
GEOGRAPHIC DISPERSION OF SEX OFFENDERS

**A spatial analysis of residential locations of sex offenders in
the Rochester Metropolitan Statistical Area**

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Preface

This research is the final work of the bachelor programme of Human Geography and Planning, faculty of Spatial Sciences, at the University of Groningen. I started my research at the State University of New York in Geneseo when I was intrigued by the public attention for sex offender presence in the local community. The Geneseo police informed me about a movement of a released sex offender into the Geneseo community and made me aware of the publicly available information about sex offenders. By not giving away any spoilers, this is what started my research to the geographic dispersion of residential locations of sex offenders.

I would like to express my gratitude to my supervisors in Geneseo, professor Darrel Norris and professor David Aagesen, and my supervisor in Groningen, Paul van Steen. Darrel and David have been of great support in starting this research and have encouraged and supported me throughout my stay in Geneseo and in conducting this research. Furthermore, back in Groningen, Paul van Steen was of great help in finishing my research. Without his guidance and patience I could not have finished this research. Finally, I would like to thank Ed Erhard, Kim Moran and Bruce Yancey for their cooperation in this research.

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1. Introduction

The term sex offender includes any person who is convicted of a sexual offense, such as rape or lewdness (NYS DCJS, 2010). In New York State, background information of sex offenders is by law open to the public eye (NYS DCJS, 2010). Registration of the residential locations of sex offenders is a high priority for the justice system in order to maintain public safety and awareness (NYS DCJS, 2010). Since the 1990's the United States (US) have passed a number of acts to enhance this issue. In 1994, there was the Sex Offender Registration Act and in 1995 the Megan's Law (NYS DCJS, 2010). These acts can be seen as succeeding each other in the sense of more detailed registered information, which now includes that every state is required to have sex offender registries and make public notifications of their residence (NYS DCJS, 2010). This means, that when a sex offender is released (and paroled) from incarceration, the citizens in the area of his residence receive a notification with his background information (NYS DCJS, 2010). This information is also made publicly available for the rest of society through abovementioned website. All of the legal proceedings take place in the state courts, and every state has established its own system. In each state, there are also trial courts of general jurisdiction (the superior, district, or circuit courts) (Farnsworth, 1996). To enhance the criminal justice systems effectiveness and efficiency at all levels; the Federal Bureau of Investigation (FBI) was founded (www.fbi.gov). The FBI reports crime rates of different sorts of crimes, and the number of crimes in the different regions of the US (www.fbi.gov). In 2008, there were almost 1,4 million violent crimes in the US and of these crimes, there were 89 thousand forcible rapes reported. On average, there were 454,5 violent crimes per 100.000 inhabitants reported, and 29,3 forcible rapes per 100.000 inhabitants (www.fbi.gov). According to the FBI, forcible rape is defined as: 'The carnal knowledge of a female forcibly and against her will. Attempts or assaults to commit rape by force or threat of force are also included, however, statutory rape (without force) and other sex offenses are excluded' (www.fbi.gov). Statutory rape is a sexual relationship of an individual of a certain age, with an individual legally incapable of consenting to sexual activity (Norman-Eady et al. 2003).

Previous research to residential locations of registered sex offenders showed that they are

most likely to reside in socially disorganized areas (Mustaine et al. 2006). Many states and/or counties appoint areas that are restricted for released sex offenders to reside and this tends to effect the concentration of residential locations of sex offenders (Mustaine et al. 2006). This seems a logic response to results of research to dynamic factors of sexual offense recidivism that show that recidivism is most likely to occur in areas where the released sex offenders have easy access to potential victims (Hanson and Harris, 2000). Another factor that affects the choice of residential location is the possibility of finding suitable housing in order to reintegrate into the community (La Vigne et al. 2004). Along with the potential clustering, released sex offenders experience great difficulties with reintegration into the community (Tewksbury and Lees, 2006). According to Tewksbury and Lees (2006), sex offender registration is not enhancing the limitations and opportunities for them to find employment and construct personal relations. According to Mustaine et al. (2006), two-thirds of the released sex offenders in their sample moved to other regional areas than the areas in which they previously lived (Mustaine et al. 2006). Hereby the dispersal of released sex offenders is clustered (Aleksander, 2010).

Previous research on recidivism of sex offenders showed that most factors that affect the chance of reoffending, are of psychological nature and/or depend on historical experiences (Hanson and Harris, 2000). For example, offenders who have been convicted multiple times are more likely to reoffend than offenders that only have been convicted once (Hanson and Harris, 2000). But there is no evident literature that explains the choice for residential locations of released sex offenders, except that several states in the US have restrictions for released sex offenders where they are allowed to reside (Nieto and Jung, 2006). This doesn't explain why released sex offenders potentially cluster in certain regions.

Information about registered sex offenders can be obtained from the Division of Criminal Justice Services (DCJS) of the state New York. The DCJS uses three different risk levels of sex offenders (NYS DCJS, 2010):

- Level one: Sex offenders with low risk of repeat offense.
- Level two: Sex offenders with moderate risk of repeat offense, and
- Level three: Sex offenders with high risk of repeat offense.

The Rochester Metropolitan Statistical Area is one of the areas in New York State where background information on sex offenders is published. This area, in the northwestern part of New York State, consists of the following five counties: Livingston, Monroe, Ontario, Orleans and Wayne.

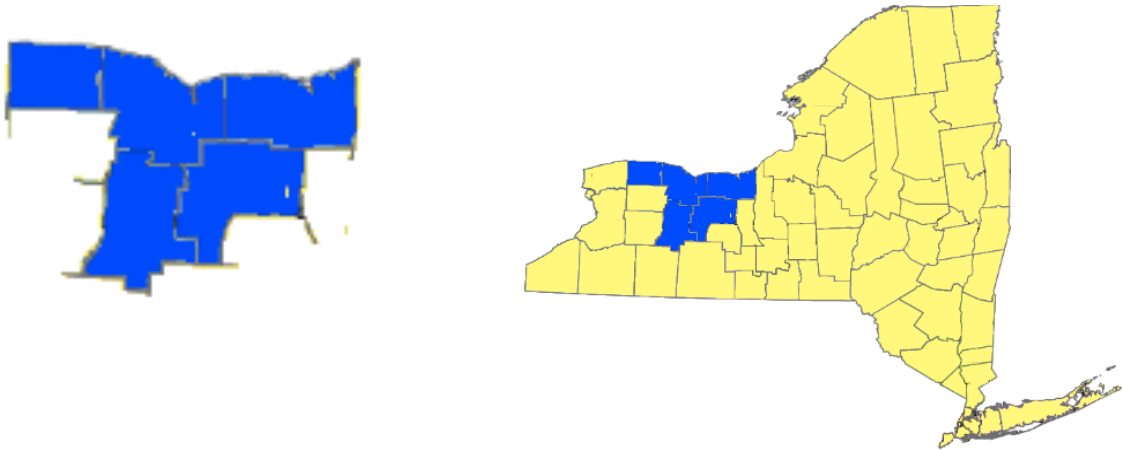


Figure 1: State New York and the Rochester Metropolitan Statistical Area. The five counties in clockwise order from the upper left: Orleans, Monroe, Wayne, Ontario and Livingston.

The number of sex offenders of the different levels are listed in table 1, divided over the five counties of the RMSA. These numbers include sex offenders that committed statutory rapes. As shown in table 1, the largest numbers of sex offenses that are reported are of risk level one. Although numbers of sex offenders are known, DCJS is prohibited by law to release further information about level one sex offenders (NYS DCJS, 2010). The county with the largest number of sex offenses is Monroe, which includes the centre of the city of Rochester.

Table 1: Sex offenders per risk level in the RMSA counties

County	Risk-level				Totals
	1	2	3	P	
Livingston	64	44	25	0	133
Monroe	462	376	234	8	1080
Ontario	55	76	56	1	188
Orleans	36	32	20	1	89
Wayne	95	82	47	4	228
Total RMSA	617	528	335	10	1490

Source: Data from Division of Criminal Justice Services (NYS DCJS, 2010)

The objective in this thesis is to identify the causes for the residential dispersion of released sex offenders in the Rochester Metropolitan Statistical Area. Because the released sex offenders have to report any changes of address, according to the different Registration Laws, and some states restrict released sex offenders to reside in certain resident areas, there is reason to believe that the administrative system in the research area is of influence on the choice of residential location. Through registered law and interviews with the county representatives, more knowledge about this will be perceived. The socio-economic factors related to the residential areas of the released sex offenders will be analyzed to see if they are of any influence on the residential dispersion of sex offenders. This information is analyzed and compared on zip code level of the research area. With this background information of released sex offenders, and information about the administrative system, socio-economic and demographic characters of the delimited area, research is done on a possible explanation for the residential pattern of released sex offenders.

Following from the research goal definition, the main question to be answered in this research is:

To what extent is the geographic dispersion of residential locations of released sex offenders in the Rochester Metropolitan Statistical Area associated with the socio-economic status, demographic characteristics and the administrative system on zip code level?

The research questions used in order to answer the abovementioned question are:

1. What factors appear to underscore sex offender dispersion within the metropolitan framework?
 - 1a. Is the resultant pattern related to socio-economic characteristics of the area? (i.e. are released offenders likely to move towards lower income and even high-crime settings?)
 - 1b. Is the resultant pattern related to demographic characters of residents in the area?

- 1c. Is the resultant pattern associated with the local and regional institutional geography of the criminal justice system? (i.e. parole administration etc.)
2. To what extent do micro-concentrations of sex offenders occur within zip code areas, and what underscores such clusters?

Research in this thesis is done on zip code level of the counties in the RMSA, and approximately 100 zip-codes are used for this. The following methods have been used:

- Literature; used as support for the proposed research questions
- Internet; several websites will be used for obtaining information of socio-economic and demographic factors in the RMSA.
- Case study; used for evidence of established dispersion of released sex offenders
- Interviews; used for evidence of the administrative system present in the RMSA
- Geographical Information Systems (GIS); used for analysis of the geographic dispersion of released sex offenders.

The use of GIS will provide a clear analysis of the dispersion of released sex offenders in the zip codes used for this research. By means of mapping the residential locations of the sex offenders, one can see the residential dispersion.

In the next chapter I will discuss the theory and research done about sex offenders to provide a general overview of the occurrence of sex offenders. The third chapter elaborates on this, but will give a more specific focus on different states and New York state itself. The chapters four, five and six provide an analysis of the data as the empirical basis for this research. I will end this research with a conclusion.

2. Theory of Sex Offenders

2.1 Introduction

Much research has been done throughout the last two decades and many laws have been enacted in the matter of sex offenders. In this chapter I will discuss the research done on sex offenders and the law development on this matter.

2.2 General

Sex offenders have been, and still are a much talked about topic among the public and the government authorities in the United States. Since the Sex Offender Registration Act and the Jacob Wetterling Act became legislated in 1994 (NYS Division of Criminal Justice Services, 2010), legislatures have enacted a large number of amendments to this act (NYS DCJS, 2010). As these acts only required the authorities to register all sex offenders, laws enacted in the years to come increased the level of control over the whereabouts and awareness of sex offenders. In 1996, Megan's Law mandated every law enforcement institution to make the public aware of the existence of sex offenders with information concerning the sex offenders in or near their neighborhood through notification and registration, (Nieto and Jung, 2006). Ever since, 29 states have passed such laws and many counties have adjusted those laws for their own jurisdictions (Council of State Governments, 2008). Often when sex offenders are put on parole or probation, the county of that jurisdiction stipulate the restrictions for where sex offenders can reside and/or the system of control on the sex offenders (Grubestic et al. 2007; Nieto and Jung, 2006). Many states and counties use the system of residence restrictions which means that the sex offenders are prohibited to reside within a certain distance (i.e. 1000 ft.) from places where possible victims are most likely to be present on a daily basis (Levenson and Cotter, 2005). These are often women who are living on their own and/or children in the area of schools, daycare centers, parks etc (Levenson and Cotter, 2005). The restricted zone areas are created for sex offenders to stay away from potential victims and to achieve that they will not be tempted to recidivate (Duwe et al. 2008). But many times when sex offenders are faced with these restrictions, their options for residential locations are limited (Levenson and Cotter, 2005). Often this will lead to isolation, increased emotional instability and financial stress (Edwards and Hensley, 2001). Research

suggests that because of these restrictions and the dispersal of restricted areas, overlapping zones emerge and there remain very few places where sex offenders can legally live (Levenson and Cotter, 2005). Mostly, they are forced to live in socially disorganized areas with high-crime rates and economic deprivation (Mustaine et al. 2006). Research to the collateral consequences of the restricted areas suggest that indeed recidivating sex offenders tend to live in socially disorganized areas (Tewksbury, 2005). Economic factors are suggested to be the largest influence on the residential location of sex offenders, which leads them to socially disorganized areas (Duwe et al. 2008), but another factor that influences the residential mobility of sex offenders is social cohesion in a community. This is discouraging for them to move there and also creates difficulties for reintegration into society (Duwe et al. 2008; Mustaine et al. 2006; Levenson and Cotter, 2005).

2.3 Residence Restrictions

The residence restrictions are used to repulse the presence of sex offenders in areas where potential victims are expected to congregate (Duwe et al. 2008; Levenson and Cotter, 2005). Alabama became the first state to restrict offenders from places to live and by 2007, 27 states had implemented laws to prohibit sex offenders from certain areas (Mack and Grubestic, 2010; Mulford et al. 2009; Nieto and Jung, 2006). Areas where children come together, places such as schoolyards, playgrounds, parks, etc. are prohibited areas, but it differs per state and even municipality whether they cannot live within a 1000 ft or 2500 ft from the restricted areas. Not only is the distance of the buffer zone of importance, a distinction is also made in the type of sex offenders (high-risk, moderate-risk, low-risk) and what type of places or nodes are included that determine the buffer zone (Nieto and Jung, 2006). The laws for making places where children congregate a non-residing area for sex offenders are designed for mainly child molesters, even though children are mainly victimized by family members or someone who they know (Snyder, 2000). They also often get access to their victims by establishing contact with mothers, people in child friendly neighborhoods and their jobs (Duwe et al. 2008). And of the sex offenders that made contact with victims under 18 years old near their residence, very few did so in the proximity of places that are restricted (Duwe et al. 2008). Also research says that there is no relation between offenses and residential proximity to places that are known for children to be present (Tewksbury and Mustaine, 2006). Scholars believe that the restriction laws do not

have a necessarily reversed effect on the intentions of the laws, but do have a lot of collateral consequences (Mulford et al. 2009). Consequences that include relocations to areas where less communication with society is possible and which influence the possibilities of being able to reintegrate back into society (Levenson and Cotter, 2005). This does not only count for the residence restrictions but also for the registration. Communities with high social cohesion are more likely to protest the occurrence of a sex offender moving into their neighborhood (Sampson and Graif, 15). The registration takes away their anonymity and together with the restrictions, sex offenders are less likely to comply with the rules. This makes it more difficult for Parole or Probation authorities to monitor the presence of sex offenders (Levenson and Cotter, 2005). This potential protest can amplify the feeling that they are not supported and face feelings of isolation (Edwards and Hensley, 2001; Levenson and Cotter, 2005). As they don't want to be in danger of harassments or any other notification of their history they tend to move to places with less social organization (Mustaine et al. 2006). Places where there is less social cohesion, less possibility of being unaccepted in the community, thus they move to socially disorganized areas (Duwe et al. 2008). Movement to these socially disorganized areas and possible recidivism are likely consequences of the restrictions (Duwe et al. 2008; Mustaine et al. 2006).

2.4 Social Disorganization Theory

The social disorganization theory is a theory explaining crime as a result of a lack of communal institutions and the absence of social cohesion (Mustaine et al. 2006). Sex offenders are having the most difficulties with housing possibilities and they generally do not wish to be in a community where awareness and abomination of their presence are very high (Edward and Hensley, 2001; Mustaine et al. 2006). Thus, they are likely to move to more socially disorganized areas where there is a lack of control and social cohesion in society. These are areas with high crime-rates, deteriorated physical environments, high residential mobility, large populations, large population density and economically low developed (Mustaine et al. 2006). Research show that sex offenders indeed reside in neighborhoods where there is an high unemployment rate and many people live below the poverty line. There are many low-income households, bad housing conditions and few owner occupied houses (Mustaine et al. 2006).

2.5 Recidivism

One of the theories that examine the occurrence of crime activities is the routine-activity theory. This theory implies that the act of crime, in this matter recidivism, depends on the convergence of three elements in time and space (Cohen and Felson, 1979). The first one is the presence of a motivated offender. For the offender to commit the crime, the second element is a suitable target. The last element of this function is the absence of a capable guardian. The most chance of finding suitable targets, at least for child molesters, are in the residence restricted areas and there is always most likely a capable guardian present (Cohen and Felson, 1979). However, research suggests that there is no relation between the sex offense and residential proximity to places known for children to come together (Levenson and Cotter, 2005). Also, not all sexual crimes are committed to children. Urbanization, high unemployment rates and other characteristics of a socially disorganized area contribute to the likelihood of rapes and mugging (Mustaine et al. 2006).

The Strain theory is focused on the social influence that a sex offender may or may not experience in his time and environment (Agnew, 1992). Socially disorganized areas can be neighborhoods where sex offenders can disappear and escape from the fact they are known as sex offenders. In these areas people are less likely to care about who lives in their neighborhood and this makes it more difficult for authorities to monitor the whereabouts of the sex offenders. This seems like situations relieving for sex offenders who want to disappear in anonymity, but can also have very negative effects on the sex offender. They can face isolation or feel that there is a lack of support in order for them to reintegrate back into community. These are factors that can trigger them to commit new (sexual) crimes (Agnew, 1992; Duwe et al. 2008; Mustaine et al. 2006). An extension on the strain theory suggests that there are three factors that determine the likelihood of a sex offender to reoffend as a consequence of residence restrictions (Agnew, 2006). First, restrict sex offenders from certain areas and 'condemn' them to less socially organized areas will prevent them from achieving positive-valued goals. The second classification is that the restriction rules will remove offenders from positive influences and thirdly, they will be exposed to negative influence from their environment. It becomes more difficult for sex offenders to accomplish something if they have to move from their place of residence and move to a neighborhood with less supporting actors. In these neighborhoods there are

generally less opportunities for employment and social relations, which can increase the possibility of recidivism (Levenson, 2007). Related to the social disorganization theory, comparative research done in Minneapolis and Philadelphia has shown that the environment or locations of the crime are of more influence than characteristics of the offender (Mustaine and Tewksbury, 2000). The characteristics of these environments increase the risk of recidivism and implies higher concentrations of possible offenders (Mustaine and Tewksbury, 2000). Research shows that 75% of victims of recidivating sex offenders are victims they already know (Duwe et al. 2008). And 93% of the sex offenses against children are committed by a family member or someone who is acquainted with the family of the victim and therefore sex offenders are familiar with the activity space of the victims (Mulford et al. 2009). These facts conclude that there is little relation between recidivism and residence restrictions (Barnes et al., 2009). Women are victims of sexual offenses as well and research shows that very few offenders make contact near any restricted areas (Duwe et al. 2008; Levenson, 2005). Contact with female adults is mainly established in areas with a high population density (Tewksbury, 2005). If sex offenders are more likely to commit their offense near their homes depends on the age of the offender where younger men are more likely to commit sexual offenses near their homes, whereas older rapists travel a longer distance to commit their crime (Davies and Dale, 1995). Something that can also be of influence on the distance the sex offenders travel for their offense, is the sexual fantasy. These offenders really search for victims and/or the environment that comply with their fantasy. They can even keep track of the movement and activity space of their potential victim (Davies and Dale, 1995).

3. Sex Offender Laws

3.1 National analysis

Since the Jacob Wetterling Act many states have passed several laws for the assessment of sex offenders (Nieto and Jung, 2006). States differ in their approach to the sex offender management and how to monitor them, but every state has passed legislation that mandates sex offenders to register with the authorities (Nieto and Jung, 2006). The Sex Offender Registration and Notification Act is established in order to create a national network of sex offender registries and to be able to notify the public of the presence of sex offenders in society (NYS DCJS, 2010). The Sex Offender Registration Act was initially established as the Jacob Wetterling Act, named after a boy who was victim of kidnapping, sexual abuse and murder. This act was followed with Megan's Law, which expanded the act with mandatory public notification of the presence of sex offenders (Nieto and Jung, 2006). In 2006, the Adam Walsh Child Protection Act was signed by George W. Bush to expand federal sex offender policies and to enhance the national sex offender registry system (NYS DCJS, 2010). The first action to be taken by sex offenders upon release is to register within 72 hours and to provide the following personal information: Name, age, ethnicity, address, social security number and license plate number in case of owning a vehicle (NYS DCJS, 2010). The following information is to be included by the authorities: Current photo, fingerprints, palm prints, physical description, the convicted offense, criminal history and DNA sample (NYS DCJS, 2010). However, every state has its own rules for the sex offender assessment considering residence restriction and verifying their status.

States determine the risk of sex offenders to re-offend according to three levels. Definitions of these levels might slightly differ, but their basis is set in the three Tier system of the Adam Walsh Act. Every sex offender level system is based on these three levels and determines if they are a low-, moderate- or high-risk to society:

“Tier I: Sex offenders other than Tier II and Tier III and they are required to register for a period of 15 years.

Tier II: Sex offenders other than Tier III and are convicted for offenses that require imprisonment for a minimum of one year. Also included are offenses comparable to the following: sex trafficking coercion and enticement, transportation with intent to engage in criminal sexual activity, abusive sexual conduct, use of a minor in sexual performance, solicitation of a minor to practice prostitution, or production and/or distribution of child pornography. Tier II offenders are required to register for a period of 25 years.

Tier III: Sex offenders who are convicted for an offense that state a minimum of imprisonment of one year and is comparable to the following offenses: sexual abuse or aggravated sexual abuse, abusive sexual contact against a minor less than 13 years old, kidnapping of a minor (parent or guardian are excepted in this case), or any other offense that occurs after one has been designated as Tier II offender. Tier III offenders are required to register for life.”

As every state is mandated to have a sex offender registry system, many have passed residence restriction laws that prohibit sex offenders from residing in certain areas as well. The first state to pass this law was Alabama in 1995 (Levenson and Cotter, 2005; Nieto and Jung, 2006). It only prohibited sex offenders who committed a crime against a minor from residing on certain locations and buffer zones were created around the areas where children congregate. Although many states have these laws, many in northeast United States do not have them (Nieto and Jung, 2006). States that don't have the sex offender residence restriction state laws are Alaska, Colorado, Connecticut, Hawaii, Maine, Massachusetts, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, Vermont and Wyoming (Nieto and Jung, 2006). These states don't have state laws that include residence restrictions, but many counties and local authorities have passed their own ordinances. Then probation or parole of these counties decide where the probationers or parolees can live.

Iowa has passed residency restriction laws in 2002, prohibiting sex offenders to live within 2000 ft. of a school or a day care center (Nieto and Jung, 2006). First, this was ruled unconstitutional because of the ex post facto punishment. This means an extra punishment

while time sentenced to prison has already been done. Eventually, the law was passed and many sex offenders were obliged to move. Though strong opposition suggested that these laws would only create more problems, one of them being the difficulties of monitoring the sex offenders. In California, the state's victim advocacy group even opposed the same 2000 ft.-rule, nonetheless, the law was upheld in both states (Nieto and Jung, 2006). Although, in Iowa the law was retroactive, opposed to the one in California, which meant that in Iowa a large movement of sex offenders had to occur. After the implementation many sex offenders became homeless and the number of sex offenders that couldn't be monitored was doubled.

In Illinois, the prohibited zone for sex offenders is a 500 ft. area around schools or other places where children are known to be present on a daily basis (Nieto and Jung, 2006). But the law also declares that if a sex offender owns the property within this area and had bought it before the implementation of this law, he is not obliged to move (Illinois State Police, 2010). In all 50 states and the District of Columbia it is mandatory to register and many states prohibit sex offenders from living in certain areas, but some also decided that sex offenders who are off probation or parole are not subject to the residency restriction laws (NYS DCJS, 2010). Although sex offenders in Illinois are not allowed to live within a distinctively smaller area than in California, there are proximity rules that apply. Sex offenders cannot be present within 100 ft. of any transportation stop that is used for school activities when one or more minors are present. Also, they are not allowed to be present within 500 ft. of school buildings or property where school related activities occur (Illinois State Police, 2010).

As is mentioned above, exceptions on the residence restrictions are available. In Michigan they call the prohibited areas for sex offenders the student safety zone which is accessible for sex offenders to reside in certain circumstances (Michigan Legislature, 2009). When one is 26 years of age or younger and is attending a special education program he is allowed to reside in the student safety zone. Though, he must live with his parents or in an assisted living facility. Other exceptions are of age difference between the offender and victim (Michigan Legislature, 2009). When the victim is less than 13 years old and the offenders is no more than 5 years older or when the victim is between the age of 13 and 17 and the

offender is no more than 3 years older, the offender is allowed to live in the student safety zone.

Every sex offender has to verify his address on regular basis depending on their risk level (NYS DCJS, 2010). In Delaware, as in most of the 50 states, the level three sex offenders have to verify their address every 90 days (State of Delaware, 2010). They have to appear in person at therefore designated places to verify the information. For level three sex offenders this is mandatory for life. Level two sex offenders are obliged to verify every 6 months and the level one sex offenders every 12 months. For the latter two this is not necessarily for life, because they can be relieved from registration obligations. This is to be decided by the local authorities after evaluation of risk assessment (State of Delaware, 2010).

3.2 New York state

For the publicly available information concerning the sex offenders living in New York state, one can look on the website of Criminal Justice Services of NY state (NYS DCJS, 2010). Here one can find personal information about the sex offenders, including name, age, current photo, physical description, risk level, race, conviction and more of earlier mentioned information. For level three offenders one can find exact addresses, but for the level one and two offenders it is not by law to release this information. Information on level one offenders is not released at all and for the level two offenders, only the zip code of residency is provided.

Registration in New York state is, as in all states, by law, but maintains different length of time periods of registration (NYS DCJS, 2010). This depends on the risk level and if a sex offender has been designated an extra 'title' beside one of the three levels (NYS DCJS, 2010). These titles are Sexual predator, Sexual violent offender or Predicate sex offender. Sex offender assessment decides whether they will or will not be designated to this and to which one of them. Every sex offender is assessed as a unique case, which means that no generalizations are made in type of offense. The guidelines for designating a sex offender to one of the earlier mentioned designations include whether there was sexual abuse involved, violence involved and/or if the offender is mentally disable. Only in the case of a level one offender and not being designated to one of those three, one has to register for a minimum

period of twenty years. All other offenders have to register for life. Though, level two offenders do have the opportunity to be relieved from the obligation of registration after a minimum period of thirty years. This does not include level two offenders who have received one of the three designations, but this is also to be decided by court through sex offender assessment. Level three offenders and offenders being designated have to verify their personal information every 90 days and level one and two who have not received designations have to verify this once every 12 months. When offenders change their address they have to notify the Division of Criminal Justice Services within 10 days and this applies for every sex offender who is registered (NYS DCJS, 2010).

It is possible that different rules apply for registered sex offenders who are on parole or probation. When a sex offender is on parole he was released earlier from prison than he was sentenced to (NYS DCJS, 2010). Probation is the time sex offenders are under the supervisions of the probation department after finishing their time sentenced to prison (NYS DCJS, 2010). Probation time can last from a minimum of six years to a maximum of 10 years. This depends on their criminal history and evaluation of their risk assessment (Erhard, 2010). For parolees, it means that they are released from prison which is a conditional release. The remainder of the time they were sentenced to, has to be fulfilled under the supervision of the parole officer (Yancey, 2010). As is mentioned earlier in this paper, local authorities stipulate their own rules for sex offender management which include residence restriction laws (Moran, 2010; NYS DCJS, 2010). Thus, once under the supervision of either probation or parole, they will stipulate the rules and conditions on where sex offenders can live and what is allowed to do and/or own (NYS DCJS, 2010).

4. Data analysis

4.1 Introduction

In this chapter I will analyze the data to find if the suggested theory in previous chapters can be supported. In the first section I will discuss a case study taken in the city of Rochester, in Monroe county. The second chapter discusses the interviews taken with representatives from the administrative system. In the last section I will depict the relation between socio-economic factors and the presence of sex offenders through the means of Geographic Information Systems.

4.2 Case study: zip code 14621, Rochester, Monroe county

Research suggests that sex offenders are most likely to reside in socially disorganized areas which mainly show signs of decay and neighborhoods below the national poverty line (Mustaine et al. 2006). Sex offenders tend to move to these areas so they can escape from the attention that is put on them when their personal information became publicly available on the Criminal Justice Service website (Duwe et al. 2008; Mustaine et al. 2006). But when sex offenders will search for housing they will also face certain rules that limit their options (Yancey, 2010). In many areas sex offenders face the residence restriction laws and the rules of their probation or parole department that supervises them (Erhard, 2010). Because of these rules and the earlier mentioned attention, often they are likely to move into cheap housing in communities where there is less social cohesion. These areas are also known for general lower income households, high unemployment rate and a concentration of race. Characters of these areas can also contribute to recidivism (Mustaine et al. 2006). When sex offenders are released they will be under the supervision of probation or parole (Erhard, 2010). They have to approve the housing to make sure the sex offender will not be exposed to any triggers that might cause them to re-offend (Yancey, 2010). Probation and/or parole also decide the proximity to a school or day care center a sex offender can reside. For this zip code there is 1000 ft. buffer zone around the place where children are known to congregate. These are all rules that contribute to the residential locations of sex offenders.

The case examined here is an instrumental case used to show an indication of the general perception of areas where sex offenders are concentrated, as is described above. The focus is on the zip code area 14621, in the city Rochester of Monroe county. Below one can see demographic and socio-economic characters of this zip code (ZIP skinny, 2010).

- Population:	35.977	- Unemployment rate (%):	6,4
- Race (%)→	Black: 41,5	- National unemployment rate (%):	4,2
	White: 26,4	- Below poverty line (%):	31,8
	Other: 32,1	- National below poverty line (%):	14,3
		- Median Income (\$):	22.107
		- Median Income US (\$):	46.320
- Number of sex offenders:	89		
- Race (no.) →	Black: 44		
	White: 29		
	Other: 16		

At the time of data subtraction there are 89 sex offenders living in this zip code (NYS Division of Criminal Justice Services, 2010) of which are 87 males and 2 females. The ratio sex offender per 1000 population in this zip code is 2,47, which is a significantly higher number than the New York state number of 1,51. Of these 89 offenders there are 44 black, 29 white and 16 sex offender are of other race. The ratio for these three in same order are approximately 49%, 33% and 18%. As one can see, the share of Black in the population as in the sex offender group is the largest of the three categories. This cannot be said about White and Other. Although the latter two do not coincide, concentration of black sex offenders is evident in an area where the majority of the population is black as well. This is not to indicate the fact that sex offenders are generally black, but the concentration of residential locations of sex offenders from a demographic perspective.

Above mentioned median incomes show that the national median income is much higher than the one in the zip code area. Many released sex offenders are homeless or very poor and do not have any family to live with (Yancey, 2010). Some do have family, but due to the fact that addresses are made publicly available many are not willing to take sex offenders into their homes. Parole will help them find housing, but it is often very cheap. The cheap

housing facilities are generally located in neighborhoods with a low median income. As can be seen from the socio-economic characters mentioned above, the median household income of this zip code area is a little more than half of the national median household income. Another characteristic that amplifies the poor status of the area is the large difference between the people living below the poverty line, locally and nationally (31,8 and 14,3)

Below are pictures of the several housing facilities and images of the neighborhood where sex offenders reside.



Photo 1



Photo 2



Photo 3



Photo 4

As can be seen from these pictures housing facilities are very poorly maintained and houses in the neighborhood can sometimes be well maintained, but many are boarded. Photo 4 depicts a residence of a released sex offender, but photo 1 and 3 are found in the same street.



Photo 5



Photo 6

In this case study one can see supporting factors strengthening the general conception, according to the theory, that exists about the areas where sex offenders live. The characteristics of the socially disorganized area can be seen in the demographic and socio-economic statistics and poor conditions of housing are depicted in the photos. This is evidence used as support to depict the socially disorganized areas where sex offenders generally tend to live.

4.3 Administrative system

In order to gain information from the administrative system about their influences on the choice of residential locations of sex offenders, three interviews have been taken with law enforcement representatives. Kim Moran has been an investigator at the Livingston Sherriff's office for 24 years and supervises the sex offender registry, which at the time of interviewing consisted of approximately 100 sex offenders. She verifies the addresses of the sex offenders who are not under the supervision of parole or probation. Ed Erhard is the director of the Livingston County Probation Department and supervises 42 sex offenders. The third law enforcement representative is parole officer Bruce Yancey, who has been

working with probation and parole in Livingston county for almost two decades. Tasks of parole and probation mainly entail support and control of sex offenders in their process of reintegration back into society.

According to the theory discussed in chapter two sex offenders face many restrictions and impediments in their choice for residential locations. This is not different from the counties in the RMSA, although these restrictions are not enforced as easy as the theory suggests. Yancey (2010) explains there is a general misconception among the public about the law concerning sex offenders which is that every sex offender is subject to the 'sex offender law'. New York state requires local law enforcement to have sex offender registries and they are obliged to make a public notification, through the website of NYS Division of Criminal Justice Services, of released sex offenders (Moran, 2010). But the first distinction made between sex offenders in the matter of notification is their risk level, discussed in chapter three. The addresses of level 1 sex offenders are not publicly released, only that of level 2 and 3. For level 1 sex offenders only the zip code of their residence is publicly released. Yancey (2010) and Moran (2010) do not explicitly say that the address notification is an impediment to their process of reintegration into society, but in general sex offenders face difficulties of getting accepted in their community once people are aware of their 'history'. Sex offenders do have the opportunity to suggest residencies in advance of their release, but these have to be approved by parole or probation (Moran, 2010). Usually they suggest family residencies, but they often show rejection to this as well. Mainly this is because people do not want to be associated with sex offenders (Yancey, 2010).

Another part of the earlier mentioned general misconception is about the residence restrictions. In this matter there is a distinction made as well, only this time it does not depend on the risk level but whether or not a sex offenders is on parole or probation (Yancey, 2010). This is the condition for sex offenders to be subject to the residence restriction rule. In the RMSA the general rule is that sex offenders are not allowed to live within a radius of a 1000 ft. of schoolyards, playgrounds or other places where children are known to congregate (Erhard, 2010; Yancey, 2010). This limits the options for sex offenders to find suitable housing and a consequence, discussed in the theory in chapter two, is that sex offenders tend to move to more socially disorganized areas. In this case, Moran (2010)

and Yancey (2010) talk about low-income communities, which is a characteristic of the socially disorganized area. Sex offenders tend to cluster in these areas, mainly because of the cheap housing provided by Social Services and the low level of income. This does not only account for sex offenders subject to the residence restriction rule, but to other sex offenders as well because of the rejection by the community.

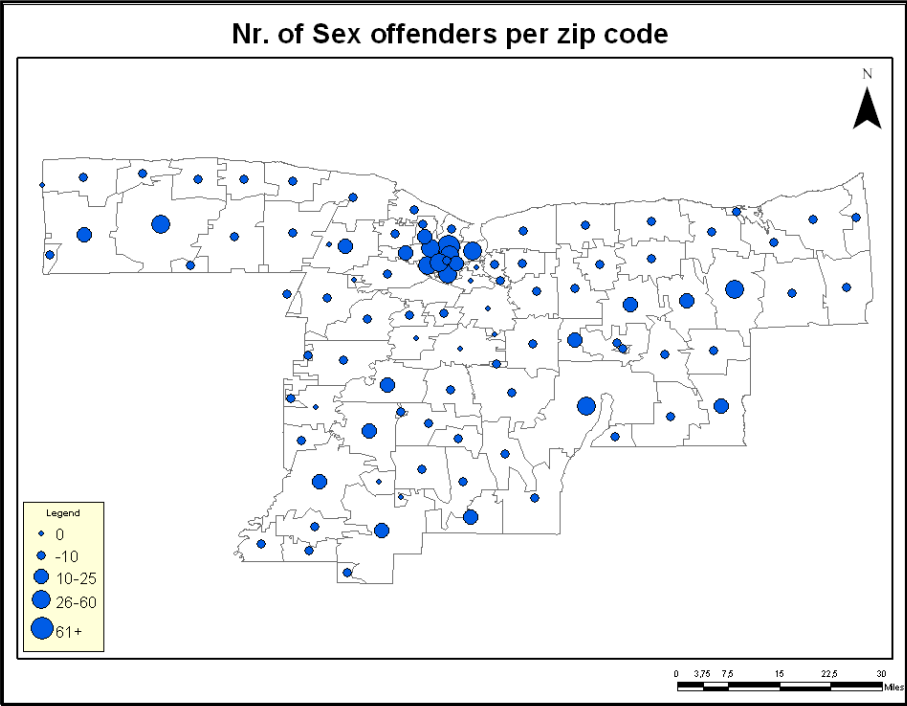
Thus, according to the 'sex offender law' sex offenders who are not on parole or probation only have the obligation of registration with the authorities, accompanied with certain conditions. Sex offenders of the risk level 1 and 2 have to verify their address once a year with the local authorities, but risk level 3 sex offenders are obliged to do this once every 90 days (Moran, 2010). Whenever sex offenders, disregard their risk level, move and change their address they have to notify this with the local authorities within a period of ten days (Moran, 2010).

As was mentioned above, the main task of parole and probation are to support and control sex offenders in their process of reintegration back into society. Parole and probation have to approve their belongings, their homes and people they can associate with (e.g. children, women). As Yancey said, "Anywhere the parolee lives, that's kind of the prison cell on the outside". And even though parole and probation have a great influence in where sex offenders can reside, they generally tend to move to the same kind of areas, low-income communities with public assistance housing (Moran, 2010).

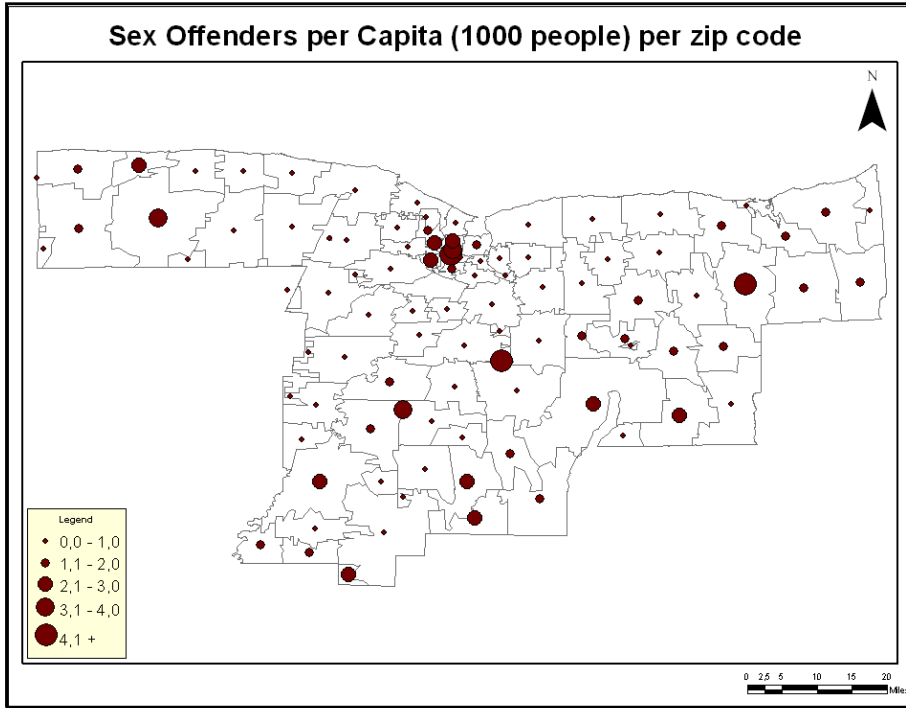
4.4 Geographic Information Systems

In this section I will show the geographic dispersion of sex offenders by mapping the sex offenders per capita (1000 people) present in the different zip code areas. According to the theory, factors of influence on the choice of residential location were dependent on socio-economic factors (Duwe et al. 2008; Mustaine et al. 2006). To depict this relation I have mapped sex offenders per capita in relation with socio-economic characteristics per zip code. The socio-economic characters used in this section are the population density, median income, percentage living under the poverty-line and the unemployment rate. For every characteristic I have proposed an hypothesis and I will use the maps in order to support the hypotheses or not. In order to understand the maps I have added a second map without the

number of sex offenders, next to every theme. For example, map 3 is supporting map 4. Even though I will use the sex offenders per capita, map 1 depicts the dispersion of the number of sex offenders. There are not many zip code areas with more than 10 sex offenders present and therefore the legend is somewhat skewed, but in order to present the dispersion clearly this legend was chosen. Map 2 depicts the dispersion of sex offenders per 1000 people per zip code.



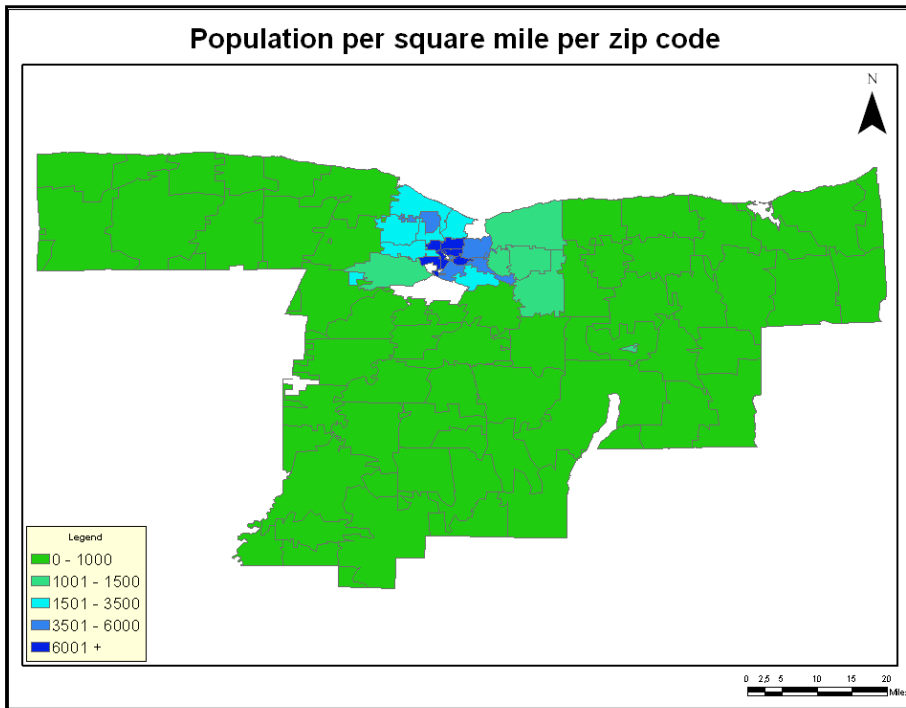
Map 1



Map 2

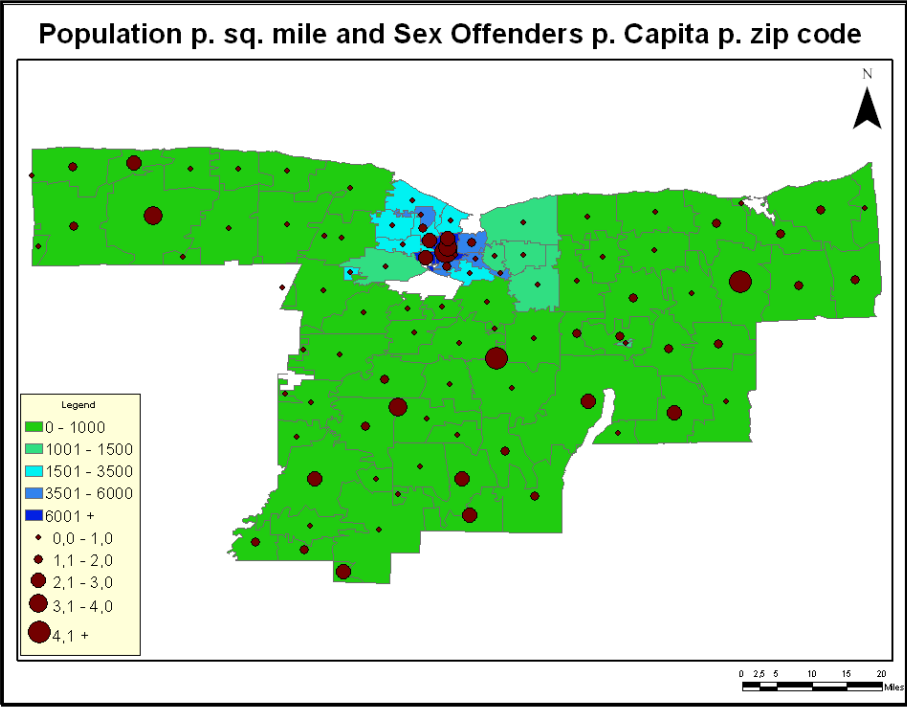
4.4.1 Sex offenders and Population

Hypothesis: Zip code areas with a relatively high population density contain a high number of sex offenders per capita.



Map 3

Map 3 depicts the population density per zip code. As one can see, the population density is very concentrated, in the city of Rochester.

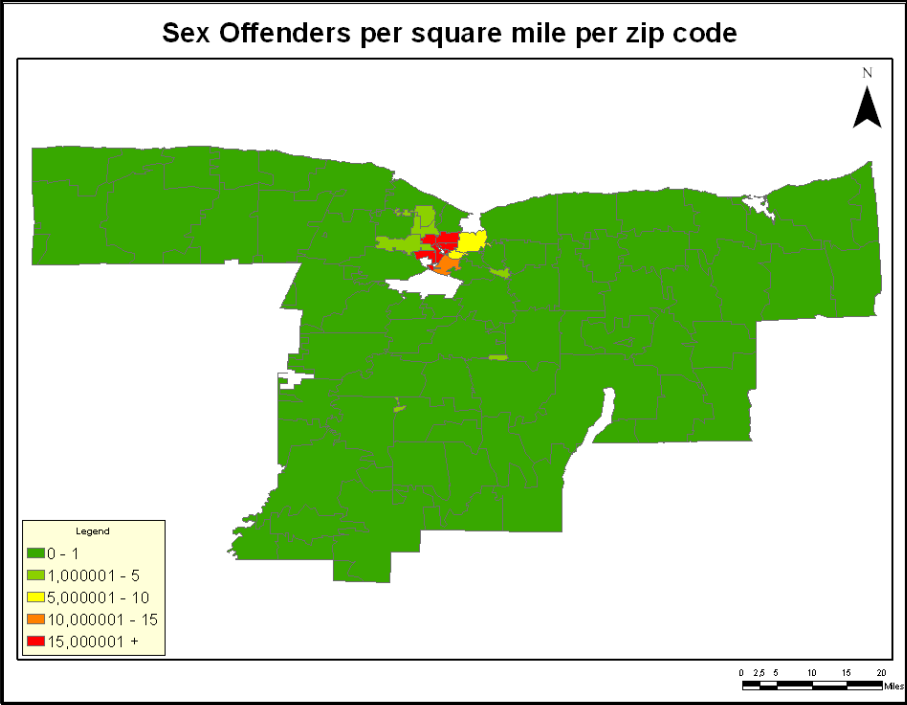


Map 4

In map 4 one can see the relation between population density and the dispersion of sex offenders per capita per zip code

Even though some relatively high numbers of sex offenders per capita are present outside of the high population density areas, many sex offenders are concentrated in the urban area where there is high population density. This can be explained from the theory (Mustaine et al. 2006) that sex offenders tend to move to urban areas where there is less social cohesion and they can live in anonymity. The larger bowls that represent a high number of sex offenders per capita can be explained from the fact they are present small counties and sex offenders who live in motels (Yancey, 2010).

The next map shows the concentration of sex offenders per square mile and that this is according to the theory, concentrated in the urban area (Mustaine et al. 2006).

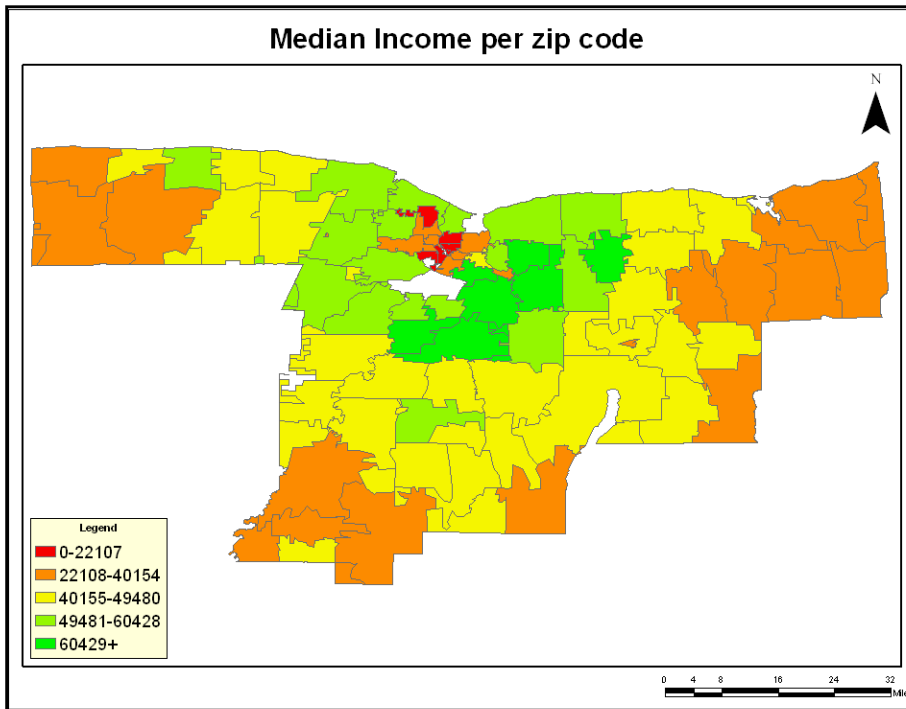


Map 5

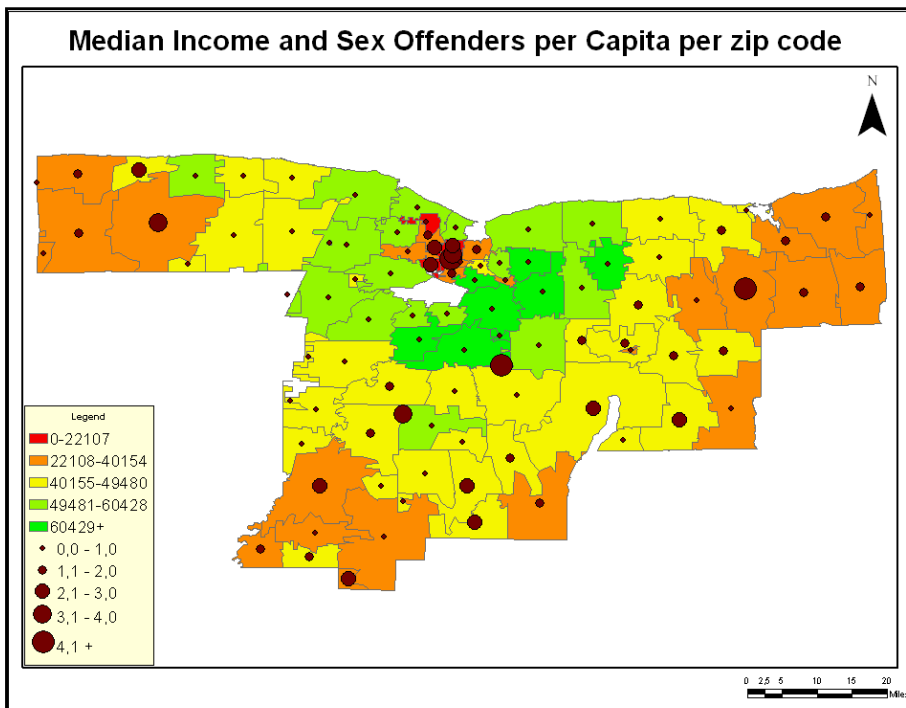
Even though some areas contained a high number of sex offenders per capita where there was a low population density, in general the maps supported the hypothesis that zip code areas with a relatively high population density contain a high number of sex offenders per capita.

4.4.2 Sex offenders and Median Income

Hypothesis: Zip code areas with a relatively low median income contain a relatively high number of sex offenders per capita.



Map 6



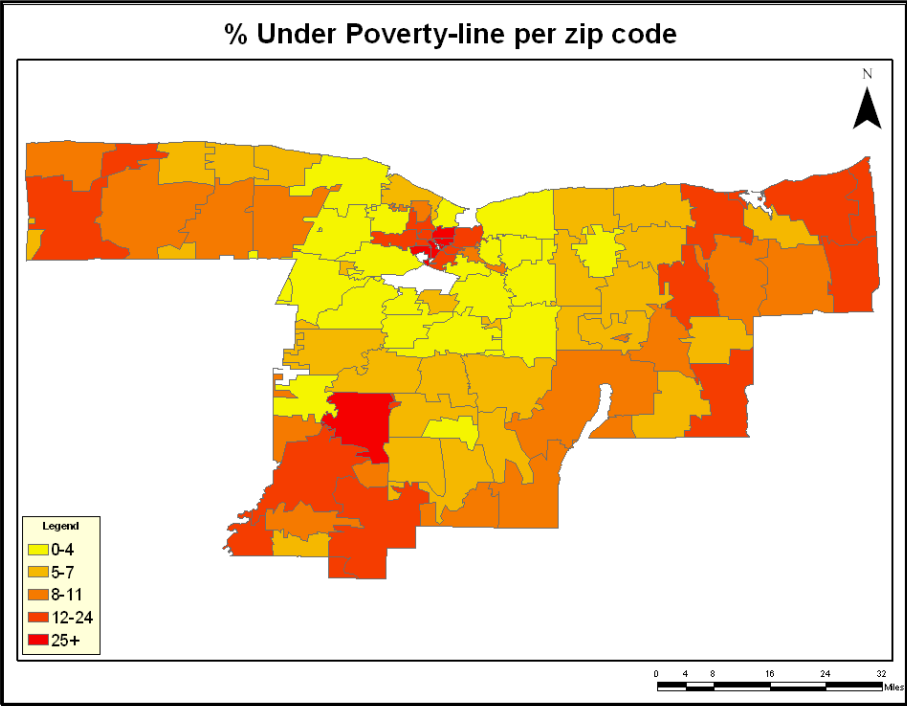
Map 7

In map 6 and 7 one can see that the higher median incomes are concentrated around the urban center of the city of Rochester. The city of Rochester is the red and orange colored part surrounded by the green colored zip codes. As was mentioned in theory, many socially

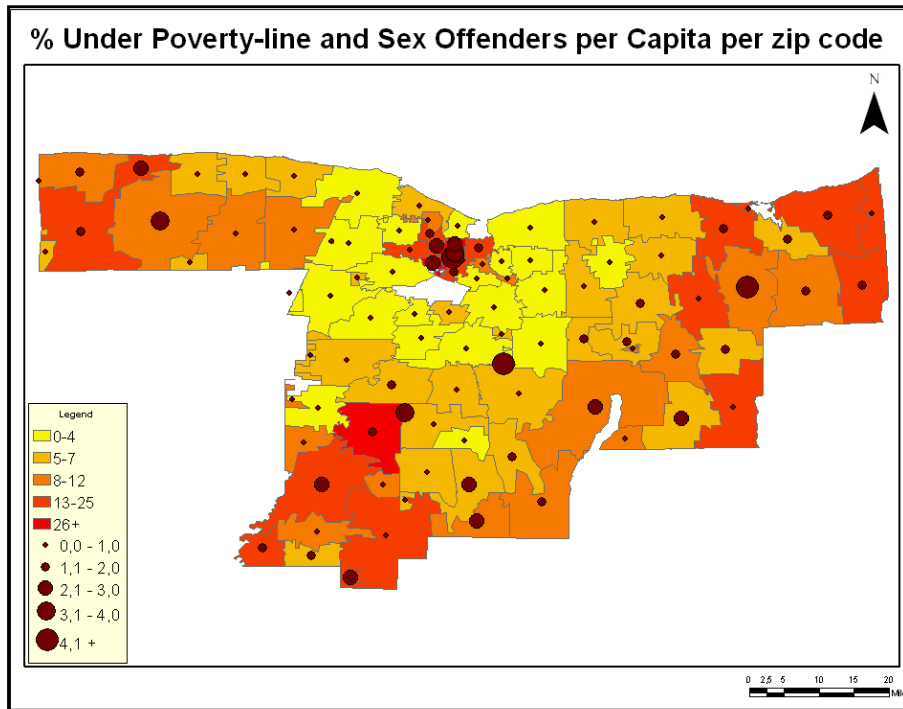
disorganized areas can be found in urban areas. The orange colored parts east and west of the map can be explained from the presence of the cities of Buffalo and Syracuse. The higher median incomes can be found around the core of the city and one can see that the number of sex offenders per capita present in these zip codes is clearly lower. The relatively higher number of sex offenders per capita are present in the zip code areas with lower median incomes. Thus, map 7 supports the hypothesis that a zip code with a relatively low median income contain a relatively high number of sex offenders per capita. The higher number of sex offenders per capita present in the southern parts can be explained from sex offenders living temporarily in motels or offenders that want to live in isolation (Mustaine et al 2006, Yancey, 2010).

4.4.3 Sex offenders and the Poverty-line

Hypothesis: Zip code areas with a relatively high percentage of people living under the poverty-line contain a relatively high number of sex offenders per capita.



Map 8

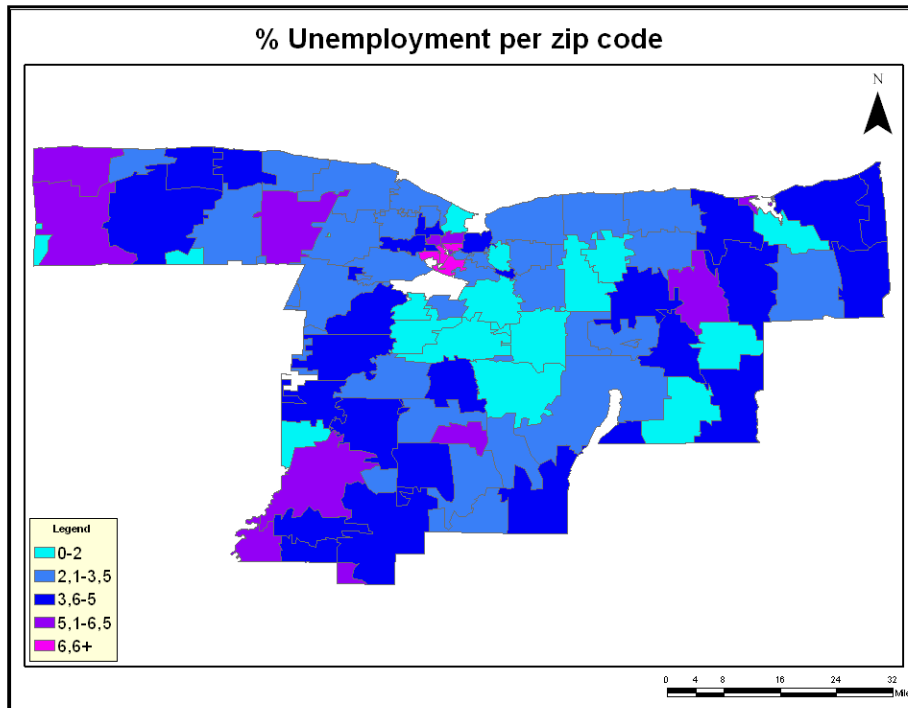


Map 9

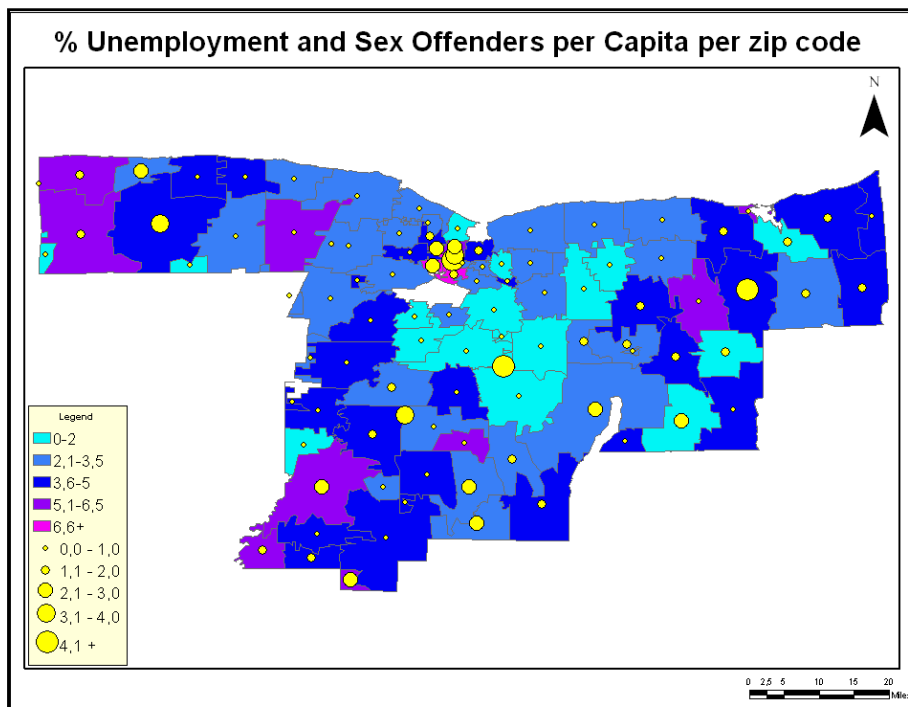
Map 8 and 9 show the relation between the number of sex offenders per capita and the percentage of people living under the poverty-line. Map 8 shows large resemblance with map 6 and can be explained from the same arguments as mentioned with map 6 and 7. The yellow colored areas are the zip codes that have a low percentage of people living under the poverty-line, as the red colored areas have a high percentage. One can see that the number of sex offenders per capita present in the yellow areas is relatively lower than in the red areas. Thus, the map supports the hypothesis that zip code areas with a relatively high percentage of people living under the poverty-line contain a relatively high number of sex offenders.

4.4.4 Sex offenders and Unemployment

Hypothesis: Zip code areas with a relatively high percentage unemployment contain a relatively high number of sex offenders.



Map 10



Map 11

According to Mustaine et al. (2006), the socially disorganized areas where sex offenders tend to reside are generally characterized by a relatively high unemployment rate. In maps 10 and 11 the unemployment rate is depicted, but is not as clear dispersed as the latter two characteristics. The highest percentage of unemployment is found in the urban area of Rochester, but the area around the urban center and the eastern part of the research area are more mixed up considering unemployment percentage. Still, one can see a relation between the presence of sex offenders per capita and the unemployment percentage, especially in the urban area and the south-western part of the research area. Although there is one exception, which is the county in the north-western part of the research area which shows a high unemployment percentage but a low number of sex offenders present per capita. According to map 1, one can see there are many sex offenders present in these area but due to the large surface of this zip code this maps shows there is little relation between the sex offenders per capita and the unemployment percentage. In general, these maps do support the hypothesis that zip code areas with a relatively high percentage unemployment contain a relatively high number of sex offenders.

5. Conclusion

Sex offenders have drawn the attention of politics, media and the general public for decades, but since the last two decades they have been under severe control by law enforcements. The information provided in the first three chapters has given many examples of the situations sex offenders can find themselves in after their release from prison. The theory discussed in these chapters suggested general fates for many sex offenders considering their future problems and opportunities in society. The evidence has not rejected this.

The general conception about the residential locations of sex offenders can be characterize as slums with low-income households and high crime rates. The socio-economic characters that have been examined through the use of GIS show that there is a high percentage of unemployment and people living under the poverty-line, especially in the urban area where concentrations of sex offender residencies are evident. The zip code areas that house many sex offenders are also characterized by low-income households. As the case studies shows, houses are poorly maintained and according to the theory and the interviews taken in this research sex offenders are condemned to isolation from society. These are conditions described by Mustaine et al. of the socially disorganized areas. Thus, socio-economic conditions of sex offenders' residential areas show a strong relation with the discussed theory.

Representatives of the administrative system have confirmed the difficulties sex offenders face in their attempt to reintegrate back into society. They are restricted in their movement and ownership by the conditions established by different institutions of the administrative system. As investigator Kim Moran has pointed out, many local authorities establish there own rules and conditions in legal manner, but without state bounded laws. Parole and probation are responsible for the start of reintegration into society and state the opportunities and limitations for the released sex offenders. Although the Sherriff's department contributes to the monitoring of sex offenders, the parole and probation departments execute the main influence on choice of residential locations for sex offenders.

According to the theory and the data analysis there are multiple conditions to the residential locations of sex offenders. This could somehow be skewed due to the large number of counties in the research area and the low population density. Although, it is clear that many sex offenders tend to concentrate in areas where they can easily disappear in anonymity. From the information drawn from the interviews with representatives of the administrative system, one can say that the residential locations of sex offenders are little dependent on demographic characteristics. As said before, eventually the administrative system determines the conditions.

The main conclusion that can be drawn from this research is that the administrative system definitely has large influence on the choice of residential location of sex offenders. Other factors, such as family, income etc. are of influence on the opportunities released sex offenders have, but these factors do not control their activity space. Sex offenders are allowed to live with their family but they have to cooperate with the stipulations set by the parole or probation department. The parole and probation department shape the conditions that sex offenders have to abide. Thus, the administrative system controls their participation in society and as parole officer Bruce Yancey said, “anywhere the parolee lives, that’s kind of the prison cell on the outside”.

For concluding remarks, even though socio-economic factors show evidence in support to the theory and mapping these factors can show the relation with sex offenders, Geographic Information Systems (GIS) cannot be considered as the main source of evidence for determining the causes of the geographic dispersion. Furthermore, more comparison has to be done on the urban concentration of sex offenders in order to create a better understanding of this concentration and a larger research area should be taken to create a better analysis of the dispersion of sex offenders.

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