportation and distinguishes among three distinctive phases of criminal commute or journey to crime. The first phase is the origin point, that is, the directional orientation through which motivated offenders travel to anchor points. The second phase is traversing space through which offenders attempt to locate search spaces by picking and choosing potential sites but ignoring others that are not considered lucrative. The third and final phase is the active search phase where a correct, vulnerable or potential hot spot or site(s) is identified. The first phase takes potential offenders through major transportation arteries and stations, movie and cinema theaters, markets, stores and taverns to directions where the actual or active search begins and continues until a good site is located.

Both anchor points and directional orientation are major processes involved in any criminal commute or journey to crime. Criminals who travel on foot or use public transportation are unlikely to travel to long distances. It appears that the longer the distance an offender travels, the higher or more valuable the haul or returns. Some offenders use other offense spots, such as drug sale locations as anchor points to commit other crimes like robbery or burglary.

Some criminals actively search for suitable targets in their immediate environments. For example, property offenders are more likely to offend in areas near to their homes, or in familiar terrain. However, when no lucrative and/or vulnerable sites are located near their domiciles, they look for suitable targets beyond their homes. In looking for targets elsewhere, offenders often develop a list from which they pick and choose the best sites - a kind of shortlisting. Travel patterns correlates with age. As well, the temperament of the individual offender, types of crimes or targets, and the land use patterns often determine and/or influence travel patterns, as well as the amount and degree of planning. Nichols (1980) suggests that an element of spatial planning exist in most criminal activities. Rhodes and Conly (1991, p. 172) found that the distance an offender travels to commit his (sic) crime depends on the individual characteristics of the offender, of the immediate environment in which he lives, and of the larger area that surrounds it, as well as on the type of crime that he commits and the type and location of potential targets.

Brantingham and Brantingham (1984, p. 298) submitted that: Crime areas tie in neatly to specific physical and social environments that are conducive to particular criminal behaviors. For instance, while robbery areas are keyed to the distributions of pedestrians and shops, burglary areas are keyed to the distributions of homes, shops and warehouses, and assault areas keyed to the distributions of taverns and liquor shops. Brantingham and Brantingham (1978) suggest that proximity is important in any journey to crime, and any target selection process. Most crimes

peak just beyond zones of avoidance, usually one or two blocks away from offenders' homes. While bulky but lucrative items may be stolen near offenders' neighborhoods, non-bulky but lucrative items may be stolen from far away from offenders' homes. One Ottawa, Canada study found that ten percent of suspects traveled to communities other than theirs to offend in a number of offense categories. Those with fixed address on the average traveled one mile to offend (Gabor, and Gottheil, 1984). One Boston, MA study concluded that over one-quarter (¼) of the adult burglars interviewed were willing to travel more than twenty-four hours to reach their targets (Reppettto, 1974). Most offenders as much as possible select victims in familiar environments and try to avoid recognition. Non-confrontational sneak type crimes may and often occur near offenders' homes, but most confrontational type crimes may and often occur far away from offenders' neighborhoods. Sometimes, however, some confrontational type crimes, such as robbery, occur near offenders' homes (Hakim, and Weinblatt, 1984).

Studies suggest that shifts in land use patterns, diffusion of socio-economic activities and improved communication networks appear to have altered crime mobility patterns. Reiss (1967) in a study of 19,327 suspects arrested in Seattle in 1965 compared the census tracts where crimes occurred with the location of offenders' residences. The result showed that most offenders were more likely to offend outside than within the neighborhoods or census tracts where they lived. Similarly, Rand (1986) using a 1958 Philadelphia birth cohort data set suggested that most ecological studies overlook the value of spatial variables and utilize geographic spaces or locations only as proxies for the social characteristics of areas. According to Rand, the classical ecological studies fail to examine the relationship among three spatial variables: The offense location, the offender, and the victims' residence. Rand believed that the demographic attributes of offenders and the types of offenses they committed mediated the patterns of their criminal

mobility. Contrary to conclusions by some studies, Rand found the existence of high spatial mobility in patterns of offending. In almost half (½), that is, 50% of all the cases, the offenders, the victims and the offense sites were in different census tracts. Hence, the conclusion that low spatial mobility is more likely to occur in offenses against the person than property crimes.

The search for potential vulnerable crime sites and hot spots appears to be enhanced by offenders' mental maps of the environment. "Cognitive or mental maps represent perceptions of spatial reality by individuals on such dimensions as street gang territories, drug market areas, and other geographic phenomena" (Kennedy, Braga, and Piel, 1996, p. 227). Brantingham and Brantingham (1991) referred to mental maps, or the mental images of a city or crime sites inside the heads of motivated offenders as 'templates.' Mental maps or knowledge of a milieu play a pivotal role in the offenders' search for potential crime sites because they delineate the outer limits of possible active or inactive sites. Therefore, closely related to the journey to crime idea is the idea of cognitive or mental map offenders develop before, during and after a crime commission. 'Templates,' 'mental,' or 'cognitive' maps represent perceptions of spatial reality by individuals on such dimensions as street gang territory, drug market areas, and other geographic phenomena.

Smith and Patterson (1980) argued succinctly for the potential usefulness of cognitive maps in the study of criminal behavior. The importance of cognitive maps lies in the fact that attitudes and actions are influenced at least as much by what people believe the facts are, as by the facts themselves. Carter and Hill (1980) examined the utility of studying urban crime from a perspective based on the criminal's perception of the urban milieu and concluded that mental maps helped in potential offenders' decision to travel far or near to offend. Two types of location attractiveness exist: target and spatial attractiveness. Target attractiveness refers to locations that

have potential high gains, but spatial attractiveness deals generally with locations that are more familiar to potential offenders. Criminals travel beyond least attractive neighborhoods in search of more attractive targets. Private and detached or isolated, as well as the apparent secured nature of some residential areas may and do retard or enhance offenders' mental maps. Some offenders live in stable environments but travel to disorganized neighborhoods to offend because such neighborhoods present enormous loopholes and vulnerabilities.

Eck (1994) had emphasized the importance of space/location, lifestyles, and routine activities in explaining crime mobility patterns. The daily routine activities or lifestyles near taverns, multiple access points, highways, weak place management and indicators of decay tend to attract more crimes than places without any of these. Lifestyles, daily routine or socioeconomic activities, and personality of offenders largely influence their target selection. Rossmo (1993, p. 98) suggested that disorganized offenders offend in areas closer to nodes and routes that comprise their activity space, but more "organized offenders expand the boundaries of their awareness space and hunt in areas located further away from home." Boggs (1970) and Brantingham and Brantingham (1991) concluded that some property offenders traveled long distances to avoid recognition, but generally, most offenders preferred to operate within familiar turf or environments. Boggs was concerned with the spatial relationship between the residence of criminals and crime locations. She related crime to the routine activities, lifestyles and opportunities in neighborhoods where they occurred, which was considered separate from the neighborhoods where the offenders lived. The differential time-periods that a crime may occur may be mediated and/or influenced by the offenders' activity patterns or journey to crime. For instance, burglars may travel to homes or neighborhoods that are empty during the day to offend.

Burglaries in Ottawa peak during daytime on working days and during the night on weekends; and in summer when most homes are empty, or without capable guardians (Ingram, 1989).

Brantingham and Brantingham (1998) found that burglaries peak between 3:45 and 5:15 PM weekdays. This, they explained, is the period when most homes are empty, when teenagers who commit this type of offense are out of school and completely unsupervised. That different types of crimes occur in different neighborhoods and at different times and seasons may be mediated by proximity, availability of victims or targets and absence of capable guardians. Ideally, most offenders offend within or near their homes or familiar neighborhoods. However, in reality, for fear of recognition and lack of vulnerable sites, some offenders travel to distant locations to offend. Therefore, whether any journey to crime is long or short, or takes place in or outside an offender's neighborhood depends upon the offender's needs and how vulnerable or unguarded is a target. It can be concluded that offenders search for locations that offer maximum opportunities and satisfaction with minimum efforts and unlikely recognition and apprehension. Understanding how much cognitive or mental map factors into offenders' decisions concerning their travel patterns is important because it helps us not only to understand the offender better, but to design effective strategies to reduce vulnerabilities/victimization.

2.3.1 Crime Attractors and Crime Generators

Brantingham and Brantingham (1997, p. 271) have distinguished between areas that generate and those that attract criminal events and behavior. They argue that crime generators attract a large volume of human and economic traffic, "generating criminal opportunities in the process," but crime attractors "are places that are noted as notorious for providing opportunities

for crime. Offenders travel to crime attractors with the pre-established intention of committing some specific crime there." As they indicate, the different types of criminal events occur in different kinds of geographic locations. Where a particular type of crime occurs may be due to target vulnerability or availability of opportunities, profit or satisfaction to be derived, and familiarity with the environment. Most property offenders appear to be attracted to specific geographic areas within the city.

The assertion that crimes are committed because of the flow of human and material traffic is akin to the concept of crime generators discussed by Brantingham and Brantingham (1997, p. 271). Brantingham and Brantingham (1997, p. 271) assert that some geographic locations are crime generators, but others are crime attractors. Crime generators denote areas that attract "large volumes of people, generating criminal opportunities in the process," but crime attractors are rather "places notorious for providing opportunities for crime." Crime generators are strongly mediated by availability of opportunities and suitable targets. Availability of opportunities is one most important denominator that generates crime. Also, Brantingham and Brantingham (1984) distinguish between criminal areas and crime areas. Criminal areas are geographic spaces and neighborhoods that support criminal life-styles and where a large number of criminals reside. Criminal areas have distinctive socio-physical attributes that set them apart from other neighborhoods. Crime areas are, rather, places that attract crimes or large volumes of crimes are committed. Crime areas sometimes coincide with criminal areas, but often they do not. Crime areas appear to be tied to specific socio-physical environments that are conducive to particular types of criminal behaviors. As Brantingham and Brantingham astutely concluded, property crimes can only occur where properties are available, and crimes against the person can only occur in settings where people are available and/or interact.

2.3.2 The Routine Activities Theory

The spatial clustering of socio-economic activities shapes people's routines and generates crime hot spots and opportunities of which potential and motivated offenders exploit to locate. In other words, crime occurs in response to complex interactions between social and physical conditions. Ultimately, however, crime is committed in precise geographic spaces or locations and involves the convergence of, or the simultaneous interaction among, three variables, motivated offenders, suitable targets and the absence of capable guardians in time and space. Often presented as (Crime = (offender + target - guardian) (place + time), the routine activities of everyday life set the scene for the web of interactions of law-abiding people, potential offenders, target(s) and guardians.

Felson and Cohen (1980) astutely argue that traditional explanations of the distribution of crime emphasized offenders' criminal intentions without considering adequately the circumstances in which crime occurs. Hence, Felson and Cohen examine how community structures generate the circumstances under which crime occurs. They apply Hawley's (1950) human ecology theory to treat criminal acts as routine activities that feed upon other routine activities. The distribution of offenders, targets, handlers, guardians, and managers over time and space describes crime patterns. Routine activity is defined as any recurrent and prevalent activity that provides for the basic needs of people, no matter their biological or cultural origins (Felson 1979). Felson (1979) contends that crime rates and trends are the unintended by-products of the daily routine activities of people. Brantingham and Brantingham (1993, p. 269) submit that "routine activities shape an activity space (both in time and in physical space) and, from that activity space, people develop an awareness space." Particular types and patterns of routine

activities, lifestyles, and demographic characteristics increase victimization risks of the citizenry. Individual-level lifestyles and routines strongly relate to victimization risks.

Crime victimization is not random, but significantly correlates with lifestyles, daily chores, gender, race, and marital status of both the victims and the offenders. Brantingham and Brantingham (1993, p. 269), posit that while the "routine activities of potential offenders generally define the areas where, and the times when they are likely to commit crimes," the routine activities of potential victims also alter crime trends and spatial patterning. Consequently, the daily routine activities and lifestyles of people generate and attract crimes and criminal activities, enhance criminal commute or journey to crime. It has been concluded that city size, large volumes and movements of people and socio-economic activities, as well as increased routine activities and changing lifestyles are strong positive indicators for residential burglary. As would be shown later (see Chapter 3, residential burglary in Brownsville is not evenly distributed but spatially clustered. In other words, some city locations/zones and areas because of their unique socioeconomic positions and viability offer more opportunities for residential burglary than other zones or neighborhoods. As Jacobs (1965, p. 41) who posited that some geographic areas and or neighborhoods of a city are "custom made for crime," blamed planning orthodoxy as being responsible for unsafe city spots where vandals, burglars, robbers and other street criminals ply their unnatural trades without fear of apprehension. Perhaps, planning orthodoxy in the city Brownsville may account for a sizeable proportion of the city's crime and other social problems.

CHAPTER III

DATA ANALYSIS

3.1 Introduction

This section, Chapter three, examined/analyzed the data on the incidence and volume, as well as the broad trends and spatial patterning of residential burglary in the city of Brownsville. As indicated in Chapter One (see 1.4), the data and information for the study were acquired from multiple sources including the city of Brownsville Police Department (BPD) where the crime data, main bedrock of the study from August to September, 2015. The police data were the raw or original/primary residential burglary incidents/cases recorded by the BPD from 2006 to 2014. The data came or were arranged according to the day, time, month and year the incident occurred or was reported to the BPD. Each incident reported was assigned a code to denote the PPZ within which it occurred. The data were then computed and distributed according to the day, time and month it occurred. For the purposes of this study, the time, day and month the case or incident was recorded by the BPD is assumed to be the date/day the burglary occurred, based on the address of each incident that was supplied by the BPD, among the twelve Police Patrol Zones (PPZ). Based on the computation, the analyses below were concluded.

3.2 Data Analysis

Table 3.1 below shows the annual distribution of the residential burglary incidents recorded by the BPD from 2006 to 2014. The table shows that a cumulative grand total of 7,308 cases of residential burglaries were recorded during the nine-year period. As the table shows, residential burglary cases recorded by the police fluctuated from one year to another with the highest number of cases, 1,012 being recorded in 2009 and the lowest number of cases, 666 being recorded during 2014. The mean annual average incidence rate was 812 cases, while the cumulative mean average incidence rate per 100,000 of population was 4 for the period under study. That the cumulative total of the incidence and volume, as well as for the trends and patterns of residential burglary for the nine-year period was 7308 appears to be small given that the city of Brownsville is Texas' southernmost city and along the border with the country of Mexico and also where poverty appears to be one pervasive social problem facing the city.

Table 3.1 further shows the cumulative distribution of the residential burglary incidents (7308 cases) among the 12 PPZ's. Of this figure, 543 cases were classified as "Zone not Geo-verified," which means that the physical address that the calls were made were not one of the existing addresses within the BPD's mapping or zone system. As stated from the onset, these were the new addresses/areas that had not yet been input into the current BPD mapping system (see 1.4). Of the remaining 6765 incidents, the highest number of cases, 1087 cases were recorded in PPZ 10, followed by 821 cases in PPZ 12. The rest were, PPZ 8, 772 cases, PPZ 1, 685 cases, PPZ 11, 668 cases, 654 cases in PPZ 4, while PPZ 6 recorded 570 cases, PPZ 7, 484 cases, PPZ 3, 360 cases, 311 cases in PPZ 9, and 261 cases in PPZ 2. The lowest residential burglary incidents for the nine-year period, 92 cases, were recorded in PPZ 5. One conclusion that can be made from analyzing Table 2 is that residential burglary is unevenly distributed in the

city of Brownsville. This finding appears to be consistent with the studies that concluded that residential burglary is spatially patterned (see Brantingham and Brantingham, 1993; Cromwell, 1991; Rengert, and Wasilchick, 1989). The spatial patterning of residential burglary in the city of Brownsville could be attributed to the uneven distribution of socioeconomic activities and resources among the PPZ's, and within each PPZ.

Table 3.1. Residential Burglary Cases by Year

*PPZ	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
1	57	74	90	103	66	66	85	64	80	685
2	18	33	33	34	46	27	24	19	27	261
3	35	59	52	51	37	28	43	31	24	360
4	68	67	71	82	74	63	81	79	69	654
5	8	4	14	13	13	9	16	5	10	92
6	36	42	89	100	89	41	63	55	55	570
7	34	50	60	74	69	51	48	45	53	484
8	82	112	113	97	85	66	79	71	67	772
9	36	63	52	21	12	19	40	46	22	311
10	99	94	188	177	126	91	121	118	73	1087
11	67	60	92	111	67	69	60	83	59	668
12	95	86	116	96	72	76	100	89	91	821
**ZG	124	148	41	53	37	29	33	42	36	543
Total	759	892	1011	1012	793	635	793	747	666	7308

*PPZ = Police Patrol Zone **ZG = Zone not Geo-verified

The cumulative monthly distribution of the city of Brownsville's residential burglary incidents shows that January recorded the highest cases, 709, followed by December, 708 cases, while February recorded the lowest cases, 488. That January and December recorded the highest cases could be attributed to the Christmas and New Year festivities and their attendant preparations as evidenced in stores offering deals and discounts to consumers and buyers. During this period of time, most especially after the "Black Friday" after Thanksgiving and preparations for the Christmas and New Year seasons, many people spend a lot of money buying gifts for friends and loved ones, as well as buying things that are on sale. It appears reasonable to suggest that the many people who leave their homes to shop for gifts and look for on-sale wares may have made their homes vulnerable to burglarize. As depicted on Table 3.2, PPZ 10, recorded the highest number of incidents in January, 129, cases, July, 114 cases, December, 104 cases, March, 103 cases and August, 102 cases. The lowest number of incidents for PPZ 10 whose average monthly incident rate was 90 cases, was 66 cases recorded in September. Apart PPZ 10 and PPZ 12 which recorded 100 cases in January, the average incidents per month for each of the remaining PPZ's was below 68 cases.

Table 3.2. The Monthly Distribution of residential Burglary in Brownsville, 2006-2014

*PPZ	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1	65	32	41	57	64	60	45	64	51	74	58	74	685
2	16	22	25	21	17	28	20	24	10	29	26	23	261
3	31	24	23	32	30	40	39	31	19	20	31	40	360
4	49	46	41	41	54	52	59	81	49	58	62	62	654
5	9	2	14	6	10	6	8	9	5	8	8	7	92
6	47	29	47	46	68	46	37	43	58	51	40	58	570
7	37	39	36	29	54	37	46	56	41	33	44	32	484
8	80	48	78	78	57	64	71	58	42	56	71	69	772
9	25	25	18	24	25	29	28	20	22	26	32	37	311
10	129	89	103	74	75	75	114	102	66	69	87	104	1087
11	75	48	59	47	51	55	49	57	35	62	62	68	668
12	100	53	65	72	70	58	72	65	61	64	60	81	821
**ZG	46	31	41	44	52	55	52	46	28	49	46	53	543
Total	709	488	591	571	627	605	640	656	487	599	627	708	7308

*PPZ = Police Patrol Zone **ZG = Zone not Geo-verified

Table 3.3 shows the cumulative daily distribution of the city of Brownsville's residential burglary from 2006 to 2014. According to this table the highest number of cases, 1142 were recorded on Mondays, followed by Tuesdays, 1108, Thursdays, 1049, Sundays, 1046 and Wednesdays, 1026 cases. Interestingly, the lowest number of incidents were recorded on Saturdays, 967 cases, Fridays, 970 cases. The city of Brownsville's residential burglary picture is interesting because it appears to negate previous conclusions that most burglary incidents, both residential and business, occur during the weekend when most people are away from their homes and businesses.

Table 3.3.The Daily Distribution of Residential Burglary in Brownsville, 2006-2014

*PPZ	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
1	93	106	86	103	96	85	116	685
2	34	48	49	30	44	28	28	261
3	51	52	54	54	50	51	48	360
4	133	104	72	76	91	87	91	654
5	19	15	13	9	14	10	12	92
6	85	73	99	86	73	78	76	570
7	62	84	74	65	77	62	60	484
8	107	121	138	119	116	90	81	772
9	52	52	51	42	38	36	40	311
10	161	179	165	154	134	149	145	1087
11	77	95	94	92	110	104	96	668
12	98	116	130	132	114	123	108	821
**ZG	74	97	83	64	92	67	66	543
Total	1046	1142	1108	1026	1049	970	967	7308

*PPZ = Police Patrol Zone **ZG = Zone not Geo-verified

Table 3.4 shows that most residential burglary incidents, 2816 cases, occurred between 12 noon and 5:59 PM, followed by 2178 cases that occurred between 6PM and 11:59PM (see Table 3.4). This finding appears to suggest that most of the homes were empty during the daytime – shopping on Black Friday and during the Christmas and New Year celebrations, and also parents had left for work or to pick up their children from school. This assertion and finding needs further interrogation and comparison with previous findings.

Figure 3.1 Daily Distribution of Residential Burglaries

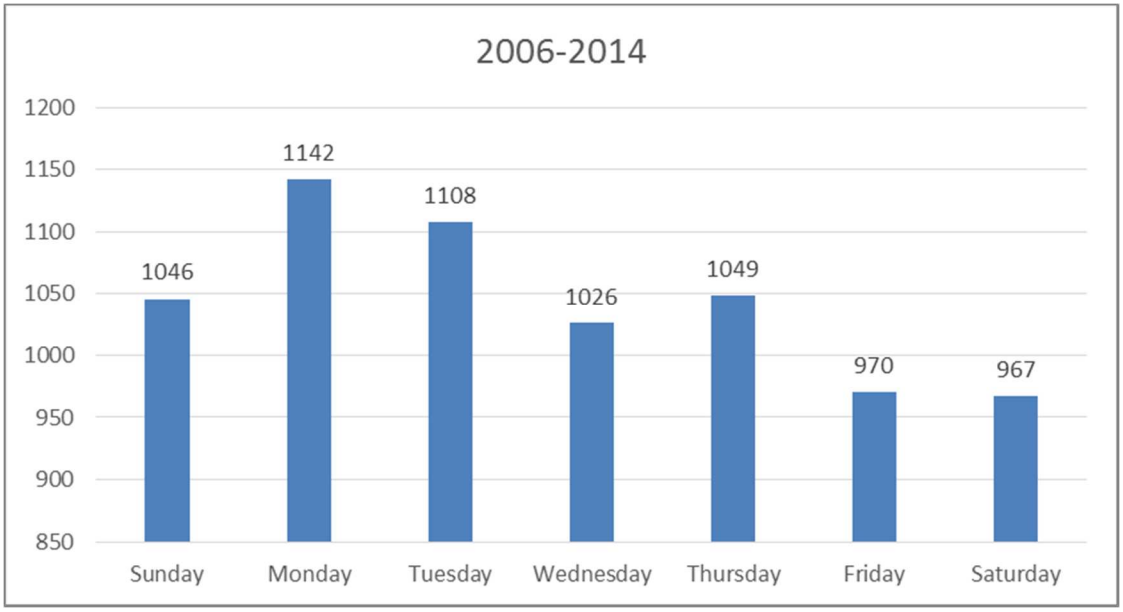


Table 3.4. The Distribution of Residential Burglary in Brownsville by Time, 2006-2014

PPZ	6AM-11.59AM	12PM-5.59PM	6PM-11.59PM	12AM-5.59AM	Total
1	166	228	225	66	685
2	66	88	83	24	261
3	79	140	106	35	360
4	183	222	185	64	654
5	18	41	27	6	92
6	95	249	167	59	570
7	116	190	136	42	484
8	158	325	220	69	772
9	84	116	89	22	311
10	245	401	338	103	1087
11	124	275	204	65	668
12	175	348	239	59	821
**ZG	151	193	159	40	543
Total	1660	2816	2178	654	7308

*PPZ = Police Patrol Zone **ZG = Zone not Geo-verified

Figure 3.2 The Distribution of Residential Burglaries by Time, 2006-2014

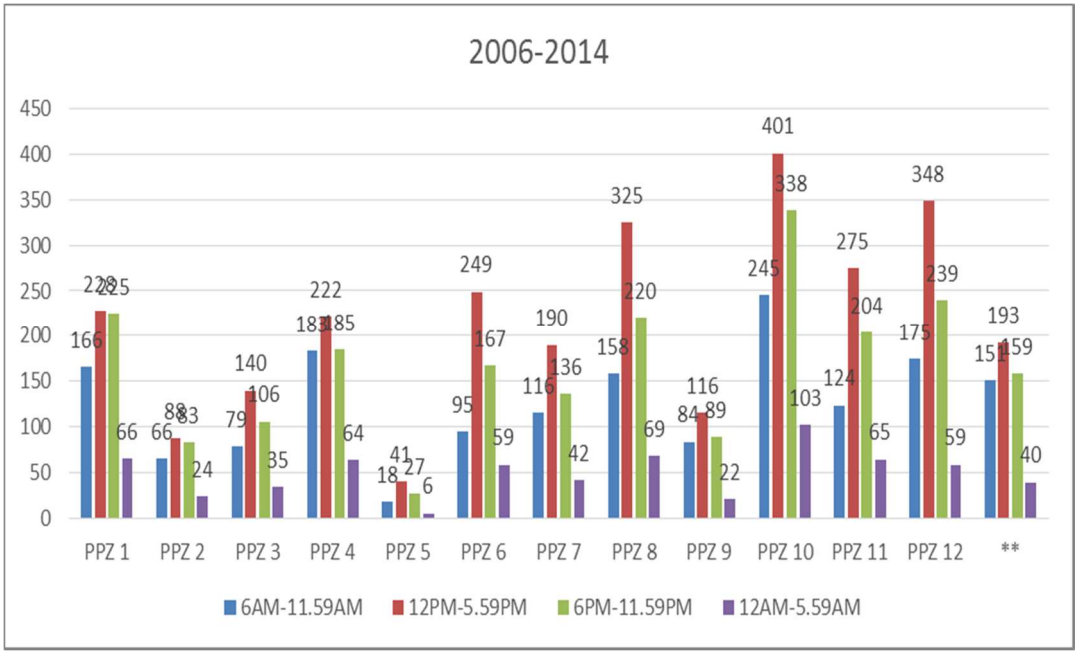
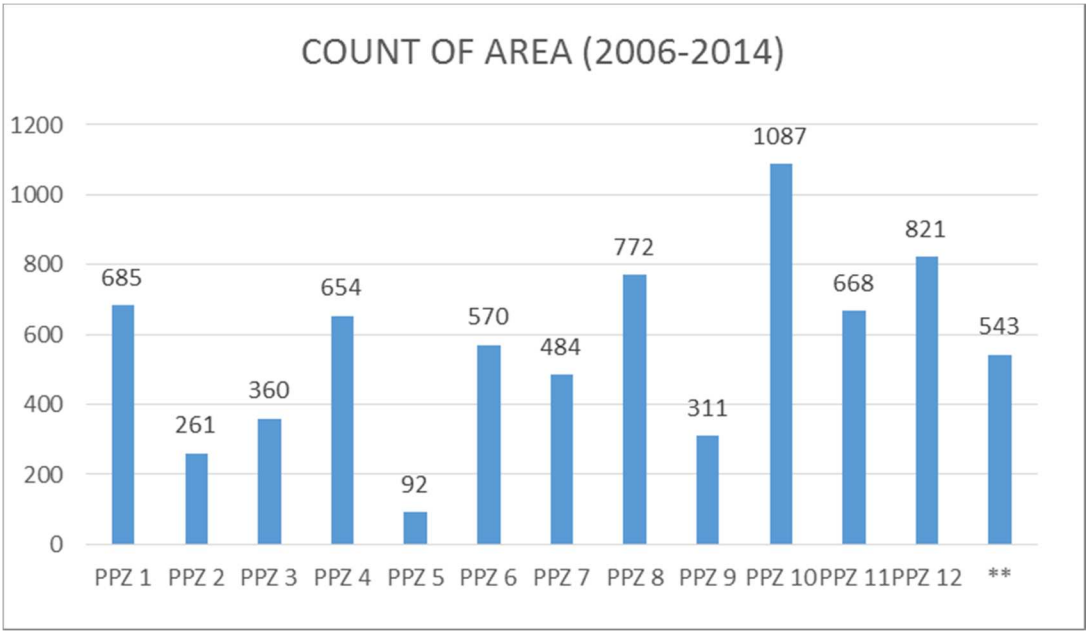


Table 3.5 Residential Burglary Cases by Police Patrol Zone (PPZ), 2006-2014

*PPZ	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
1	57	74	90	103	66	66	85	64	80	685
2	18	33	33	34	46	27	24	19	27	261
3	35	59	52	51	37	28	43	31	24	360
4	68	67	71	82	74	63	81	79	69	654
5	8	4	14	13	13	9	16	5	10	92
6	36	42	89	100	89	41	63	55	55	570
7	34	50	60	74	69	51	48	45	53	484
8	82	112	113	97	85	66	79	71	67	772
9	36	63	52	21	12	19	40	46	22	311
10	99	94	188	177	126	91	121	118	73	1087
11	67	60	92	111	67	69	60	83	59	668
12	95	86	116	96	72	76	100	89	91	821
**ZG	124	148	41	53	37	29	33	42	36	543
TOTAL	759	892	1011	1012	793	635	793	747	666	7308

*PPZ = Police Patrol Zone **ZG = Zone not Geo-verified

Figure 3.3 Residential Burglary Cases by Police Patrol Zone (PPZ), 2006-2014



The maps/figures below depict the residential burglary spots from 2006 to 2014. There are nine two-in-one maps. One of each figure shows the burglary spots for each year for the entire city of Brownsville and for PPZ 10, which recorded the highest cases.

Figure 3.1a. All PPZ's 2006

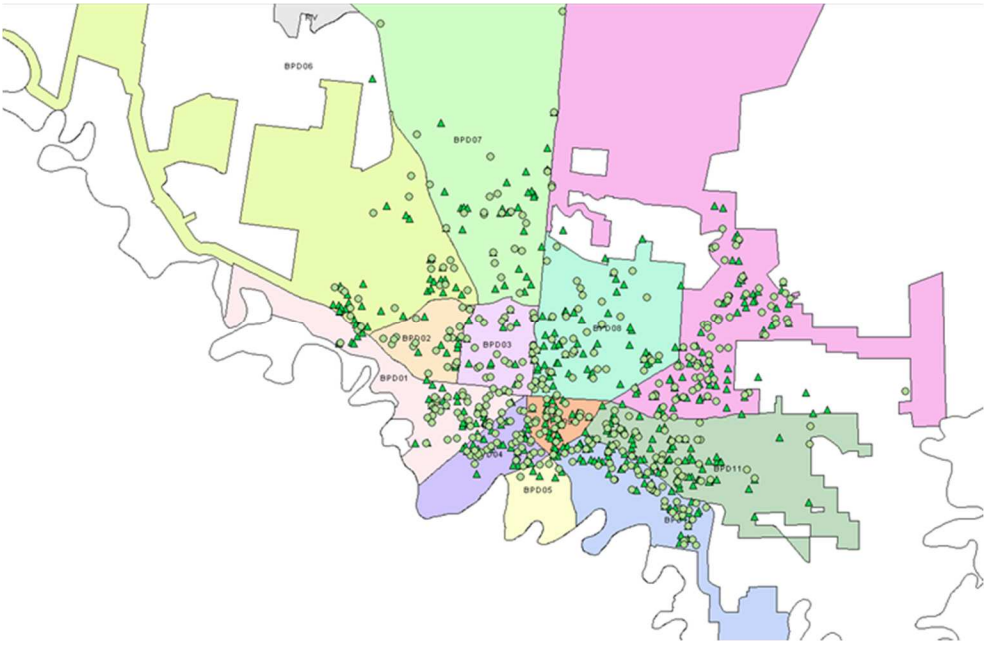


Figure 3.1b. PPZ 10, 2006

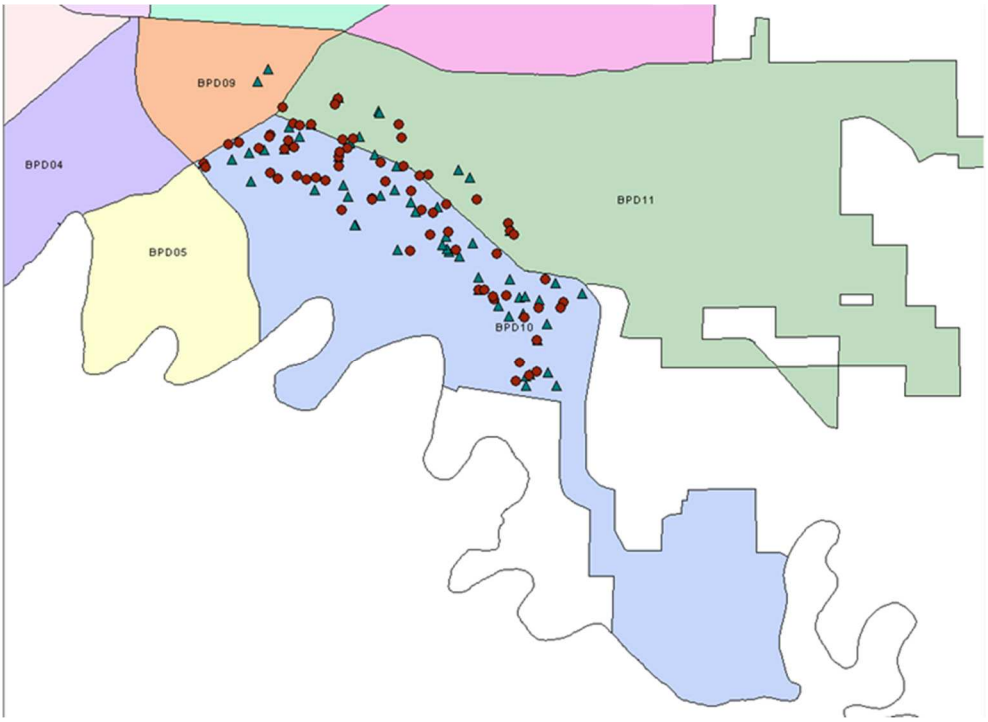


Figure 3.2a. All PPZ's, 2007

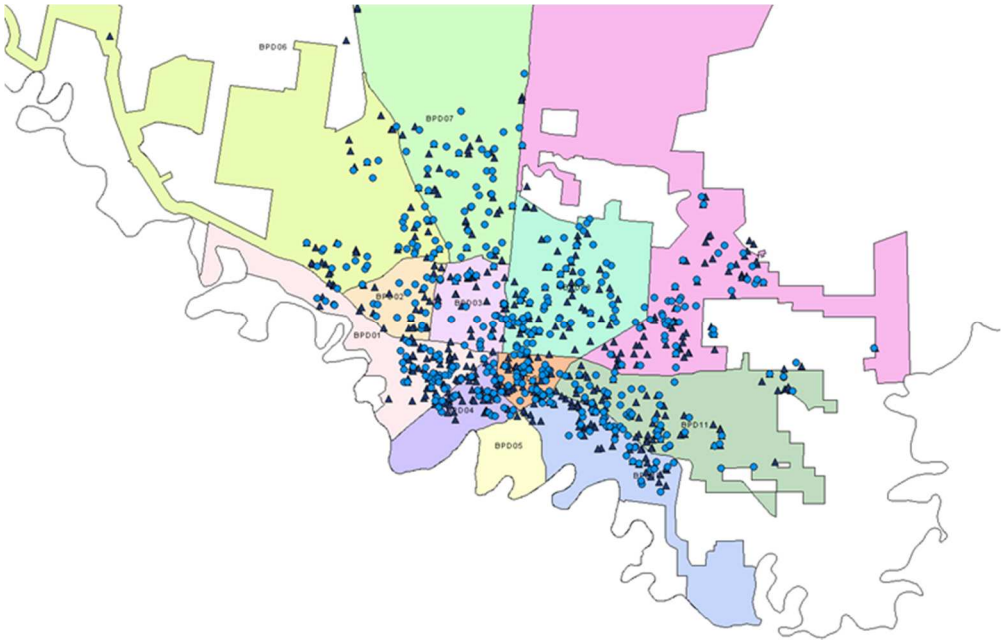


Figure 3.2b. PPZ 10, 2007

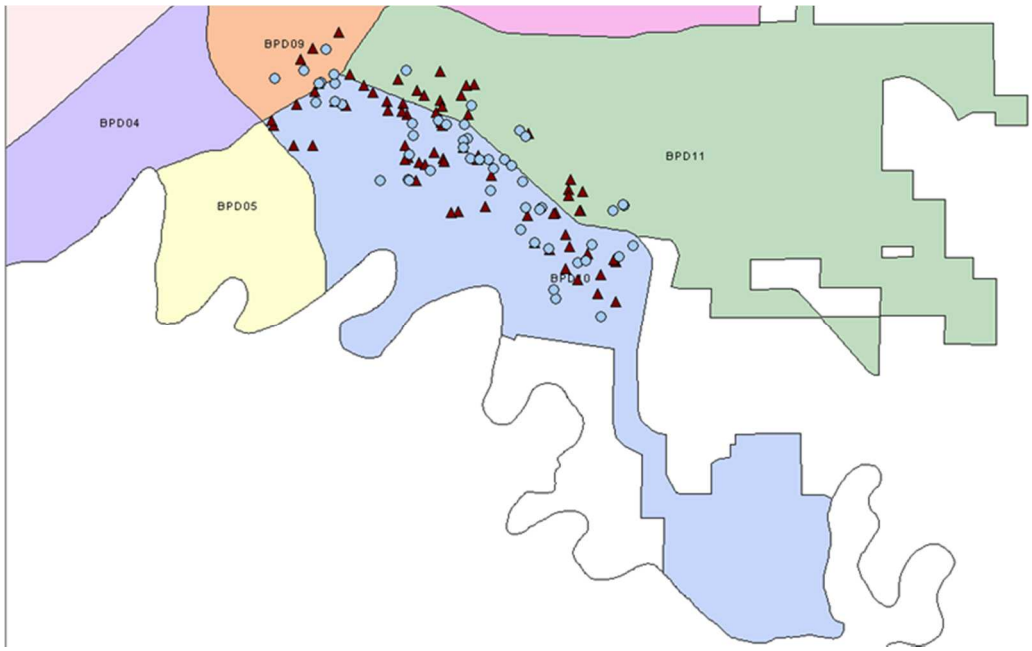


Figure 3.3a. All PPZ's, 2008

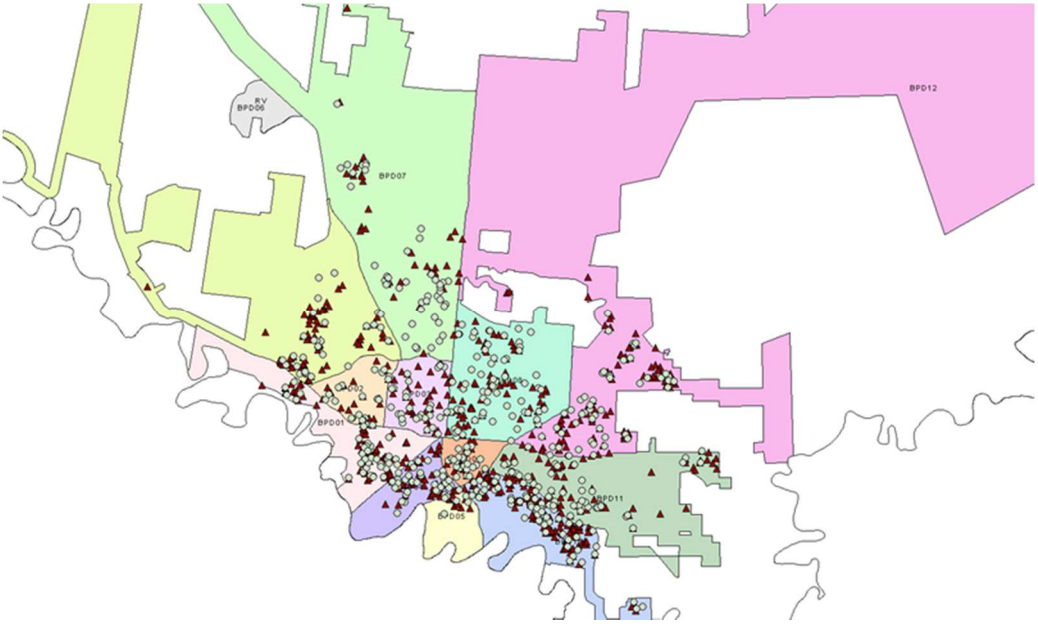


Figure 3.3b. PPZ 10, 2008

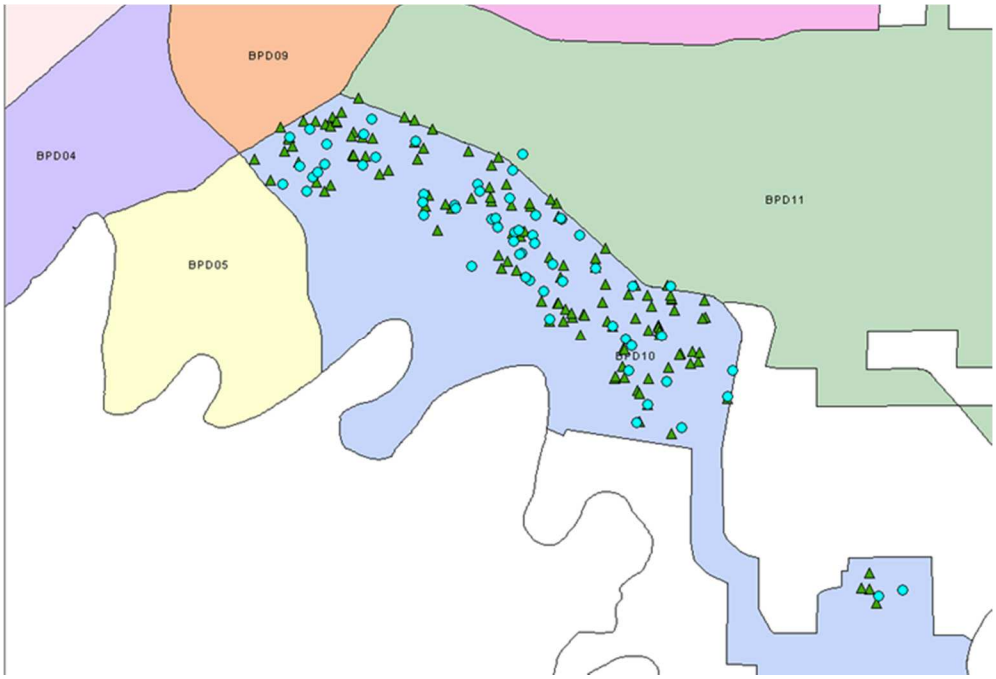


Figure 3.4a. All PPZ's, 2009

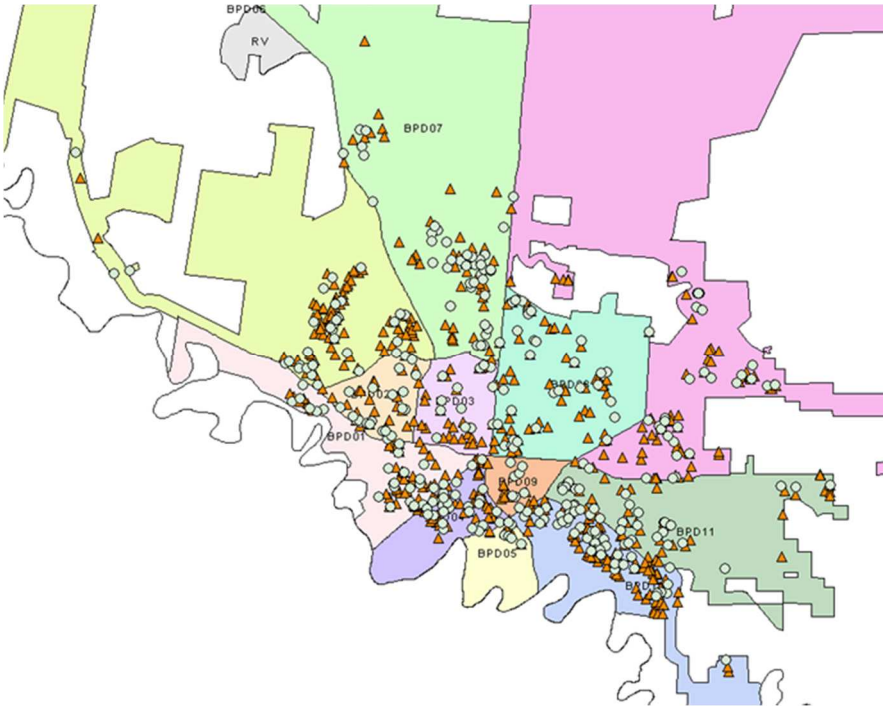


Figure 3.4b. PPZ 10, 2009

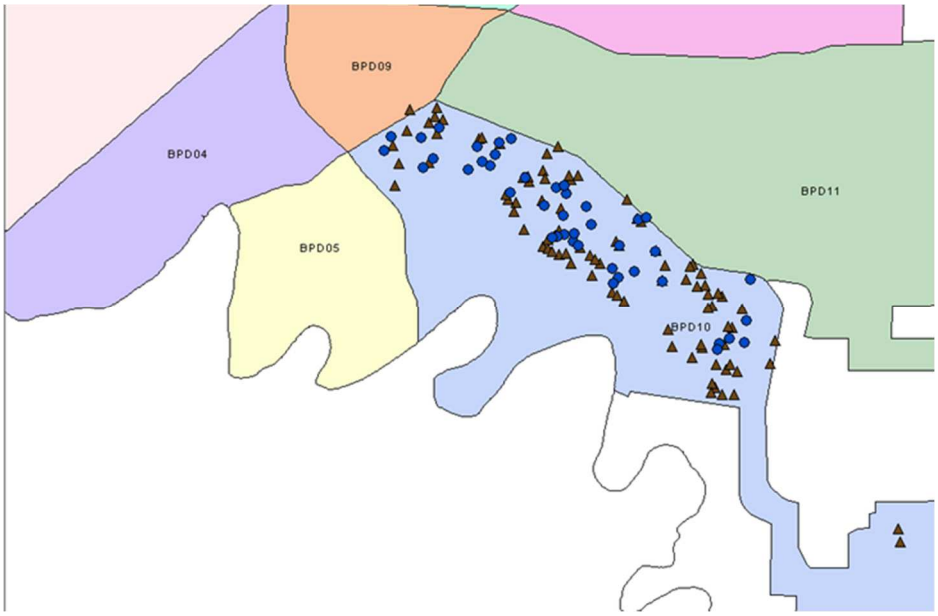


Figure 3.5a. All PPZ's, 2010

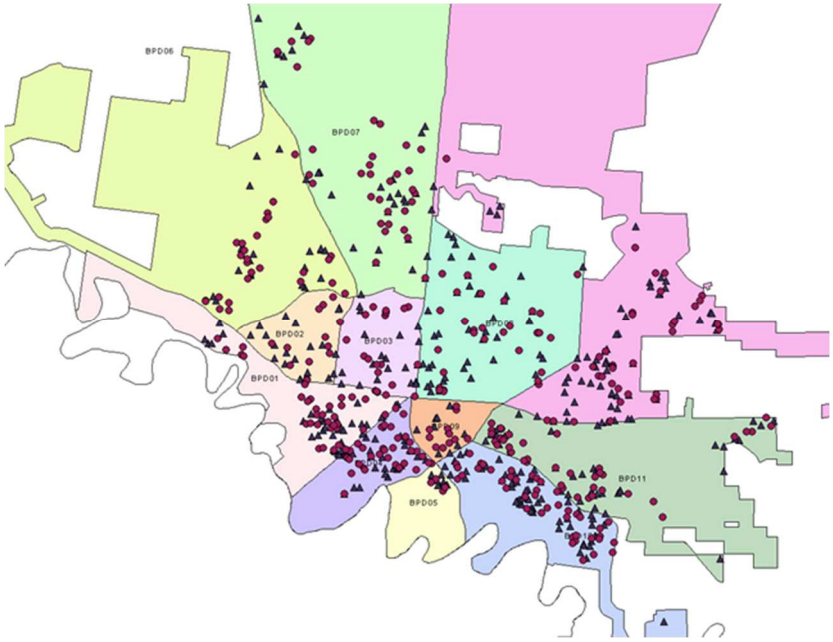


Figure 3.5PPZ 10, 2010

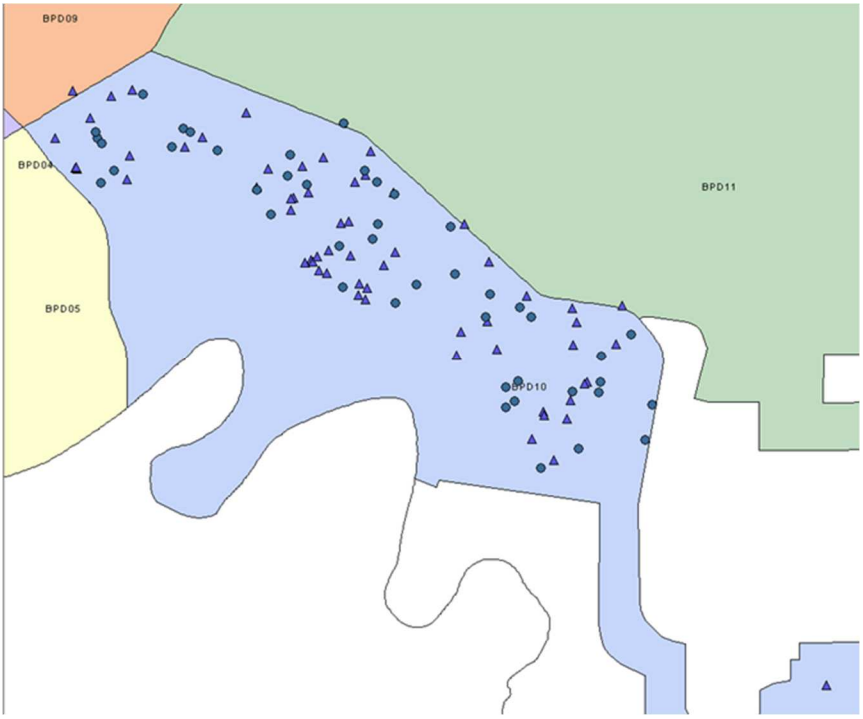


Figure 3.6a All PPZ's, 2011

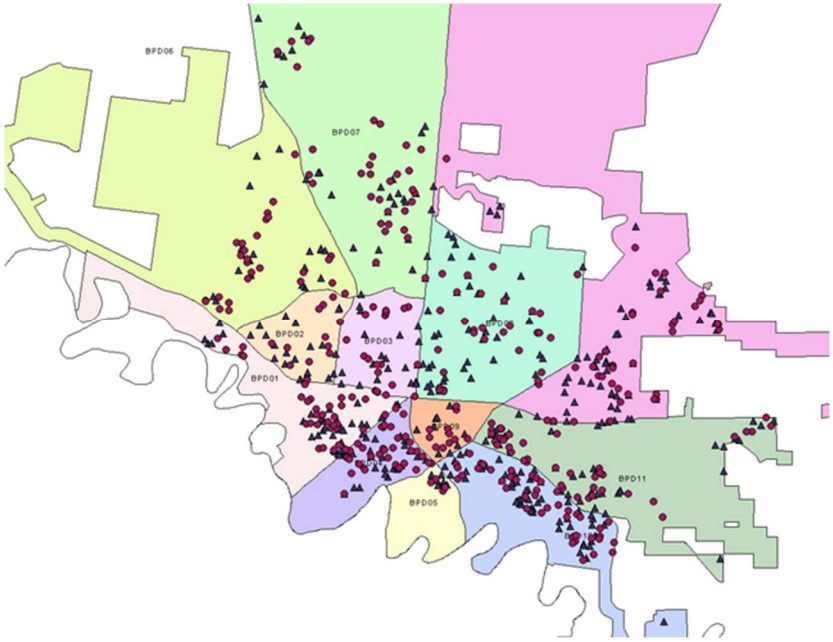


Figure 3.6b. PPZ 10, 2011

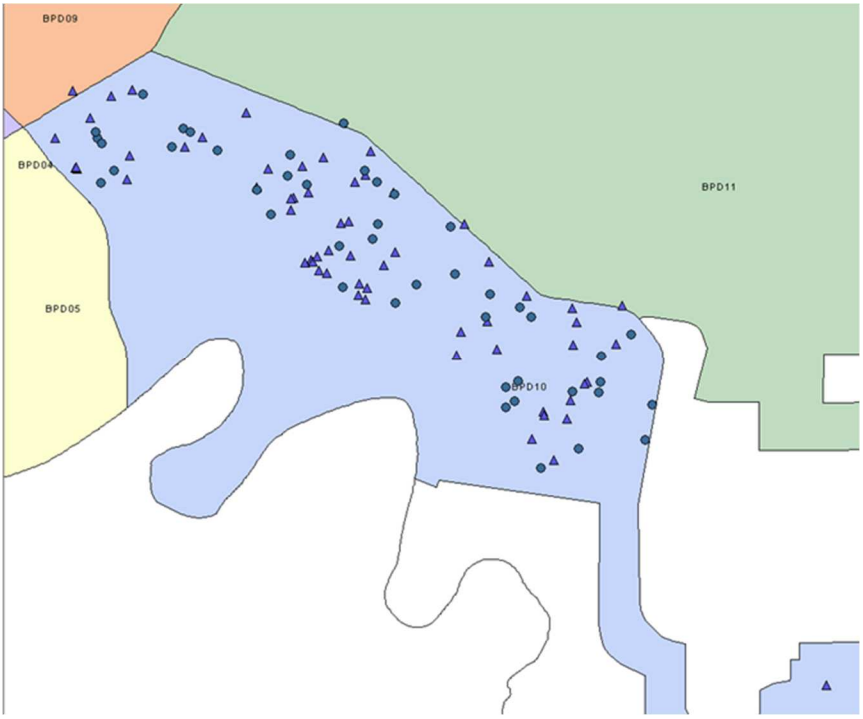


Figure 3.7a. All PPZ's, 2012

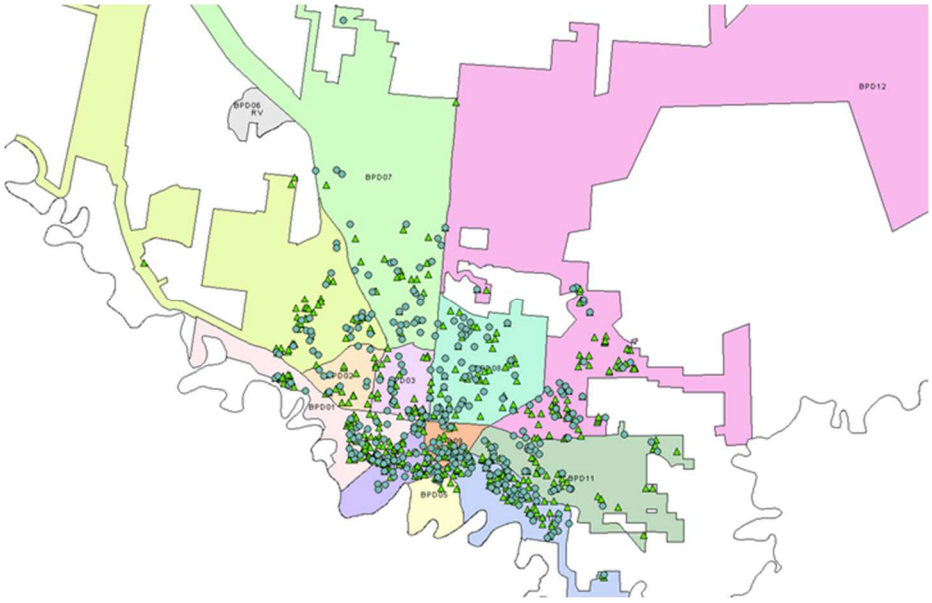


Figure 3.7b. PPZ 10, 2012

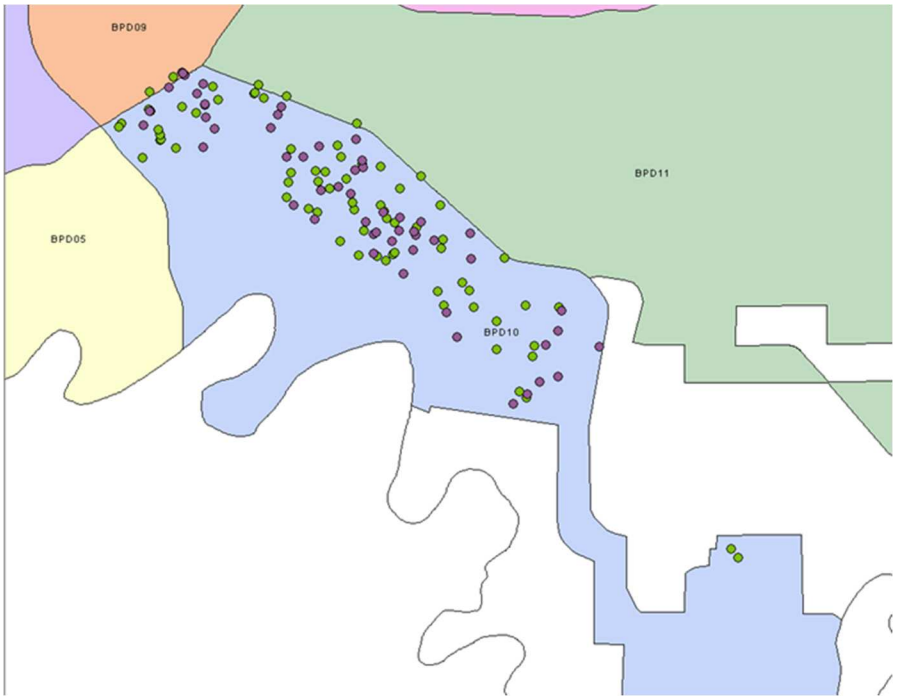


Figure 3.8a All PPZ's, 2013

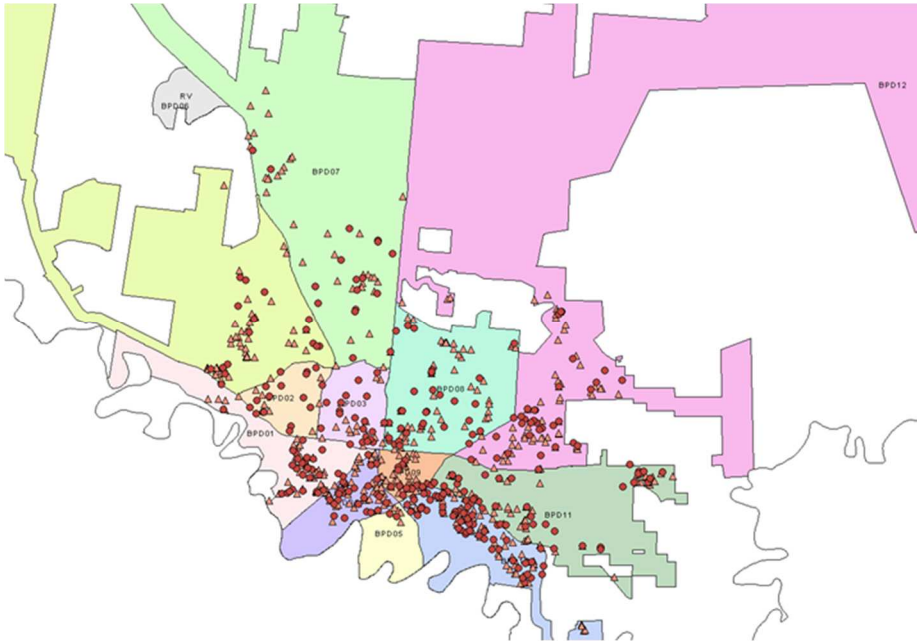


Figure 3.8b PPZ 10, 2013

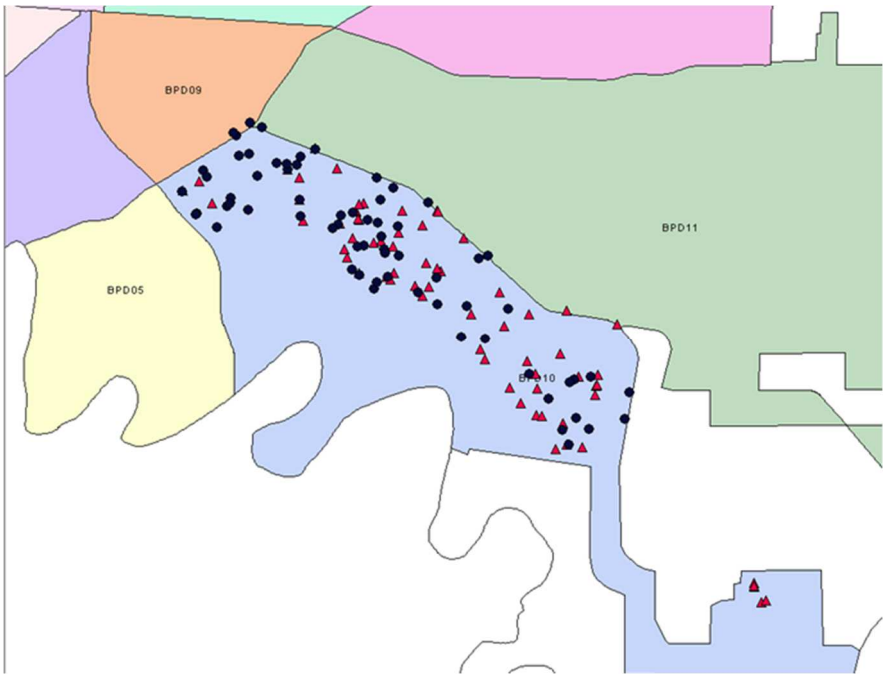


Figure 3.9a. All PPZ's, 2014

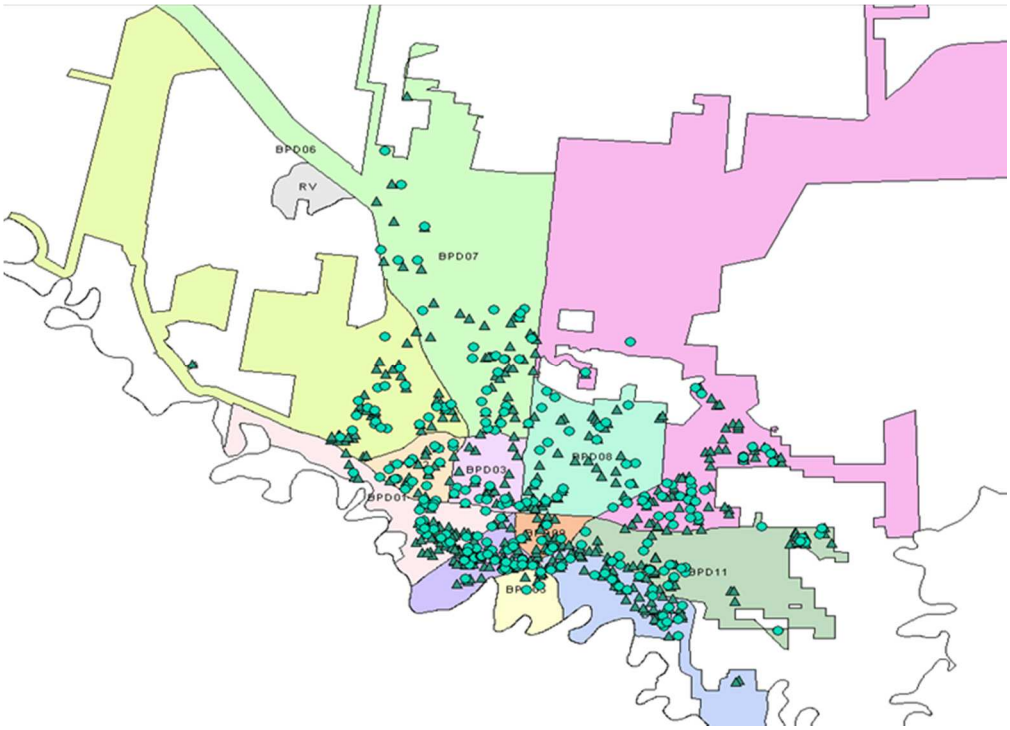
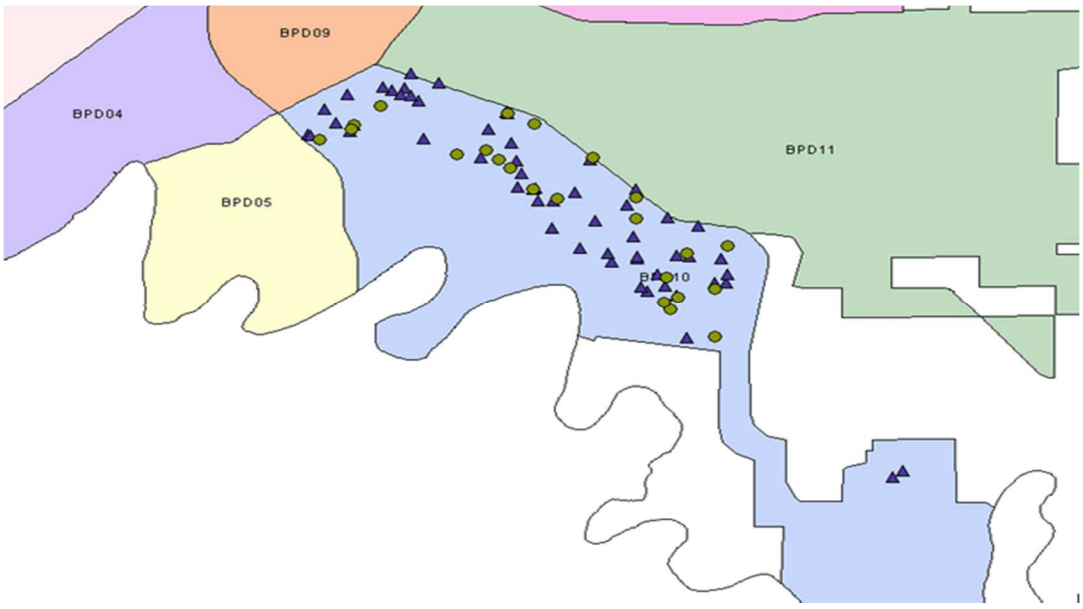


Figure 3.9b. PPZ 10, 2014



3.3Discussion

The ensuing is a discussion on the findings of the data residential burglary incidence seem to be more frequent in PPZ 10. Furthermore, the high rates of residential burglaries are parallel to the city's high crime index in comparison to the U.S. national average (Brownsville: 277.9, U.S Average: 244.1). PPZ 10 is the southernmost policing zone (Figure 1.1) of the city of Brownsville and is close to the USA-Mexican border - 4.9 miles from the Veterans International Bridge Los Tomates Bridge, a port of entry on the Mexican border. Referred to simply as "Southmost" by city officials and local residents, PPZ 10 has one of the highest population densities (31,622) and occupies an area of 5.273 square miles, which is 3.6 percent of Brownsville's total land size (city-data.com, 2011). The median household income for PPZ 10 residents ($26,149) is lower than the rest of the city, which is 33,821 (2013 estimates). Additionally, the Southmost neighborhood, with a 2.2% of native born residents, compared with 1.7% for the entire city of Brownsville has the higher percentage of foreign born residents (city-data.com, 2011).

It is evident that the socioeconomic condition and the unique social characteristics of PPZ 10 foster the high incidence and volume of residential burglary rates/incidents. The Southmost neighborhood, in essence, is unique in that it is a relatively poor area within the city of Brownsville (see 1.3). Consequently, it may be concluded that PPZ 10s, ephemerally referred to as Southmost high population density, poor housing, and lower socioeconomic status may be the main predictors of this neighborhoods' high rates of residential burglary. Although incidence and volume of residential burglary have been decreasing over the years in both Brownsville and especially within the Southmost zone, this neighborhood continues to produce the highest crime rates compared to the rest of city of Brownsville (see 3.1). The majority of homes in PPZ 10 (n =

2830), were built between 1980 and 1989 (city-map.com 2011). Many of the homes in Southmost are substandard, depilated, and lack basic security measures like fencing. Southmost housing prices and value average 77,168 per detached household, which was slightly lower than Brownsville's average estimated value of 106,091. The conditions existing within PPZ 10, which is characterized by dilapidated housing, as well as high crime and juvenile delinquency rates (see Figures 3.11a; 3.11b, & Table 3.1, 3.6) appear to be consistent with Jane Jacobs (1984, 1961, also Boggs, 1970; Bottoms, and Wiles, 1992; Burgess, 1925) assertion that some areas or neighborhoods of the city are "custom made for crime."

Figure 3.10. Southmost Neighborhood (2013)

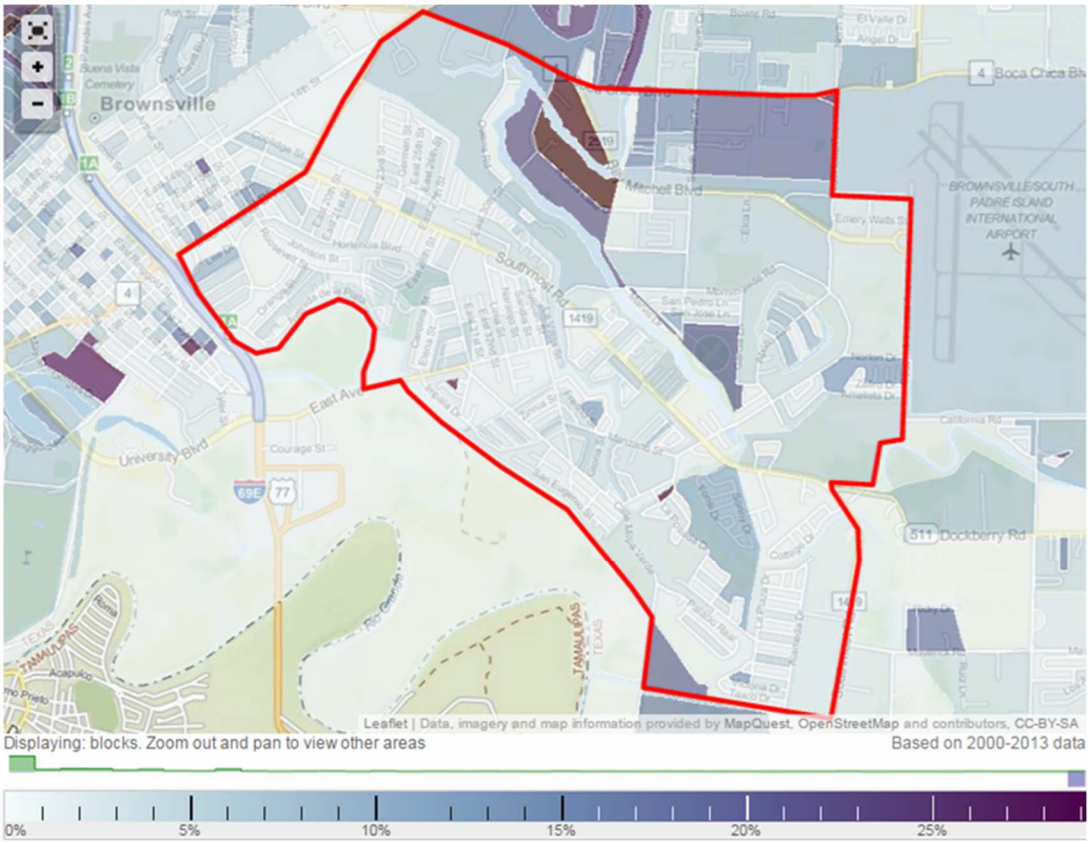


Figure 3.11a. Southmost Neighborhood Homes

Figure 3.11.b. Southmost Neighborhood Homes

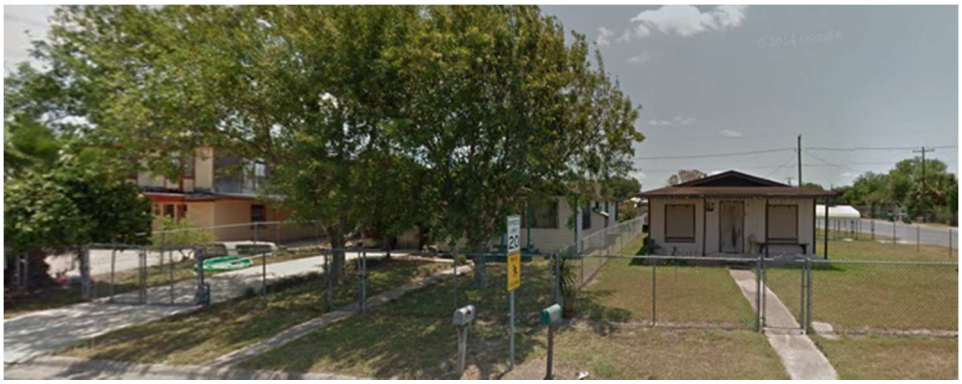
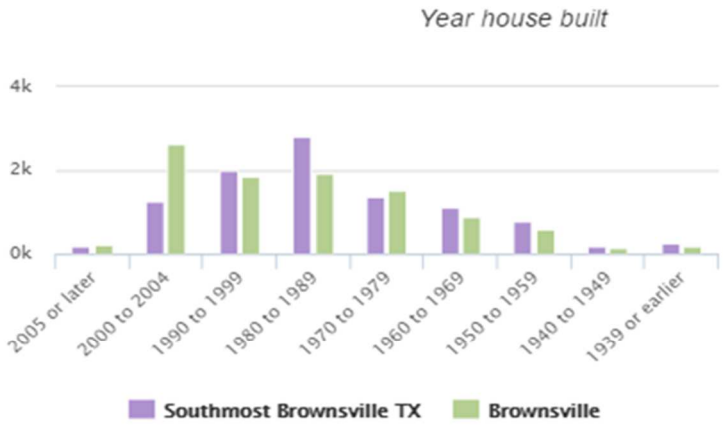


Table 3.6 Southmost V. Brownsville Housing (Year)



- 2005 or later: 173
- 2000 to 2004: 1,243
- 1990 to 1999: 1,992
- 1980 to 1989: 2,830
- 1970 to 1979: 1,376
- 1960 to 1969: 1,129
- 1950 to 1959: 785
- 1940 to 1949: 178
- 1939 or earlier: 262

CHAPTER IV

CONCLUSION AND RECOMMENDATIONS

4.1 Introduction

As stated from the onset, this study examined the incidence and volume, as well as the trends and spatial patterning of residential burglary in the city of Brownsville. Furthermore, the study examined the months, days of the week, and times of the day the residential burglary incidents occurred or were reported to the BPD from 2006 to 2014. The study was accomplished via the examination of the raw residential burglary cases that were recorded by the BPD. The analysis of the data and information show that residential burglary does not appear to pose any imminent danger to residents of the city of Brownsville. Pieces of anecdotal evidence gathered from the BPD officials suggest that residential burglary in the city of Brownsville, and indeed, crime in general, has actually decreased over the past decade. This assertion appears to be to consistent with the national picture, which according to UCR Reports, has been decreasing since 2000. Even so, the study found out that some PPZ's recorded unusually high rates of residential burglary over the nine-year period. As mentioned already, overall, residential burglary was highest in PPZ 10, otherwise known as the Southmost neighborhood. As explained above, the unique geographic and social characteristics of the Southmost neighborhood, including poor housing, low income and poverty, low education attainment and high rates of school dropouts, not to mention that this zone (see Figure 1.1) is close to the USA-Mexico border, may have each

contributed to the high residential burglary incidents in this area. Knowledge of where and when residential burglary may and do occur could assist the BPD to maximize its scanty resources to meet urgent needs or to deal with the city's nagging crime problem. To avoid displacement, it is being suggested that each PPZ must be accorded equal attention and resources.

4.2 Recommendations

The city of Brownsville is uniquely situated. Being a border city, the city is inundated with a large influx of people from and to Matamoros, Mexico each day. The city is sometimes caught in the middle of the violence in Mexico. Daily radio and news are replete with several criminal incidents, including drug smuggling, illegal or undocumented migrant crossings and even murder. Gangs also perpetrate their nefarious activities on unsuspecting residents. The challenges facing the city are just enormous. Consequently, to confront crime as one inevitable societal problem in the city of Brownsville, the BPD recently acquired a number of the "state-of-the arts" accoutrements and equipment's, including over forty patrol vehicles, computers, and body armors. Even so, the department is still deficit in modern up-to-date technology, including the Geographic Information System (GIS) software to keep up with the ever changing spatial dynamics and characteristics of the city. The absence of the GIS technology and GIS technologist may have resulted in a situation where some burglary cases are recorded or classified as Zone Not Geo-Verified (ZG). The BPD's Information Technology Department (ITD), headed by a supervisor oversees and ensures that all criminal data entries carried out by the several staff members are properly input into the system. The ITD also prepares the weekly, monthly quarterly and annual crime reports for the UCR and for the city's policymakers and politicians for planning and resource allocation. Because of its onerous responsibilities, it is

imperative that the ITD and the staff be well-resourced and well-equipped. The current situation where data entries are being carried out by several staff members must be reconsidered.

Addressing residential burglary as one inevitable social problem confronting the city of Brownsville calls for very strong, proactive and dynamic short, medium and long-term strategic decisions and program to prevent residential burglary, and indeed, crime and other incivilities. All city stakeholders need to come together to embrace the ideals of situational crime prevention. City planners, policymakers, politicians and the BPD alike could gain immensely from Clarke's (1992) four subgroups (12 techniques) of situational crime prevention approaches. Situational crime prevention seeks to offer the technical and structural solutions to crime such as designing environments or products in ways that could minimize victimization risks. As defined by Clarke (1997, p. 4), situational crime prevention is "opportunity-reducing measures that are directed at highly specific forms of crime; involve the management, design, or manipulation of the immediate environment in as systematic and permanent a way as possible; and make crime more difficult and risky, or less rewarding and excusable as judged by a wide range of offenders." The short-term options could include or involve increased and intensified police patrols, citizenry education on the gains from target hardening, and mapping out the environmental cues that fosters criminal activities, as well as crime sites and hot spots and instituting situational crime prevention programs.

Medium and long-term strategies may include improved architectural planning and design, land use patterns and landscaping, increased surveillance, street lighting, and redesigning street layouts. Although situational crime prevention may not affect a motivated offender's decision to offend, it may be propitious in the outcome of any offense commission because most offenders will think twice before they victimize a target that is well-fortified or reinforced with

active and or capable guardian. Situational crime prevention programs and strategies have been found effective, easy to implement, assess and or evaluate elsewhere (Clarke, 1993). For instance, installing Close Circuit Television (CCTV) in the affected areas may reduce residential burglary considerably. Alarms, cameras and improved lighting may prove effective in deterring or reducing residential burglary. Indeed, if every home can afford to install the CCTV and burglar alarms it will go a long way to reduce crime. Since the poor are either less likely to be able to afford security systems for their homes or are more likely to live in apartments where residents are more vulnerable because of lack of adequate security, street cameras at vantage points of the affected areas might help. Perhaps, some form of assistance could be sought for the indigent home/residents. Situational crime prevention should seek to increase the risks of an offender being detected. Aside from the situational crime prevention approaches and strategies, a well-coordinated education could create sustained and proactive awareness among the residents.

There is little doubt that situational crime prevention could hold the key to reduce crime. Its implementation could be conceived within the broad context of community development. Efforts to stabilize neighborhoods and reduce residential burglary, in particular, and crime, in general, could include elements of defensible space and situational crime prevention plans and strategies as part of building design and architecture. Finally, Felson (1995) has submitted that crime prevention and control need not involve any high technology, or more police officers and security guards to achieve positive results. Changes in the daily routines and activities of the residents could go a long way to reduce residential burglary in the city of Brownsville. As well, changes in residents' lifestyles and their concerted efforts to reinforce the built environment, including the mere presence of capable guardians and removal of situational cues could discourage residential burglary from occurring. Direct-contact discouragement could occur when

potential victims take steps to reduce victimization, neutralize moves by offenders, or guardians keep an eye on, and insulate potential crime targets or hot spots, and handlers do likewise to potential offenders. Constant or periodic monitoring and evaluation of crime/residential burglary sites/hot spots by crime prevention managers may ensure security of potential victims or targets. As a baseline study, the stage has now been set for further studies using more complex statistical formulas and theories into the incidence and volume of crime as well as their spatial patterning in this unique border city of Brownsville. The time has also come for the city of Brownsville to take devise new approaches and precautions to eliminate any reduce traces of incivilities and crime inducement or temptations drastically.

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BIOGRAPHICAL SKETCH

Sonia Figueredo was born on November 27, 1993, in the city of Brownsville south Texas. She is an alumnus of Brownsville Early High School College, having received both a High School Diploma and an Associate's Degree in Liberal Arts from the University of Texas at Brownsville in May 2012. She received a Bachelor's Degree in Sociology (BS) in May 2014 from the University of Texas at Brownsville. Ms. Figueredo also has as an Associate's Degree in Social Work from Texas Southmost College also in Brownsville. As an undergraduate student, Sonia was the recipient of the Greater Texas Foundation Scholarship and Scholar Program, College of Liberal Arts Scholarship, and the Scholastic Excellence Award in Sociology.

Ms. Figueredo was appointed as a Supplemental Instruction (SI) leader in Sociology at the learning Center of the University of Texas at Brownsville. In addition to her academic work, her work, *Framing and Counterframing of the Transatlantic Trade and Investment Partnership*, was presented at the Midwest Sociological Society 78th Annual Meeting on March 28 in Kansas City, Missouri. Ms. Figueredo received a Master's of Science in Criminal Justice (MSCJ) on May 2016 from the University of Texas Rio Grande Valley at the Edinburg, Texas campus.

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