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THE SCOPE AND NATURE OF PANHANDLING
AND THE RELATED CRIME IN DENVER, COLORADO

A Thesis Presented to
The Faculty of Natural Sciences & Mathematics School
University of Denver

In Partial Fulfillment
Of the Requirements for the Degree
Master of Science

by

Megan A. Gall

May 2007

Advised by Steven R. Hick

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GRADUATE STUDIES
AT
THE UNIVERSITY OF DENVER

Upon the recommendation of the chairperson of the Department of
Geography this thesis is hereby accepted in partial fulfillment of the
requirements for the degree of

Master of Science

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Vice Provost for Graduate Studies

Date

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Technical Details

Software Information

- ESRI ArcGIS 9.x developed by ESRI for spatial analysis and representation
- ArcGIS Spatial Analyst extension for spatial analysis
- Windows XP Office Suite by Microsoft, Inc. for text and spreadsheet needs
- JMP 6 by SAS Institute, Inc. for statistical analysis
- SPSS by SPSS Inc. for statistical analysis
- GeoGenie by Bair Software Corp. for data cleaning and geocoding

Spatial Display Information

- State Plane Spatial Coordinate System
- Colorado Central FIPS 0502 Zone
- Units are in feet
- North American Datum of 1983 High Accuracy Reference Network (NAD83 HARN)
- Lambert Conformal Conic projection

Data Acquisition

- Crime data from 2004 – 2006 are supplied and owned by the Denver Police Department
- Existing map data are supplied and owned by DenverGIS and include transportation routes, political and neighborhood boundaries, streets, parks and hydrology.
- US Census Bureau data retrieved from www.census.gov
- Survey data detailing self reported sleeping locations of homeless individuals supplied and owned by Denver Human Services/Colorado Coalition for the Homeless

Chapter 1 – Introduction

Introduction

Nationally, increases in the number of panhandlers and homeless people are associated with social and economic issues and are the subject of public policy debate, sociological inquiry and public interest (DHPG 2003). Panhandlers and homeless people are collectively called transients for this research. In the 1950s, the deinstitutionalization of the mentally ill caused the first major influx of homelessness. Discrepancies between affordable housing and wages grew through the 1960s and 1970s and the problem did not gain national attention until the 1980s (DCEH n.d.). The increased attention is primarily due to the continued scarcity of housing, increasing discrepancies between housing costs and means, a scarcity of social services, changing social conditions and new types of illicit drugs (DCEH n.d.). In Denver during 2005, one organization estimated 10,000 homeless people were staying in Denver (MDHI 2005). Another local organization approximated that \$4.6 million was collected by panhandlers (Denver's Road Home n.d.).

Agencies throughout the United States are using new tactics to address problems associated with transient populations. A 2006 report released by the National Alliance to End Homelessness (NAEH) details over 200 communities nation wide that have developed a Ten Year Plan to End Homelessness (NAEH 2006). The plans are driven by a document produced by the National Alliance to

End Homelessness and therefore share common structures, processes and goals (NAEH 2000).

The NAEH plans do not explicitly suggest police regulations for panhandling and homeless however the Ten Year Plan trend has been accompanied by a trend in public policy regulating behavior specific to transient populations. The National Coalition for the Homeless and The National Law Center on Homelessness & Poverty (NCH/NLCHP) (2006, 9) surveyed 224 cities regarding policy. They report, among other things, that 27% of cities restrict sitting and lying in specific areas, 43% restrict begging in specific areas, 45% restrict all aggressive panhandling and 21% restrict panhandling for the entire city. Also between 2002 and 2006, NCH/NLCHP (2006, 9) report a 12% increase in restrictions for panhandling and a 14% increase for restrictions on sitting or lying in public spaces.

The citizens and the City of Denver have established an ongoing interest in transient populations and have taken steps to address the associated issues. Elected in 2003, Denver Mayor John Hickenlooper declared issues concerning panhandling and homelessness a priority and developed a Denver wide Ten Year Plan to End Homeless based on the NAEH format.

In January 2006, Denver kept pace with national trends and passed one new ordinance and elaborated on two existing ordinances detailing regulations for panhandling. The Denver ordinances are designed to regulate panhandling in an

attempt to lower overall crime, to ease citizen concern regarding transient populations and to connect people in need of social services with the appropriate organizations. Ordinance R.M.C. 38-132 is an extension of a existing ordinance and defines and prohibits aggressive panhandling city wide. Ordinance R.M.C. 54-548 is an extension of a pre-existing ordinance and defines a city-wide restriction on panhandling on highway on/off ramps and medians and prohibits panhandlers from stepping into streets to accept donations. Ordinance R.M.C. 38-86.1 is a new ordinance restricting sitting and lying on Denver's Business Improvement District (BID). The BID ordinance defined police enforcement procedures. The first step for officers enforcing this ordinance is to identify social service needs and make reasonable attempts to connect the offender with those services.

Research objectives are accomplished using geographic information science (GIS) crime mapping and analysis techniques. Criminological theories influencing police strategies and mapping techniques provide the framework for the research. These tools and ideas were used to determine the relationship between panhandling, crime and quality of life issues and to determine the effectiveness of public policy in Denver.

Theory and Principles

Broken Windows theory, along with other current criminological theory, have facilitated the development of new police crime prevention strategies

including Community Policing, Problem-Oriented Policing (POP) and Situational Crime Prevention (SCP). The criminological theories maintain that place, environment and opportunity drive criminal behavior. Consequently, criminal behavior can be deterred by decreasing criminal opportunities at any given location. The theory and consequent police strategy are the framework for, and underlying principles of, the new Denver ordinances. All of these components are necessary for understanding and evaluating the effects and implications of such policy decisions.

GIS crime mapping techniques are being used nationwide to facilitate Community Policing, POP and SCP in all phases of action including crime prevention design, planning, monitoring, enforcement and evaluation. The Denver Police Department (DPD) is integrating GIS crime mapping into its operations. GIS offers a unique perspective for crime mapping and for evaluating the Denver ordinances. The use of GIS for these purposes is well documented. Quantitative and qualitative measures are available but flawed and researchers are exploring these methods and extending the versatility of GIS.

Statement of Problem

Given the development of public policy pertaining to transient populations in Denver, it is necessary to investigate the legitimacy of the underlying assumptions inherent in the theory and crime prevention strategies. Specifically, to establish that areas heavily used by transient populations correlate to areas with

high crime rates. Additionally, to establish that the goals and effectiveness of the crime prevention strategies aimed at transient populations are successful in lowering crime. Without positive evidence of these assumptions, the public policy may be a costly and ineffectual strategy for dealing with transient populations and overall crime rates.

Research Questions

Two main research questions, each with a secondary question, are investigated. First, is there a correlation between panhandling hotspots and areas with high crime rates? If so, what is the nature of that relationship? Panhandling hotspots are areas with high panhandling activity and is defined further in Chapter 3 – Methods. Second, do crime rates decrease in the panhandling hotspots after ordinance enforcement? If so, was the crime displaced?

Operation Definitions

Panhandling hotspots were qualitatively defined. Five classifications of crime were used: All Part I crime, All Part I Person crime, All Part I Property crime, Intermediate crime and Quality of Life crime. All Part I crime included (in descending order) homicide, forcible rape, robbery, aggravated assault, burglary, larceny and auto theft. All Part I crime were separated into crime against persons and crime against property. All Part I Person crime include criminal homicide, forcible rape, robbery and aggravated assault. All Part I Property crime include burglary, larceny and auto theft. The two remaining crime classifications consist

of Part II crimes and are determined to be “intermediate” or “quality of life” crimes for this research. Intermediate crimes include simple assaults, stolen property, criminal mischief and criminal trespass. Quality of life (QOL) crimes included prostitution, drug abuse violations and disorderly conduct. Formal processes and rationale are described in the Chapter 3 – Methods.

Significance

The research contributes to both academic and social concerns. Academically, the research adds to the GIS crime mapping and analysis body of literature, particularly for displacement measures. Specific social structure, victimization and choice criminological theories along with opportunity based crime prevention techniques are used to analyze and explain consequences of the ordinance interdiction. While these ideas are commonly accepted in the criminology community, extensive empirical examination is lacking.

Additionally, given current trends in addressing issues surrounding transient populations and the political and social magnitude of the issues, the evaluation of effectiveness of police intervention is pertinent. Thoughtful program design and effectiveness monitoring is essential to the effective use of government resources.

Limitations of Study

A set of assumptions underlie the research questions. First, panhandling hotspots are defined anecdotally through interviews with members of the DPD

and through information from Denver social workers in the field. Through their collective experiences, it is assumed that these professionals provided accurate information regarding panhandling hotspots. Second, ordinance enforcement by the DPD cannot be accurately measured and therefore it is assumed that enforcement is maintained in keeping with ordinance regulations. Lastly, Denver's large scale effort to limit panhandling and homelessness also includes service providers and governmental agencies. Because of the overlapping efforts and effects, it is not possible to control for extraneous variables called for in classical experimental design.

Conclusion

The research will incorporate GIS, principles of criminological theory and crime prevention strategies to investigate the validity and consequences of transient focused ordinances in Denver. Denver is a typical city actively participating in the nationwide goals and trends for addressing social concerns associated with transient populations. As such, the research may serve as a model for examining and understanding the effects of transient oriented work in other geographic areas.

Chapter 2 – Literature Review

Literature Review Introduction

The conceptualization and perspective of criminal behavior and patterns, as well as police responses and systems, are shifting towards an environmental, opportunistic understanding. Traditionally, crime theory and therefore crime prevention and prediction, focused on the individual's disposition toward crime. A new genesis of crime theories have developed. Social structure, victimization and choice theories examine crime in context and lead to crime prevention strategies that operate "on a non-deterministic premise" (Brantingham, Brantingham and Taylor 2005, 4).

The shift in theory facilitated the shift in crime prevention techniques toward an opportunity based foundation. Community policing, problem-oriented policing (POP) and situational crime prevention (SCP) are the practical, applicable techniques born of the theory. These theories and techniques are driving forces behind the new Denver City ordinances aimed at transient populations. As such, they will act as the foundation of analysis for understanding the effects of the Denver ordinances.

Crime and Opportunity

As previously stated, new criminological thought focuses on opportunity as the main component for criminal activity. Opportunity as a prime factor for crime rests on the idea that something must exist in order for it to be manipulated.

Although opportunity is the focus of this branch of criminology, opportunity alone does not create a crime. A person willing to commit the crime must also be present (Warr 2001).

Clarke and Felson outlined the principles of opportunity and crime. First, opportunity plays a crucial role in all crimes. Even expressive crimes, once thought of as driven by emotion, are opportunity related. Expressive crimes are colloquially known as crimes of passion. Criminal opportunities are highly specific and should therefore be analyzed as individual events. The spatial and temporal opportunities for crime are clustered into “hotspots” and “hotspot” patterns should be considered in terms of “crime generators”, “crime attractors” and “crime detractors” (Felson and Clarke 1998).

Based on these principles, crime can be prevented by reducing opportunities through approaches like community policing, POP and SCP. Two phenomena, crime displacement and “diffusion of benefits”, can occur with opportunity based crime prevention techniques (Felson and Clarke 1998). The role of displacement is discussed further under the heading of Displacement – Diffusion of Benefits below.

Broken Windows Theory

The “broken windows” idea was first articulated by James Wilson and George Kelling in 1982 in *The Atlantic Monthly*. Broken windows is a metaphor for community disorder and states that signs of community disorder, if left

unattended, will escalate through a cyclic process of local citizen withdraw because of a fear of crime instigated by disorder. Community disorder escalates if local citizens withdraw leaving the community unattended. The persons considered disorderly or criminal perceive the neighborhood as having less control and increase their activity. Following the spiral process, the increased disorderly or criminal element makes citizens withdraw (Wilson and Kelling 1982). According to Wilson and Kelling, (1982, 34) the “unchecked panhandler is, in effect, the first broken window.” Also included are public inebriants, prostitutes and loiterers (Wilson and Kelling 1982).

Broken windows theory is contingent on the positive relationship between disorder and crime (Xu, Fiedler and Flaming 2005). However, that core relationship between disorder and crime is debated within the criminological community. Harcourt negates the “disorder-crime nexus” by maintaining that crime and disorder do not necessarily exist together but instead is subjectively created and defined by the police without “a preexistent fixed reality” (Xu, Fiedler and Flaming 2005, 148).

Sampson and Raudenbush maintain that disorder and crime are not cyclically linked but that it is collective efficacy that explains both disorder and crime in any community (Xu, Fiedler and Flaming 2005). Collective efficacy is “cohesion among residents combined with shared expectations for the social control of public space” (Sampson and Raudenbush 1999, 603). Xu, Fiedler and

Flaming (2005) counter the collective efficacy argument by maintaining that collective efficacy is a facet of Broken Windows in that the level of collective efficacy is a measure of order which creates an indirect relationship between crime and disorder.

Broken windows has “greatly influenced public policy” and has been used as the basis for policing strategies in a number of major cities (Samson and Raudenbush 1999, 605). The New York Quality of Life Initiative, orchestrated by Kelling and Bratton, is referred to as the model for public policy. After Kelling and Bratton (1998) instituted a broken windows inspired order maintenance policing approach, crime dropped drastically in New York City.

Harcourt argues that New York City’s Quality of Life Initiative was not successful in lowering the crime rate because of order maintenance policing. He maintains that other factors including police department growth, the shift of drug use from crack to heroine, new police technology, improving economic conditions and a decrease in 18 - 24 year old males within the general population are the causes of the drop in crime rates (Harcourt 2001).

Kelling and Bratton (1998) defend broken windows from criticisms such as Harcourt’s by pointing to the subway project that preceded the New York Quality of Life Initiative. New York’s subways facilities were deteriorating and citizen use was declining as a result of disorder and escalating crime. They claim that by constructing a comprehensive strategy to regain order, disorderly and

criminal conduct dropped dramatically in the subways. They contend that the subway experiment was a controlled environment to test broken windows as many of the “potentially confounding variables cited by social scientists are controlled” and the only variable changed in the subways were police actions (Kelling and Bratton 1998, 1223).

Cultural Deviance Theory

The ideas in social strain and social disorganization theories are combined into the cultural deviance theory. Because the grouping of the social strain and social disorganization are so complete within cultural deviance theory, social strain and social disorganization theory are discussed as the foundation.

In 1938, Robert K. Merton published an article in *American Sociological Review* introducing social strain as an explanation of crime and poverty. Merton defined two elements of society as integral to social strain. First, society defines goals which measure an individual’s success. Some goals are biological necessities while others are cultural necessities. Attached to each socially defined goal is a level of prestige. The second element to social strain is that “the social structure defines, regulates, and controls the acceptable modes of achieving these goals” (Merton 1938, 672-673).

Every sub-culture within a society maintains mores which dictate the varying levels of social conformity in pursuing those goals. When institutionally defined means do not result in attainment of societies prescribed goals, anomie, or

social strain, occurs (Siegel, Welsh, and Senna 2006). Anomie is defined as “Normlessness produced by rapidly shifting moral values” (Siegel et al 2006, 116) Typically the lower class cannot meet these goals through conventional means which leads to feelings of anger, frustration and resentment (Siegel et al 2006). Individuals then turn to alternative, and often criminal, methods of attainment (Merton 1938).

Merton focuses on wealth as the most prominent measure of success. He defines five adaptations to the social structure. Adaptation I, conformity, constitutes the majority of members within a given society and is defined as a group which accepts and conforms to the institutionalized goals and means. At the other extreme is Adaptation V, rebellion. This group constitutes the smallest segment of a society and rejects both the institutionalized goals and means. Included in this group are “vagrants, vagabonds, tramps, chronic drunkards and drug addicts” (Merton 1938, 677). In other words, Merton included panhandlers and homeless persons as belonging to the rebellion adaptation and included two of their greatest afflictions, alcohol and drug abuse.

The rebellion adaptation occurs when there is a disconnect between an individual’s desire for societal goals and sanctioned means to acquire them. Among other things, insufficient means is exemplified by chronically low wages, lack of employment opportunities and little access to education or healthcare. Merton asserts that poverty alone does not lead to criminal behavior. A society

which prescribes the same goals for all members while systematically restricting access to means does cause criminal behavior. The dichotomy creates a social strain on segments of the population (Merton 1938). With this environment rampant in the United States, Merton's social strain theory provides a useful framework for the panhandling and homeless populations.

Robert Agnew is another leader in social strain theory. He expanded Merton's strain theory into General Strain Theory (GST) to include societal issues other than class (Siegel et al 2006). Agnew's work, while focusing specifically on juvenile delinquency, can apply to crime in general.

Agnew proposed three types of social strain. The first type of social strain is the result of not attaining positively valued goals (Agnew 1992). This type is very similar to Merton's anomie (Siegel et al 2006). Social strain can be a result of disconnects between aspirations and actual achievements, expectations and actual achievements or feelings of injustice and actual achievements. Feelings of injustice are a person's measurement of positive and negative inputs and positive and negative outcomes within a relationship (Agnew 1992).

Second, the removal of positively valued stimuli from an individual can be a source of social strain. Agnew draws from aggression and stress literature to suggest that the removal or threat of removal of positive stimuli can instigate criminal activity by pressuring the individual to attempt to prevent the loss from

happening, attempt to regain what was lost, seek revenge for the loss and/or negotiate the emotional impacts of the loss through drug abuse (Agnew 1992).

The third type of social strain is the presentation of negative stimuli, a concept mostly ignored in criminology. Again, Agnew relies on aggression and stress literature for justification. Noxious stimuli can lead to criminal behavior by pressuring the individual to attempt to escape or avoid the negative stimuli, terminate or alleviate the stimuli, seek revenge against the source and/or negotiate the emotional impacts through drug abuse (Agnew 1992).

The magnitude, recency, duration and clustering of adverse events can impact the way individuals deal with social strain (Agnew 1992). These factors also determine the level of negative emotions. “Anger increases perceptions of being wronged and produces a desire for revenge, energizes individuals to take action, and lowers inhibitions” (Siegel et al 2006, 118).

Also, even though the three types of social strain are distinct, they often do not exist independently. Social strain can therefore “create a *predisposition*” for crime or “function as a *situational event* that instigates” a particular crime (Agnew 1992, 60). In other words, some deem social strain as both a theory of “criminality” and “crime” (Agnew 1992, 60). Inherent in the destitute poverty the homeless and panhandlers experience is a compounding of social strain beyond strain other populations generally experience.

Social disorganization theory was initially introduced through the “Chicago School” by Clifford Shaw and Henry McKay (Sampson and Groves 1989). Social disorganization is described as the inability of different segments of a community to work together towards a common goal (Sampson and Groves 1989). Although this theory was derived to explain delinquency, it can serve as a general sociological perspective on crime.

Social disorganization theory is based on four primary assumptions. First, social disorganization is a result of a lack of community controls (Shoemaker 1996). Bursik and Grasmick, as cited in Siegel, maintain that community control can be exerted by businesses, schools, churches and other social organizations (Siegel et al 2006). Therefore, the continuity of the local institutions dictate the continuity of the neighborhood as a whole.

The second assumption is that disorganization is predominately produced in urban areas where growth issues of industrialization, immigration and urbanization are prevalent (Shoemaker 1996). One reason for the subsequent disorganization is the intermixing of residential and commercial properties (Siegel et al 2006). Areas “between the central business district and more stable residential areas” are recognized and studied as areas with high crime rates (Barr and Pease 1990). Further, the combination of properties may increase the difficulty of working towards common goals in the community.

Social control is linked with ecological principles, as is the competition between residences and businesses for land (Shoemaker 1996). The stronger of the two factions usually controls the more desirable land thereby contributing to social disorganization in the less desirable locations.

Lastly, social disorganization theory assumes that socially disorganized areas will develop “criminal values and traditions, which replace conventional ones, and that this process is self-perpetuating” (Shoemaker 1996, 77). Criminal behavior in this context includes a variety of crime including prostitution, drug trafficking, graffiti and higher levels of homeless and panhandlers (Siegel et al 2006).

Social strain and social disorganization theories are often analyzed together as the cultural deviance theory. Cultural deviance theory blends the ideas by contenting that social strain, caused by a lack of resources, is perpetuated through disorderly communities which in turn create unique subcultures that maintain deviant community mores (Siegel 2002).

Crime Pattern Theory

Again, criminology historically focused on inherent traits in a person which lead to criminal behavior (Felson and Clarke 1998). Beginning with the “Chicago School,” criminological thought began to regard place as an important aspect of crime (Eck and Weisburd n.d.). This shift is important for a number of reasons. First, as Clarke and Felson point out, “no crime can occur without the

physical opportunity to carry it out” while “No theory about individuals can claim that it has found the necessary conditions for a person to commit crime” (Felson and Clarke 1998, 1). Three main ideas were developed to analyze crime in terms of place: routine activity, crime pattern and rational choice. While some regard these ideas as theories (Eck and Weisburd n.d.), others contend they lack the brevity required of a theory and prefer to call them approaches (Felson and Clarke 1998). They are referred to here as theories.

While crime pattern theory is the main concern here, a brief overview of routine activity theory and rational choice theory are necessary because of the mutual influence and overlap among the three theories. Routine activity theory is a theory of victimization. Victimization theories analyze the role of the victim in a criminal event rather than assuming a passive victim role (Siegel 2002). Routine activity theory holds that “victimization results from the interaction of three everyday factors: the availability of suitable targets, the absence of capable guardians, and the presence of motivated offenders” (Siegel 2002, 58). When analyzing a crime, offenders consider the value of the target, the inertia or weight of the target, crime visibility and target access (Felson and Clarke 1998). Additionally, the target and the offender must converge in space and time (Eck and Weisburd n.d.).

Rational choice theory is a theory of choice. Choice theory is a “school of thought holding that people choose to engage in delinquent and criminal behavior

after weighing the consequences and benefits of their actions” (Siegel 2002, 69). The main assumption of rational choice theory is that “offending is purposive behavior, designed to benefit the offender in some way” (Felson and Clarke 1998). Offender rewards can be tangible effects such as sex and money and non-tangible effects such as status and excitement (Clarke 1995). This theory forces a specific examination of categories of crime and settings of crime because offender’s decisions are based on an opportunity by opportunity basis (Felson and Clarke 1998). The offender’s decisions are also controlled by the offender’s subjective appraisal of time, ability and information (Clarke 1995). Rational choice theory therefore relies on place as a basis for explaining target selection and means (Cornish and Clarke as cited in Eck and Weisburd n.d.).

Again, crime pattern theory is a blend of ideas. Brantingham and Brantingham provide a succinct interplay between routine activity, rational choice and crime pattern theory (Brantingham and Brantingham 1993, 259):

“Each criminal event is an opportune cross-product of law, offender motivation, and target characteristics arrayed on an environmental backcloth at a particular point in space-time. Each element in the criminal event has some historical trajectory shaped by past experience and future intention, by the routine activities and rhythms of life, and by the constraints of the environment. Patterns within these complexities, considered over many criminal events, should point us toward understandings of crime as a whole.”

Crime pattern theory also involves the concepts of nodes, paths and edges. Nodes are individual locations and can attract crime to the area as well. Paths are

the routes taken between nodes and edges are the geographic boundaries of individual's routine activities. People look for, or are presented with, criminal opportunities at nodes and on paths which "is why crime pattern theory pays so much attention to the geographic distribution of crime and the daily rhythm of activity" (Felson and Clarke 1998, 6). Edges are important geographic considerations because expressive crimes tend to occur closer to home while instrumental crimes tend to occur closer to edges (Rhodes and Conley as cited in Eck and Weisburd n.d.).

Clarke and Felson maintain that routine activity theory focuses on society, crime pattern theory focuses on a local area and rational choice theory focuses on the individual (Felson and Clarke 1998). Although the theories are different, there may be situations where crime analysis employs all three (Eck and Weisburd n.d.).

Using opportunity based crime theories, the homeless and panhandler populations are in a susceptible position, both in terms of committing criminal acts and victimization. This is due to their vulnerability as part of a hidden population and the severe lack of means.

Crime Prevention Strategies

Community Policing and Problem-Oriented Policing

Community policing, POP and SCP are the practical, applicable techniques born of the social structure theories. At the core of community

policing is “the restoration of public order and the involvement of police in order maintenance” by recognizing the “discrete local needs, traditions, and values” of a community (Kelling and Coles 1996, 158). Kelling and Bratton encourage community policing, not as a complete solution to crime, but rather as one facet for a new policing strategy (Xu, Fiedler and Flaming 2005).

The goal of community policing is to improve the quality of life by controlling disorder and involves “partnership with community, personalized policing, decentralized place, proactive policing, crime prevention, order restoration and maintenance, problem solving, interagency cooperation, unisolated patrol, permanent beats, and so on” (Xu, Fiedler and Flaming 2005, 175). Community policing is replacing the prevailing policing paradigm which is an incident based, reactive system. In other words, community policing is a more preventative, deterrent system which tries to act before an offense is committed thereby lowering the number of offenses committed (Xu, Fiedler and Flaming 2005).

POP, once a stand alone police strategy, is now a piece of community policing. POP is a multi-faceted strategy applicable to policing organizations and their internal management. The focus is on the development of “skills, procedures, and research techniques to analyze problems and evaluate police effectiveness” (Goldstein 1990, 49). POP is a multi-faceted strategy applicable to policing organizations and their internal management. The focus is on the

development of “skills, procedures, and research techniques to analyze problems and evaluate police effectiveness” (Goldstein 1990, 49).

Efficiency is commonly the main goal for police officers responding to calls for service but problem-oriented policing calls for different skills. Officers must invest more time and thought in order to assuage the underlying problems of a conflict. As conflicts are inherent in societies, working to solve surface conflicts is not as effective in the long term as focusing on measures to alleviate deeper issues. Therefore, officers should adopt a paradigm shift from solving crimes to increasing their effectiveness in terms of reducing the frequency and severity of crimes (Goldstein 1990).

Problem-oriented policing calls for a systematic inquiry into events. The inquiry should include details of the physical environment, the background of the event and the personal motivations and interests of those involved. Analyzing the interests of the involved parties will not only facilitate a deeper understanding of the issues involved but will also help prioritize police response (Goldstein 1990).

The problem-oriented policing strategy includes an analysis of the current and future police response. Effective responses already being used should be retained and alternative responses should be tried where old methods fail. The new responses must be analyzed for effectiveness. Officers should take a proactive role as community advocates. Officer concerns must be voiced, heard and

incorporated into the decision making processes at the management level and they must be held accountable for their decisions (Goldstein, 1990).

Community policing utilizes the order maintenance which is a low or no tolerance policy (Kelling and Coles 1996). Under this assumption, cleaning up signs of community disorder through police and community action will lower the rate of serious crime by cutting the cycle short. In practice, order maintenance focuses on establishing community standards for disorderly people who include “panhandlers, drunks, addicts, rowdy teenagers, (and) prostitutes” (Wilson and Kelling 1982, 30).

Much of this policing strategy is based on citizen fear of crime instigated by disorder and their subsequent withdrawal from the community. Under this assumption, it is not the actual crime in a community that provokes citizen reaction but the fear of crime.

Drops in citizen fear and a rejuvenated interest in the community has been observed after the implementation of order maintenance policing even though no actual drop in crime rates were observed. According to community policing, this result is acceptable as citizen perceived quality of life is the main the goal for the police (Xu, Fiedler and Flaming 2005). This is exemplified in the Newark Foot Patrol Experiment that examined citizen perceptions before and after a new foot patrol program was initiated and the consequent trends in crime (Kelling and Coles 1996). The implication is that by addressing the citizen fear by lowering

visible community disorder, regardless of the impact on crime, the citizens will not withdraw from the community and the cycle of broken windows can be halted.

Part of the policing strategy lies in the ambiguity of “disorder.” Wilson and Kelling and Coles (1996, 14) define disorder as “incivility, boorish and threatening behavior that disturbs life, especially urban life.” Noting that the following offenses are almost exclusively defined as either misdemeanor, petty offenses or not criminal offenses at all, disorderly behavior is specifically defined as “aggressive panhandling, street prostitution, drunkenness and public drinking, menacing behavior, harassment, obstruction of streets and public spaces, vandalism and graffiti, public urination and defecation, unlicensed vending and peddling, unsolicited window washing of cars (“squeegeeing”), and other such acts” (Kelling and Coles 1996, 15).

All segments of the community including local citizenry, the disorderly and the police are encouraged to establish non-official operational definitions of disorder. Officers are encouraged to integrate themselves in the neighborhood. This allows the flexibility of each community to define acceptable community behavior based on individual community mores. Officers are present to facilitate and enforce this informal agreement (Kelling and Coles 1996).

Harcourt criticizes the basis of the order maintenance strategy. He maintains that under this strategy, the police do not assess the impact they have on

shaping the community definitions of disorder which is necessary for collective action (Harcourt 2001). He argues that order maintenance policing makes non criminal annoyances into criminal offenses thereby affording officers an enhanced surveillance capacity that violates individual constitutional protections and civil liberties. Additionally, defining disorder as blue collar petty offenses at the exclusion of white collar petty offenses targets an already disadvantaged group of people (Harcourt 2001). However, blue collar crimes tend to be the street crimes that citizens are exposed to.

Order maintenance strategies maintain that sanctions should not be uniformly enforced. Officers should consider crimes in context which greatly influences the victim perception of the assault and community perceptions of fear of crime. Within order maintenance policing, officers have the freedom to assess the degree of criminal negligence based on the time and place of the offense, the previous behavior of the offender, the condition or relative vulnerability of the victim (Kelling and Coles 2001).

Harcourt argues that a community based, informal sanctioning for disorderly conduct affords officers too much discretion. Under increased discretion, officers are at risk of maintaining community bigotries rather than community order which put minorities at a greater risk (Harcourt 2001).

Regardless of the controversy, and the fact that measurement of effectiveness, displacement and diffusion of benefits is difficult, many police

departments are adopting order maintenance strategies. George Kelling's Hanover Justice Group was contracted by the DPD for a six month contract running from December 1, 2005 to May 1, 2006. The Hanover Group had five goals, all based in broken windows. The group was to investigate patterns and projections of Denver crime, develop possible strategies for addressing disorder and dealing with crime analysis capabilities, address DPD internal organizational issues and to recommend implementation ideas for crime fighting strategies (Denver, CO Office of Mayor 2005). The panhandling ordinances and enforcement strategy is only one example of the culture change in the DPD which is embracing broken windows and order maintenance policing as a crime fighting tactic

Although they share the same measurement limitations, community policing and situational crime prevention (SCP) have different uses. SCP, discussed below, is an environmental approach that can be used by diverse organizations and even individuals (Clarke 2005). The community policing approach was designed to facilitate police effectiveness.

Situational Crime Prevention

Social structure crime theories were the foundation for SCP. SCP is defined as a group of "measures (1) directed at highly specific forms of crime (2) that involve the management, design, or manipulation of the immediate environment in as systematic and permanent a way as possible (3) so as to reduce the opportunities for crime and increase its risks as perceived by a wide range of

offenders” (Clarke, 1983). Brantingham, Brantingham and Taylor describe crime “as products of a filtering process that channels some people to sites and situations amenable to criminal behaviour” and define SCP as crime prevention “using this filter as a guide to constructing complex interventions aimed at the immediate prevention and reduction of criminal events (Brantingham et al 2005, 2). SCP can break the cycles of crime by changing the communities where crime is prevalent. The change in environment will reduce opportunities of potential criminals (Brantingham et al, 2005).

There are three underlying assumptions for these theories and consequently for SCP. First, opportunistic situational factors must be present for a crime to occur. Merely the presence of a “criminally disposed individual” is not sufficient to instigate a crime (Clarke 1983, 229). Second, a rudimentary difference exists between criminal involvement and a criminal event. Criminal involvement is a long-term process involving decisions about what type of offenses to commit and how long to stay involved in the behavior. Depending on the type of crime, a criminal event is usually a short-term process involving decisions based specifically on the situation and opportunities present during a criminal act. Third, every offense varies in terms of opportunities and situational factors and this requires a more rigorous classification of crimes (Clarke 1995). Clarke outlined three types of situational prevention measures. The first type is aimed at increasing the real or perceived effort required to commit a crime. The

second type focuses on increasing the real or perceived risk associated with a crime. Clarke's final type attempts to reduce the real or perceived rewards associated with a crime (Clarke 1995). Brantingham and Brantingham have adapted Clarke's model to include two additional types of situational prevention measures. The additional measures include techniques to reduce criminal provocation and remove excuses for committing a crime.

Numerous examples of each of these techniques are documented in real-world applications but empirical evidence is missing. Without the stringent requirements of scientific research that account for extraneous factors, conclusions about the effectiveness of the techniques are limited (Clarke 1995).

Clarke provided a critique of SCP. Sometimes the methods did not solve the crime problem as much as reduce it. Displacement and implementation problems occurred. Sometimes the techniques were simply ineffective because the obstruction was not insurmountable, human surveillance proved lacking, or the applied technique was wrong for the problem. Results of technique implementation included offender provocation which led to more severe crimes and in some cases made crime easier (Clarke 1995).

The DPD strategy incorporates aspects of SCP. A conceptual overlap is present in the criminological theories and policing strategies involved in this research. The DPD interdiction blends the policing strategies and analysis of the

relationship between panhandling and crime will use a blend of the relevant criminological theories.

Displacement – Diffusion of Benefits

Eck defines crime displacement as “the shifting of crime or disorder from the target area to nearby areas” (Eck n.d., 34). Generally, six types of displacement are recognized. Temporal displacement occurs when offenders shift the time or time patterns of their criminal offenses. A shift in offender modus operandi is tactical displacement. Target displacement occurs when the focus of the crimes shift to different types of targets. Crime type displacement is a shift from one kind of crime to another. Spatial displacement is the shift of targets in space and perpetrator displacement happens when new perpetrators replace apprehended ones (Bowers and Johnson 2003).

Displacement assumes that “offenders must commit crime” (Felson and Clarke 1998, p. 26). Most crime prevention theories and techniques are based on causal circumstances, a factor not necessarily incorporated into displacement (Felson and Clarke 1998).

Criminological theories have a role in predicting displacement. Deterministic theories that hold that societal pressures instigate crime lead to predictions of high displacement. Theories that contend crime is a choice the offender makes, whether the choice be based on need, cost-benefit analysis, or

perceived targets in the environment, lead to predictions of minor displacement (Eck 1993).

Eck (1993) coined the term ‘familiarity decay’ to consider the effects of displacement. Familiarity decay deems that “Displacement is most likely to occur in the direction of familiar places, times targets and behaviors” and is “least to occur” in unfamiliar ways (Eck 1993, 547). Displacement is less likely to occur if the crime prevention strategy is specific to the situation rather than a generalized scheme designed to be a catch-all (Eck 1993). Displacement also depends on the type of crime. For example, expressive and instrumental crimes have different motivations and therefore different displacement qualities.

Clarke and Weisburd coined the term “diffusion of benefits.” They define it as “the spread of the beneficial influence of an intervention beyond the places which are directly targeted, the individuals who are the subject of control, the crimes which are the focus of intervention or the time periods in which an intervention is brought” (Clarke and Weisburd as cited in Clarke 1995, 130). Diffusion of benefits must be considered when evaluating the effectiveness of these techniques (Scott n.d.).

Both displacement and diffusion of benefits are difficult to measure and so are often neglected in crime prevention studies. Direct correlation of crime prevention measures with these phenomena is difficult because of complex social factors involved in any given study area (Clarke 1995). Although solid empirical

evidence of its validity is missing in the literature, most agree that displacement is never absolute and that prevention techniques do lower crime (Eck and Weisburd n.d.). Eck (1993) inventoried crime studies that incorporated displacement measures and found that only three studies demonstrated significant displacement, 12 studies demonstrated minor displacement while 18 studies established no displacement. For this reason, Barr and Pease (1990) suggest the word “deflection” rather than displacement to allow for the possibility that displacement may not be absolute or 100%.

Displacement of crime has political considerations. Police action is often driven by citizen discontent and unresponsive politicians risk losing reelection. Some policy makers and police strategists contend that there is little reason to spend money, time and effort on implementing a crime prevention scheme if total displacement is assumed. However, the politicians and strategists “choose a crime pattern by selecting particular policies and practices” (Barr and Pease 1990, 281). Still, crime prevention measures with 100% displacement may yield positive net results if citizen perception of police action and crime is positive (Barr and Pease 1990).

Barr and Pease (1990) offer different ideas of displacement. They argue that displacement can be somewhat predicted and can therefore be a useful tool. For example, Eck’s (1993) familiarity decay can help predict spatial displacement and can be incorporated into the planning process suggested by POP. The idea

contradicts the predominant view of displacement as an immeasurable and uncontrollable negative consequence of crime prevention schemes. Barr and Pease (1990) advocate that politicians and police use displacement as a tool for planning rather than a reason for inaction.

Barr and Pease (1990) make another relevant case about displacement based on two assumptions. First, they assume 100% displacement of crime and second, that crime is geographically clustered in areas with underprivileged populations. The crime prevention scheme was effective if the severity of the displaced crimes did not increase because the scheme produced a more socially equitable distribution of crime. Stated otherwise, the chance of victimization is, to some extent, equalized between people in areas of high crime concentrations and people in areas of low crime concentrations. They also recognize that politically, this is a difficult view of displacement to publicize (Barr and Pease 1990)

Displacement is notoriously difficult to measure because of the multiple ways it can occur. Spatial and temporal displacement are prominent in the literature because they are easier to measure than tactical, target and crime displacement (Barr and Pease 1990). Still, quantitative and qualitative measurements of spatial and temporal displacement are flawed and definitive assessments are not possible.

In 2003, the weighted displacement quotient (WDQ) was developed by Bowers, Johnson and Hirschfield through the London Home Office Policing and

Reducing Crime Unit as a technique to measure crime displacement or diffusion of benefits using GIS. The technique was developed to quantify displacement and attempt to standardize displacement measures. The authors applied the WDQ to a burglary reduction scheme in Liverpool, U.K. (Bowers, Johnson and Hirschfield 2003).

The method of calculation for WDQ weights the displacement/diffusion of benefits by the success of interdiction. Since WDQ is relative, no assumptions are made about the actual number of crimes in the zones. The data standardization, rather than absolute crime data, allows for comparison across different studies using different sample sizes, amount of crime, etc. Crime trends within all zones are controlled for reducing the incidence of extraneous factors being attributed to target interdiction. Finally, using control zones adjacent to the study zones minimizes extraneous factors that come into play when using disjointed control areas (Bowers and Johnson 2003).

Displacement is a challenging issue when studying crime among homelessness and panhandling populations. Panhandling may be a necessary survival technique for some making the activity less of a choice. Barr and Pease (1990) suggest a thoughtful exploration of the ways any given crime prevention scheme will produce displacement prior to an attempt to measure it.

Geographic Information Systems

A geographic information system (GIS) is “a collection of information technology, data, and procedures for collecting, storing, manipulating, analyzing, and presenting maps and descriptive information about features that can be represented on maps” (Huxhold and Levinsohn 1995, 3). GIS has been incorporated into policing organizations to guide and evaluate police strategies and monitor changes in crime and crime patterns.

A GIS allows three basic types of mapping: descriptive, analytical and interactive. All three types are useful for crime mapping. Descriptive mapping is mostly based on point data and mimics the pin maps historically used to produce a visual and spatial representation of information. Given a small geographic area, they can be used to show the movement of crime pre- and post-intervention. There are three main problems with descriptive maps. First, it is difficult, if not impossible, to discern spatial patterns. Second, most crime data is reported as an address rather than the specific location of a criminal incident. The geographic placement of a point can significantly effected and therefore shift the spatial patterns. Lastly, choropleth maps are often misleading as boundaries are distinct and human made rather than fluid spaces (McEwen and Taxman 1995). This can obscure patterns “as the volumes of events are distorted” (McEwen and Taxman 1995, 268)

Analytical maps spatially display information derived through data analysis. They “advance the ideas behind descriptive maps by including information that is helpful in understanding the trends or patterns of events” (McEwen and Taxman 1995, 268). A large number of tools are available in current GIS software to facilitate spatial analysis, geostatistical analysis and traditional statistical analysis.

Interactive mapping is “on the fly” data analysis and spatial display. It is a combination of descriptive and analytic mapping. GIS users can search and query datasets to enhance data exploration (McEwen and Taxman 1995).

Hotspot analysis, in varying forms, is used by policing organizations. The appropriate form of hotspot analysis is dictated both by police goals and criminological theory (Eck 2005). Indeed Eck (2005, 1) states that “Maps that are not based on theory will provide ... inadequate and even misleading information.” The development of methods and use of GIS in crime analysis accompanied the shift in criminological theory and crime prevention strategies discussed previously.

Crime hotspots are “concentrations of crime or disorder separated by areas with far less crime or disorder” (Eck 2005, 2) and are calculated relative to the crime distribution in the area (Chainey and Ratcliffe 2005). The level of analysis for hotspots dictates the appropriate map techniques, police action and underlying criminological theory. Levels of analysis are place, street, area and victims (Eck

2005). Place level analysis is used to identify and examine panhandling hotspots. Area level analysis is used to identify and examine crime. Street and victim levels of analysis are not used in this study.

Place analysis is usually displayed as point data, as discrete locations, and analysis is based on concentration of those points in specific places (Eck 2005). This technique is used in crime mapping because it isolates high incident areas and mimics the paper map legacy. Point mapping is used for crime data containing individual events with descriptive attributes. Querying point map data is simple and useful however spatial patterns are difficult to discern with large data sets (Chainey 2005). Map displays include graduated symbol maps and color gradient dot maps (Eck 2005).

Place level analysis was used in two ways in this research. First, to define panhandling hotspots as precise locations in the form of street intersections and second, to examine crime as precise locations. As a level of analysis, area is most often used to analyze neighborhoods or politically defined localities. This research uses the area level of analysis to examine crime patterns in relation to panhandling hotspots.

Thematic mapping displays events based on geographic boundaries such as political localities or quadrants. Choropleth maps employ distinct boundaries (Berry n.d.) and are useful for depicting broad patterns in large areas (Eck 2005). Choropleth geographic distributions employ user-defined ranges for data

representation which generally include equal count, equal ranges, natural breaks, standard deviation, quartile or user-defined breaks. Using census or political boundaries for thematic mapping can be misleading as the polygons usually vary widely in size which obscures the data (Chainey 2005). Quadrant thematic mapping uses the basis of thematic mapping but the polygons are based on a user-defined uniform grid to avoid polygon size variation (Chainey 2005). Another drawback in thematic mapping is that statistical measures, such as mean or standard deviation, are often used to define the polygons and therefore obscure outlying data and variations within polygons (Berry n.d.).

Panhandling

The panhandler description is similar to the typical profile of the homeless. However, “homeless panhandlers” represent a small percentage of all panhandlers and likewise, panhandlers usually have permanent housing (Lankenau 1999). Panhandling and homelessness were both discussed here because of the overlap of communities and the shared demographic and criminal profiles

A panhandler has been defined “as a person who publicly and regularly requests money or goods for personal use in a face-to-face manner from unfamiliar others without offering a readily identifiable or valued consumer product or service in exchange for items received” (Lankenau 1999, 292). Generally two types of panhandlers are recognized; passive and aggressive.

Passive panhandlers usually evade public concern. They are often non-verbal and are perceived by the majority of the public as non-threatening and harmless.

Street performers and musicians soliciting donations may be considered passive panhandlers. Indeed, some jurisdictions hold that passive panhandling is a constitutionally protected activity (Scott n.d.).

Of the two types, aggressive is the main concern to the police, businesses and the public. Aggressive panhandlers are threatening, forceful and their solicitations may be considered robbery (Scott n.d.). Panhandlers can be territorial (Scott n.d.) and hierarchies within the population are common (PDP Interview 2006). They usually have a tactic, fraudulent or not, when soliciting (Scott n.d.).

Public policy perspectives of homelessness and panhandling fit into two general categories both with underlying political philosophies that will not be addressed here. Sympathetic observers of the problem maintain that panhandling may be an essential survival skill (Goldstein 1993). Unsympathetic observers believe that allowing panhandling will lead to further community problems and that police interference is necessary (Scott n.d.).

Although most panhandlers have substantial substance abuse issues (Lankenau 1999), most do not abuse substances while soliciting because they do not want to draw police attention (DPD Interview 2006). Additionally, panhandlers tend to be passive because they receive more money and again, do not want merchant or police attention (Lankenau 1999).

Most panhandlers fit within a definable group. Generally, they are 25-40 and unmarried with little education and few active family members. Again, substance abuse is common (Lankenau 1999). They have little or no employment and often do not want low wage jobs that may pay less than panhandling (Ellickson 1996).

Although some believe the typical urban panhandler to be African-American, the Denver Point-In-Time study found that while minorities were over-represented, most panhandlers in Denver County are white (MDHI 2005). Many panhandlers have criminal records but are equally likely to be victimized as to offend (Goldstein 1993).

Public perception often dictates police intervention by increasing calls for service when citizens feel threatened. Intimidation of passersby also increases calls for police service. The factors that may determine passersby feelings of vulnerability include time of day, ability of passersby to avoid panhandling, number of other passersby, location, physical appearance of the panhandler and the number and volume of panhandlers (Scott n.d.).

Typical panhandler locations include (Scott n.d., 9);

- near ATMs, parking meters and telephone booths
- near building entrances/exits and public restrooms with pedestrian traffic
- on or near college campuses
- near subway, train and bus station entrances/exits
- on buses and subway trains
- near places that provide panhandlers with shade/shelter from bad weather
- in front of convenience stores, restaurants and grocery stores

- at gas stations
- at freeway exits/entrances
- on crowded sidewalks
- at intersections with traffic signals
- near liquor stores and drug markets

Homelessness

Nationally, dramatic increases in homelessness are attributed to social and economic factors. The national deinstitutionalization of the mentally ill in the 1950s caused an initial influx. The decline of affordable housing began in the 1960s and continued through the next decade (DCEH n.d.). However, the problem did not gain national attention until the 1980s. Since then, homelessness has been the subject of public policy debate, sociological inquiry and public interest (DHPG, 2003). The increased attention in the 1980s is primarily due to the continued scarcity of housing, the increasing discrepancy between housing costs and means, a scarcity of social services, changing social conditions disproportionately affecting the poor and new kinds of illicit drugs (DCEH n.d.).

Homelessness has varying definitions. The following definition was used for one study: homeless adults are “individuals 18 years old and older living in urban areas whose lifestyle is characterized foremost by the absence of conventional, permanent housing” (Snow, Baker and Anderson 1989, 533). More specifically, the U.S. Department of Housing and Urban Development (HUD) defines a homeless person as one who resides in places not meant for human habitation, stay in emergency shelters or is in transitional or supportive housing. A person evicted from a permanent residence, discharged from a facility or is

escaping domestic violence with no alternative or resources is also considered homeless (U.S. Department of Housing and Urban Development n.d.).

The Denver Commission to End Homelessness (DCEH n.d.) defines three categories of homelessness. Transitional, or first time homeless, are without shelter because of the loss of income or job and the consequent loss of permanent housing. Transitional homeless comprise the majority of the homeless population and use shelter and emergency resources more than other categories. Episodic homeless are typically younger and rotate between jails, detoxification centers, residential treatments and the streets. Chronic homeless are typically older and have more specific needs because of increased disabilities. Chronic homeless do not use shelter and emergency resources as much as the other categories (DCEH n.d.). Some believe that most homeless use public and private services for survival rather than solicit money or goods through panhandling (Lankenau 1999).

While admitting sampling limitations, Snow, Baker and Anderson, maintain that most homeless people are white, single men between 30 and 40 years of age. Proportions of minority groups in homeless populations was not compared to that of non-homeless minority populations. The majority of crimes charged against homeless men were Part II, victimless offenses (Snow et al 1989). Part I offenses include criminal homicide, forcible rape, robbery, aggravated assault, larceny-theft, motor vehicle theft and arson. Part II offenses include, but

are not limited to, vandalism, carrying weapons, prostitution, sex offenses, drug abuse violations, drunkenness, disorderly conduct and vagrancy (U.S. Department of Justice Federal Bureau of Investigation 2004). For this research, Part I and Part II classifications will be taken into consideration when examining crime in and around the panhandler and homeless populations.

Transient-Oriented Legislation

Throughout the United States, cities, counties and states are legislating prohibitions directed at transient populations. Denver has joined this trend (see Denver Ordinances and Study Area – Denver Metropolitan Area, Colorado below). Legislative action includes restrictions on where and how panhandlers can solicit. The restrictions define and prohibit aggressive panhandling, specify exact distances that panhandlers must maintain from common urban features and require panhandlers to maintain a permit. Panhandling ordinances are being challenged, with varying success, on the basis of the First Amendment right to free speech (NCH/NLCHP 2006).

Other legislation is directed at community organizations that feed people in public places. Some of the feeding prohibitions charge community organizations a fine, others do not. With varying success, faith-based organizations have challenged the legislation based on religious freedom (NCH/NLCHP 2006).

Legislation prohibiting camping, sleeping, sitting or lying in public spaces is being challenged with varying success. The challenges are based on the Eighth Amendment freeing citizens of cruel and unusual punishment. Loitering prohibitions are challenged, with varying success, based on the Due Process Clause in the Fourteenth Amendment (NCH/NLCHP 2006).

Police departments are conducting “sweeps” of public areas known for transient use. The sweeps are criticized as they can result in displacement of individuals and a loss or destruction of personal items. Sweeps are being challenged, with varying success, based on the Fourth Amendment right against unreasonable search and seizure (NCH/NLCHP 2006).

To add to the formal legislation, community groups, social service programs and governmental agencies have developed awareness campaigns urging citizens to donate to charity rather than give donations to panhandlers (NCH/NLCHP 2006). Advocates against such legislative measures deem the trend as the “criminalization” of poverty. Advocates for such legislative measures contend that the measures will lead to healthier communities.

Denver Ordinances

The City and County of Denver passed municipal code Ordinance R.M.C. 38-132 in June, 2000, under Chapter 38 Offenses, Miscellaneous Provisions, Article IV Offenses Against Public Order and Safety, Division 2 Weapons and Missiles, Section 132 Panhandling. The ordinance defines aggressive panhandling

as anyone persistently soliciting, touching, verbally assaulting, gesturing threateningly or soliciting in groups of two or more. Soliciting or panhandling is defined as any verbal request for donations but does not include passively standing or sign flying. The ordinance prohibits aggressive panhandling, panhandling on private or residential neighborhoods, panhandling after dark, panhandling within 20 feet of public toilets, 20 feet of ATMs, on or within 20 feet of public transportation, within six feet of business entrances, within 20 feet of payphones or within 20 feet of outdoor patios (Denver, CO Municipal Code 2006).

Ordinance R.M.C. 54-548 was issued in July, 2001, under Chapter 54 Traffic Regulations, Article VIII Pedestrians, Section 548 of the Denver city and county Municipal Code. The stated purpose of this ordinance is to keep pedestrians and motor traffic safe. Panhandlers must not step into the road to accept donations but may stay on the sidewalk. Panhandlers may not solicit from road medians or from highway entrance and exit ramps. Patrol officers are to indicate the exact location of offenders, record a physical description, offer proof of the offense and to photograph the offender and any sign being used (Denver, CO Municipal Code 2006).

Ordinance R.M.C. 38-86.1 was issued on January 6, 2006, under Chapter 38 Offenses Miscellaneous Provisions, Article IV Offenses Against Public Order and Safety, Division 1 Generally, Section 38-86.1. Section 38-86 regulates against

the obstruction of streets or other public passageways and 38-86.1 builds on that ordinance by including sitting or lying down in the public right-of-way. The ordinance is only for the Business Improvement District (BID) area and is only enforced from 7:00 a.m. to 9:00 p.m. Patrol officers are given a four step process for ordinance enforcement. First, if social service assistance is needed, officers must make a reasonable attempt to contact outreach workers that can provide the assistance. The officers must issue a verbal request to the offender if outreach workers are unavailable or they determine no assistance is needed. Third, the officer must issue a written warning. Lastly, officers must issue a citation or arrests if the previous three steps were not effective (Denver, CO Municipal Code 2006).

Study Area – Denver Metropolitan Area, Colorado

“The high-tech and telecommunications boom of the 1990s augmented by a state-of-the-art new airport and a rise in area skiing and tourism industries created economic prosperity” in Denver (DCEH n.d., 1-1). Consequently, the population grew but the majority of jobs were minimum wage positions. At the same time, the population influx made housing costs rise and a discrepancy developed between means of subsistence and living costs. In 2003, a person would have to work 144 hours per week at a minimum wage job to afford a two bedroom apartment at Fair Market Rates in Denver (DHPG 2003).

The economic growth of Denver also led to the destruction of almost 3,000 Single Room Occupancy (SRO) units since 1974. The SRO units were demolished to make room for new offices, the Convention Center and Coors Field (DHPG 2003). Additionally, low income housing was redeveloped into condos and luxury high rises (DCEH n.d.). Many homeless shelters were closed. In 1988, Denver had enough shelter beds for 55% of the homeless population. In the 1990s, the Lowry Air Force Base closed. Under the Federal Base Closure Act, the facilities were developed into low cost housing units. By 2003, the number of homeless grew disproportionately to the number of shelter beds and only 10% of Denver's transients could be accommodated (DHPG 2003).

Deinstitutionalization affected Denver like the rest of the nation. In 1981, Ruth Goebel, a mentally ill homeless woman, died in Denver and a law suit was filed against Denver City, Denver County and Colorado. The suit was resolved in 1995 and 1,600 "Goebel Class" members, mentally ill homeless people, were identified. Housing and funds were allocated for them. The allocation helped but in 2003, state budget measures forced a cut in funds for this population (DHPG 2003).

In 1996, the City and County of Denver, the Denver Chief of Police and two officers were challenged in *Jones v. City of Denver* based on a violation of the Due Process Clause of the Fourteenth Amendment of the U.S. Constitution. A Colorado law prohibited loitering if the intention was to beg for donations. The

issue was settled with an agreement that the prohibition would not be enforced in Denver and the Colorado State Legislature later retracted the challenged piece of the law (NCH/NLCHP 2006).

Also, in 1995, residents complained of homeless people along the Platte River bike paths and the Denver Police Department swept the area and limited accessibility. The next year the South Platte River was swept and camping was prohibited pushing the homeless into more visible areas of Denver. Some attribute the 1999 homicides of seven homeless men in downtown Denver to the sweeps. Consequently, the National Coalition for the Homeless judged Denver the “most dangerous city in which to be homeless” (DHPG 2003, 14).

The Downtown Denver Business Improvement District is a public organization privately supported by local businesses. The organization is responsible for a city wide survey that found an estimated \$4.6 million a year is donated to panhandlers. They launched a campaign under the catch line “Please Help, Don’t Give” that encourages citizens to donate to local social services rather than panhandlers directly (Denver’s Road Home n.d.). The survey findings and the organization’s motives are questioned by other Denver agencies (NCH/NLCHP 2006).

The Metropolitan Denver Homeless Initiative (MDHI) and the Mile High United Way (MHUW) conduct an Annual Point-In-Time Study. The collaboration collected information on the homeless population in the Denver Metropolitan area

including Boulder, Broomfield, Adams, Arapahoe, Douglas and Jefferson Counties. MDHI is careful to note that the study provides only a “snapshot” of homeless in the study area (MDHI 2005, 2). The snapshot disclaimer acknowledges the inherent difficulty in counting a hidden population and of gathering data on one night. Accepting the limitations of the study, it provides the most accurate and current information regarding the homeless population in the Denver metropolitan area (MDHI 2005). The following findings and statistics are from the Sixth (2005) and Seventh (2006) Annual Point-in-Time studies.

The total number of homeless people in 2005 was 10,268. The total number decreased by ~11.5% to 9,091 in 2006. The majority of respondents were single and living alone in 2005 but in 2006 was surpassed by single parents with children. Adults aged 26-64 comprised the majority of respondents for both years. Collectively, children, teenagers and seniors comprised 7.4% of respondents in 2005 and 8.7% in 2006. Of the young respondents, people aged 19-21 were the most prevalent (MDHI 2005 and 2006).

In both years, white people comprised the majority of respondents followed by the Hispanic/Latino classification. Perhaps more importantly, “whites are under-represented and minorities are over-represented among the homeless” (MDHI 2005, 9). The majority of respondents had their last permanent residence in Denver City and County.

The most often stated reason for homelessness was the loss of a job. Individuals with children cited relationship problems and abuse or violence at significantly greater rates than individuals without children. Conversely, individuals without children cited substance abuse, mental illness and health problems at significantly greater rates than individuals with children (MDHI 2005 and 2006).

In every family status group, the majority of respondents reported earning \$1,000-\$9,999 during the previous year. Of the respondents that reported a source of income for the previous year, the majority received food stamps. Day labor and full-time or part-time jobs were heavily cited as sources of income. The most needed services were permanent housing, transportation/bus passes, emergency assistance and health care (MDHI 2005 and 2006).

In 1986, Mayor Federico Pena developed the Homeless Advisory Group. As a result, the Department of Human Services developed resources for the homeless. The Colorado Coordinating Council on Housing and Homelessness was developed in 1989 by Governor Roy Romer (DHPG 2003). The council was comprised of state and nonprofit organizations and worked to coordinate homeless services (DCEH n.d.). In 1995, Mayor Wellington Webb's work led to creation of the Denver Homeless Planning Group (DHPG 2003). In 2003, Governor Bill Owens created the Colorado Interagency Council on Homelessness

which replaced the Coordinating Council and encompassed a wider range of statewide agencies (DCEH n.d.).

In 2000, the National Alliance to End Homelessness developed a plan to end homeless in 10 years. The plan specified a simultaneous four step process which included steps to predict and plan outcomes, “close the front door” while opening “the back door” and building the infrastructure necessary to maintain the system (National Alliance to End Homelessness 2000). In 2003 under the Bush Administration, the Interagency Council on Homelessness advocated that communities produce a ten year plan to end homelessness. Ten year plans have been developed throughout the United States at multiple political scales including city, county and state wide efforts. By 2006, 90 communities completed a ten year plan and approximately 130 plans were in progress (National Alliance to End Homelessness 2006).

In 2003 Mayor John Hickenlooper developed the Denver Commission to End Homelessness with the specific goal to create a ten year plan to end homelessness (DCEH n.d.). The Denver plan, released in May of 2005, defined eight main goals each with specific benchmarks, guidelines and funding sources. Included were goals to develop an outreach program and facilitate increased coordination of efforts between community agencies (National Alliance to End Homelessness 2006).

Currently there is an overlap of efforts in Denver. Agencies involved in the Ten Year Plan to End Homelessness, including the Colorado Coalition for the Homeless and DPD, are working concurrently to solve associated issues in Denver and particularly in downtown Denver. Some efforts were designed to overlap in function as well as in geographic area. The BID area ordinance requires social service contact and a grant supports off duty DPD officers in CCH Outreach efforts.

Literature Review Conclusion

Panhandling and homelessness are issues important to the health of our society. As a community, this level of destitute poverty should be addressed. Research on the positive and negative effects of governmental control on the defined population and positive and negative effects on the crime rates around the defined population are essential to understanding and guiding appropriate city responses. Social structure criminological theories and crime prevention/deterrent techniques provide the framework for this understanding.

Chapter 3 – Methods

Methods Introduction

The following methods were developed to answer two research questions; do heavily panhandled areas correlated to higher crime and does ordinance enforcement lower crime in these areas? Definition and location of panhandling hotspots were necessary for both questions.

With panhandling hotspots located, traditional statistical methods and spatial statistical methods were used to answer the research questions. Processes, research limitations and rationale are included. The discussion is supplemented with flowcharts, tables and maps.

Panhandling Hotspots

The panhandling hotspots were used for the two primary research questions. First, the hotspots were used to investigate the possible correlation between panhandling locations and crime. Then, the changes in the crime rate pre- and post-ordinance enforcement were examined. The weighted displacement quotient was used to measure relative fluctuation of crime rates and possible displacement or diffusion of benefits.

Locating heavily panhandled street intersections was accomplished qualitatively by interviewing Denver Police Department (DPD) Patrol Officers from different districts. The interview was an open-ended discussion about panhandling problem areas in Denver and resulted in a list of 17 unique street

intersections. The Colorado Coalition for the Homeless (CCH) maintained a list of 26 heavily panhandled street intersections to assist CCH Outreach workers. Both agencies classified the 16th Street pedestrian mall as one problem area which included ten unique street intersections. Additionally, six street intersections were defined by both agencies. The final combined list of heavily panhandled street intersections totaled 37.

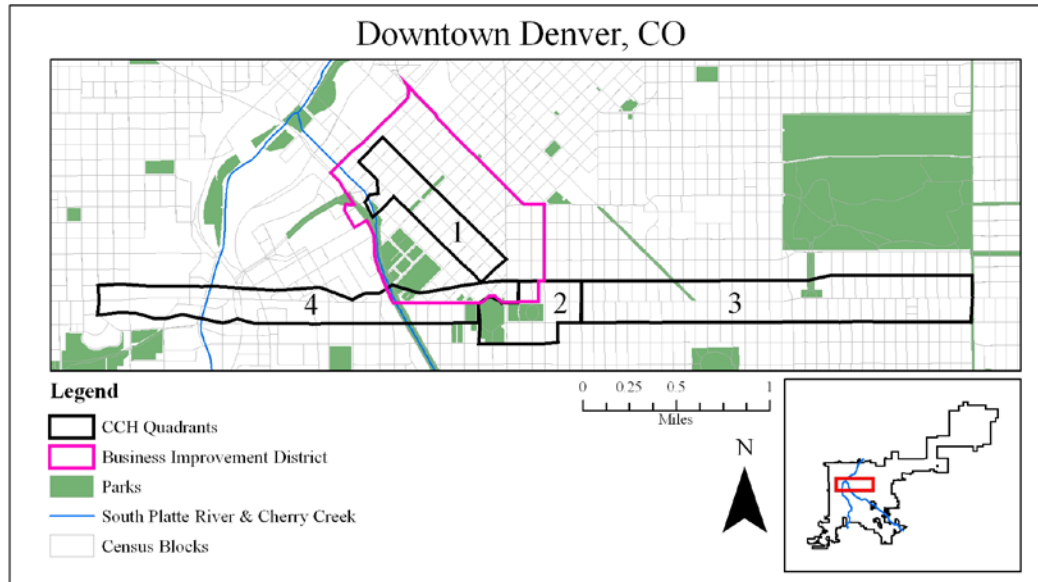
The DPD and CCH are the foremost agencies dealing with transient populations in Denver. The agencies work in conjunction with each other and they work independently. Specifically, ordinances R.M.C. 38-132 and R.M.C. 54-548 charged patrol officers with full enforcement. The third ordinance, R.M.C. 38-86.1 specifically addressed panhandling in the Business Improvement District (BID) and required officers to provide offenders with community assistance opportunities prior to citation or arrest. Similarly, CCH maintains an CCH Outreach program that operates independently of the DPD but maintains grant money to pay off-duty DPD patrol officers to accompany CCH Outreach workers during specified hours. Through the collective experience and knowledge of the individuals in these organizations, it is assumed that the qualitative list of unique street intersections does accurately portray panhandling hotspots in Denver.

Ordinances R.M.C. 38-132 and R.M.C. 54-548 are city wide. Ordinance R.M.C. 38-86.1 specifically targets the BID which contains the 16th Street pedestrian mall. The BID panhandling ordinances requires patrol officers to

engage in a four step process designed to connect the offender to available social services. Only when the four steps have failed do the patrol officers issue a citation. Enforcement of city wide ordinances cannot be monitored or measured for consistency and the BID ordinance cannot be monitored or measured for officer adherence to the four step process or consistency.

Additionally, CCH Outreach workers are dispatched daily to four quadrants defined by CCH. While CCH Outreach workers respond to issues outside of those quadrants, the effort is focused there. CCH Outreach workers are on the streets daily in an effort to provide social services to the transient community. The impact of CCH Outreach workers on the level of panhandling or DPD ongoing interventions cannot be measured.

Map 1 details the BID and CCH quadrants. Both layers were manually edited based on written descriptions of the areas from DPD and CCH respectively.



Map 1 – Downtown Denver, CO

Panhandling Hotspots Spatial Process

The unique road intersections were expanded into three concentric buffers. Each buffer required a separate shapefile and attributes for zone membership and area. Buffers were combined into one shapefile which merged individual buffers into individual hotspots and retained the buffer ID, zone membership and area calculations. Flowchart 1 details the spatial process.

The buffer measurements were based on the Denver road system which was predominately designed as rectangular blocks measuring 330 feet by 660 feet. Additionally, panhandlers do not exist at one precise location and it was reasonable to assume that panhandlers use a larger area to work and tend to additional personal needs.

The unique street intersections, representing panhandling hotspots, were mapped as point data. The first map layer (ZoneA330) was a 330 foot buffer around the panhandling hotspot point data and represented Zone A. The following functions were required: *Buffer* to create the buffers, *Dissolve* to merge overlapping buffers, *Add Field* to add the zone attribute, *Clip* to erase buffer areas extending past Denver boundaries and *Calculate Area*.

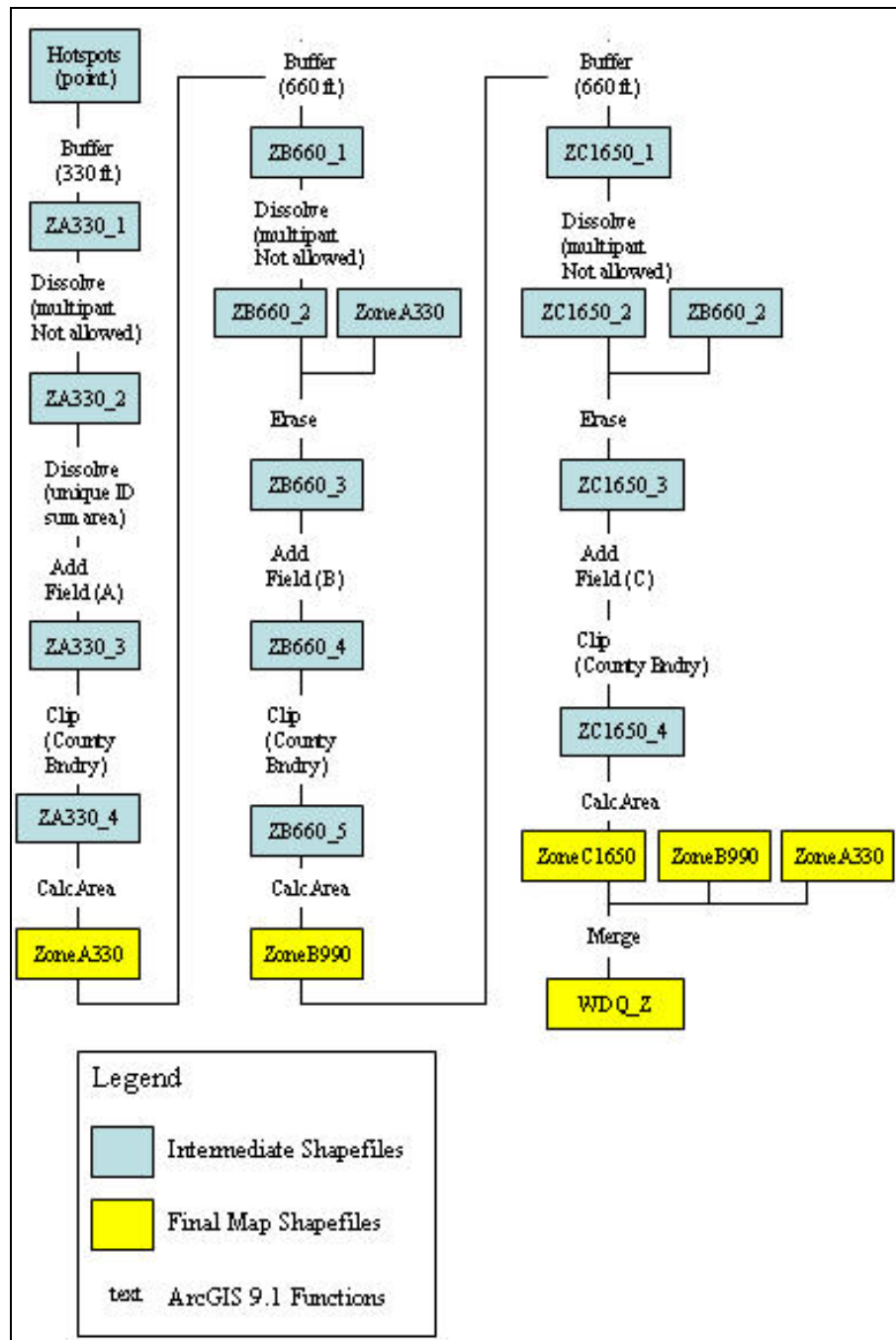
The second map layer, Zone B (ZoneB990), was a 660 foot buffer around Zone A which extended 990 feet from the original hotspot point data. The following functions were required: *Buffer* to create the buffers, *Dissolve* to merge overlapping buffers, *Erase* to remove Zone A from the layer, *Add Field* to add the zone attribute, *Clip* to erase buffer areas extending past Denver boundaries and *Calculate Area*.

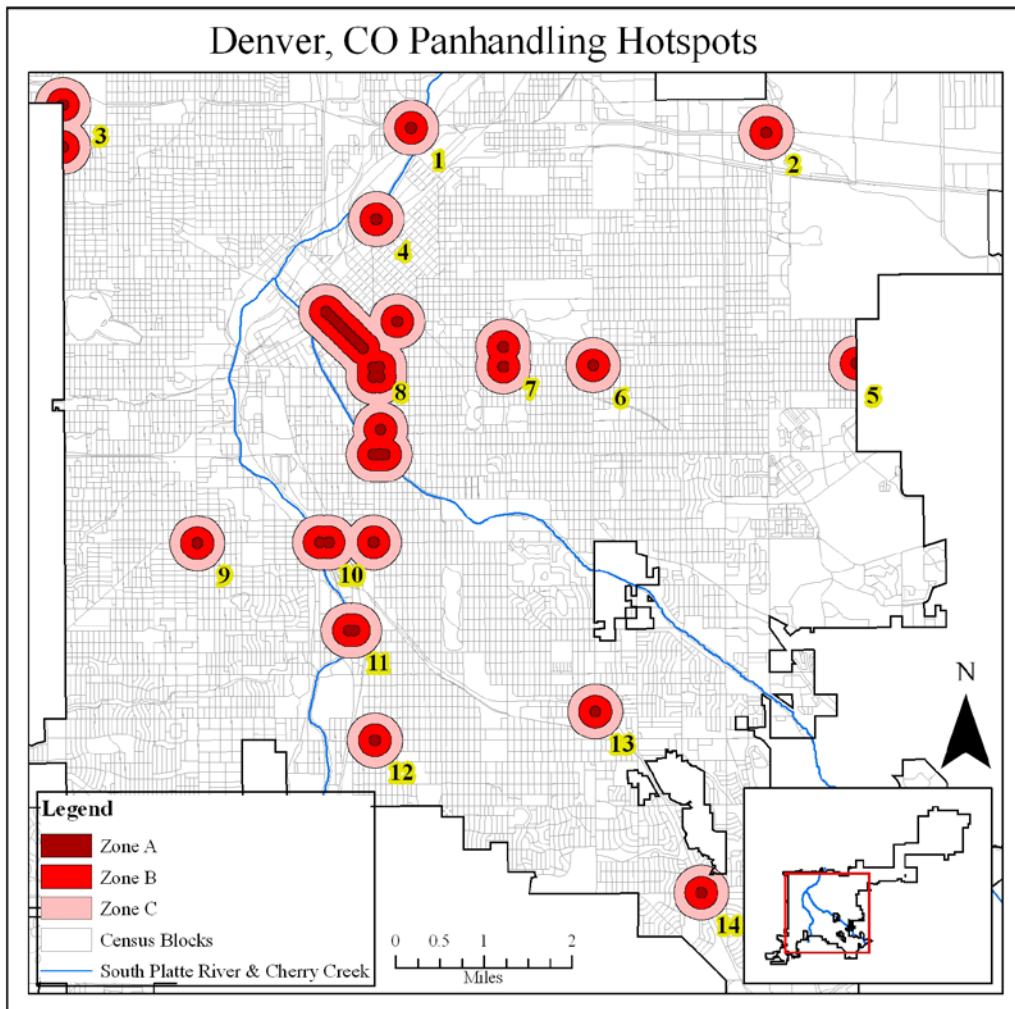
The third map layer, Zone C (ZoneC1650), was a 660 foot buffer around Zone B. Zone C extended 1,650 feet from the original hotspot point data. The following functions were required: *Buffer* to create the buffers, *Dissolve* to merge overlapping buffers, *Erase* to remove Zone B from the layer, *Add Field* to add the zone attribute , *Clip* to erase buffer areas extending past Denver boundaries and *Calculate Area*.

The fourth map layer (WDQ_Z) used the *Merge* function to combine the previous three layers into one. The result was 14 cohesive areas defining panhandling hotspots. The 14 areas range in area from ~0.15 square miles to ~1.7

square miles. Map 2 displays the panhandling hotspots and Table 1 details hotspot area in square feet and central road intersections.

**Flowchart 1 -
Panhandling Hotspot and Zone Spatial Creation Process**





Map 2 – Denver, CO Panhandling Hotspots

Table 1 – Area and Location of Panhandling Hotspots

Hotspot ID	Area - Sq. Miles	Street Locations
1	0.31	I-70 at N. Washington St.
2	0.31	I-70 at N. Quebec St.
3	0.36	N. Sheridan Blvd.
4	0.31	N. Broadway at N. Brighton Blvd.
5	0.15	E. Colfax Ave. at N. Yosemite St.
6	0.31	E. Colfax Ave. at N. Albion St.
7	0.44	E. Colfax Ave. at N. University Blvd.
8	1.74	16th St. Mall and Civic Center Park
9	0.31	W. Alameda Ave. at S. Federal Blvd.
10	0.65	W. and E. Alameda Ave. at S. Santa Fe Dr. and S. Lincoln St.
11	0.34	E. Mississippi Ave. at S. Santa Fe Dr.
12	0.31	W. Evans Ave. at S. Broadway
13	0.31	I-25 at S. Colorado Blvd.
14	0.31	I-25 at E. Hampden Ave.

Statistical Correlations

To determine a relationship between panhandling hotspots and various classifications of crime, correlation procedures were based on geographic areas. Correlations were based on the spatial areas defined by the U.S. Government Census at the block level, the smallest geographic area available. The U.S. Census Bureau spreadsheet associated with the Denver census block shapefile was used as the foundation of the correlation table. Eight variables, described below, were added to the final spreadsheet or correlation table. The average block was 469,657 square feet (~0.02 square miles) and ranged from 121,680,609 square feet (~4.36 square miles) to 882 square feet.

Eight variables were added to the correlation table. Variables included a count per census block of five classifications of crime. Additional variables were homeless sleeping locations, panhandling hotspot classifications and bus stops.

The three transient-focused ordinances detailed here were effective on January 4, 2006. DPD 2005 crime data represent time 1 (t1). The 2005 crime data was geocoded to >95%. Geocoding is the process of converting non-spatial data into a spatial format readable in a GIS. All records with no location and records detailing non-criminal events were removed from the data set. The crime data consisted of offenses issued by the DPD and were recorded as unique addresses resulting in GIS point data.

Five classifications of crime were used: All Part I crime, All Part I Person crime, All Part I Property crime, Intermediate crime and Quality of Life crime. Variable abbreviations used in Flowchart 2 are in parentheses. All Part I crime (AllPI) included, in descending order: homicide, forcible rape, robbery, aggravated assault, burglary, larceny and auto theft. All Part I crime was separated into crime against persons and crime against property. All Part I person crime (AllPers) included criminal homicide, forcible rape, robbery and aggravated assault. All Part I property crime (AllProp) included burglary, larceny and auto theft. Part I person and property crime were classified as such by Uniform Crime Reports (UCR).

The two remaining crime classifications consisted of Part II offenses but are determined to be “intermediate” or “quality of life” crime for this research. Intermediate crime (Inter) included simple assaults, stolen property, criminal mischief and criminal trespass. Intermediate crime were grouped to represent an intermediate level of criminal activity. Quality of life (QOL) crime included prostitution, drug abuse violations and disorderly conduct. Quality of life crime are detailed in Broken Windows literature as the first criminal signs of neighborhood decay (Wilson and Kelling 1982).

Statistical Correlations Spatial Process

All spatial processes described are shown in Flowchart 2. Each crime classification was isolated using the *Select by Attribute* function and exported as a shapefile. The *Spatial Join* function was used to join each crime classification to the Census Block shapefile resulting in an attribute detailing the total number of crimes per census block. The resulting shapefile attribute tables were exported as dBase IV (dbf.) files. The *copy/paste* function was used to transfer the total crime per census block attribute from the database file to the correlation table (CorrTable). All crime classifications were expressed as ratio data.

Bus stops, available through DenverGIS, were unique addresses represented as GIS point data. The *Spatial Join* function was used to join the census block shapefile and the bus stop shapefile resulting in a shapefile (Blk_Bus) with an attribute detailing the total number of bus stops per census

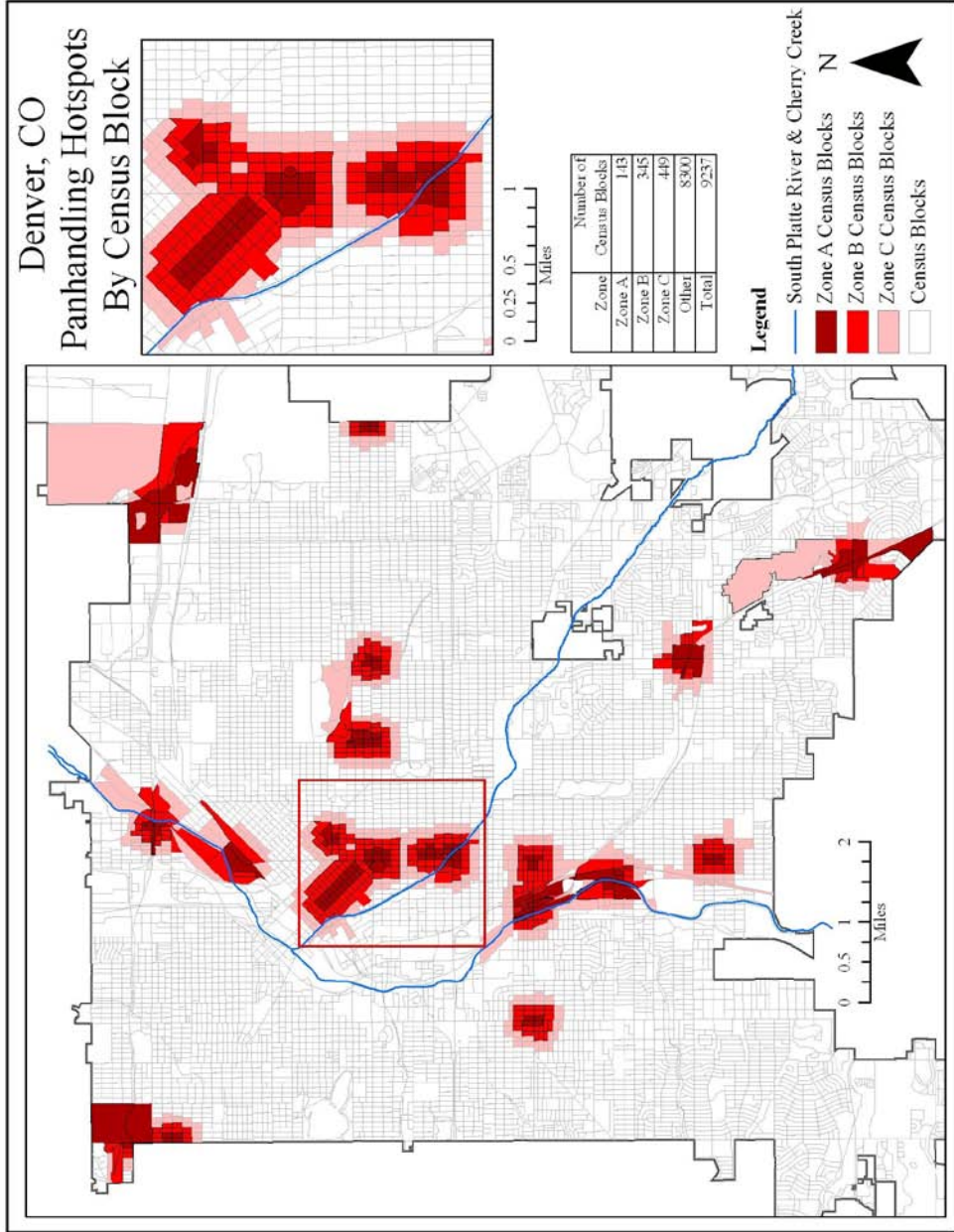
block. The shapefile attribute table was exported as a dBase IV (.dbf) file and the bus stops per census block attribute was copied and pasted into the correlation table. Bus stops were expressed as ratio data.

DHS/CCH provided survey data detailing the sleeping locations of homeless people. The survey was collected from May 21 – 28, 2006. The data were unique addresses represented as GIS point data. The survey data was geocoded to >95% and cleaned (HLSleep). The *Add Field* function was used to add an attribute field to the census block shapefile (HLSleep_blk). The attribute was manually edited as a neighborhood statistic. Every census block was attributed with the total number of sleeping locations in that census block plus the number of sleeping locations in all adjacent census blocks. The resulting shapefile attribute table was exported as a dBase IV (.dbf) file and the count of sleeping locations per census block was copied and pasted into the correlation table. Homeless sleeping locations were ratio data.

Panhandling hotspots were used to classify census blocks and resulted in ordinal level data (CnsBlk_Z). Again, the *Add Field* function was used for the census block shapefile. Census blocks were designated as being part of Zone A (3), Zone B (2), Zone C (1) or neither (0). The *Select by Location* function was used to isolate all census blocks touching Zone A and were given a value of 3 by manual data input. The *Select by Location* function was used to define all census blocks touching Zone B and the *Select from Selection* function was used to isolate

all census blocks touching Zone B but not previously attributed to Zone A. The remaining selection was given a value of 2. The process was repeated to isolate all census blocks touching Zone C but not previously attributed to Zone B. The selection was given a value of one by manual data input. All remaining census blocks were given a value of 0. The shapefile attribute table was exported as a dBase IV (dbf.) file and the attribute detailing panhandling hotspots was copied and pasted into the correlation table.

The zone/census block classification scheme mimicked the panhandling hotspots in downtown areas where census blocks are relatively small. However, for outlying areas of Denver, the classification scheme was not as precise. Census blocks designated as part of panhandling hotspots totaled 937. The average panhandling census block was 356,695 square feet (~0.01) and ranged from 35,577,417 square feet (~1.28 square miles) to 2,115 square feet. Map 3 displays the census block panhandling classification scheme.



Map 3 – Denver, CO Panhandling Hotspots by Census Block

Descriptive statistics of the variables are shown in Table 2. All variables had a discrepancy between the mean and the median with high standard deviations. All variables were leptokurtic. Due to the absence of a standard normal curve for any variable, the Kruskal-Wallis analysis of ranks non-parametric statistic was used to determine if the rates of different crime classifications vary across panhandling zones. Kruskal-Wallis is a one-tailed statistic.

The null hypothesis stated that medians of crime per classification, bus stops and homeless sleeping locations do not vary significantly across census block panhandling classification ($H_0: \text{median}^1 = \text{median}^2 = \text{median}^3 = \text{median}^4$). The alternate hypothesis stated that medians of crime per classification, bus stops and homeless sleeping locations do vary significantly across census block panhandling classification ($H_1: \text{median}^1 \neq \text{median}^2 \neq \text{median}^3 \neq \text{median}^4$). Significance in median differences were measured at the .05 level.

Table 2 – Descriptive Statistics

	Crime Classification Variables					Additional Variables	
	All Part I	Part I Person	Part I Property	Intermediate	Quality of Life	Sleeping Locations	Bus Stops
Mean	3.9	0.48	3.42	0.97	0.37	0.25	0.36
Median	2	0	2	0	0	0	0
Std. Deviation	6.844	1.234	6.078	1.783	1.791	2.445	0.801
Variance	46.838	1.523	36.948	3.179	3.208	5.979	0.642
Skewness	6.845*	5.226*	7.453*	5.15*	25.375*	18.259*	7.622*
Kurtosis	97.605*	42.148*	120.686*	52.158*	1045.053*	408.972*	173.934*
*Std. Error of Skewness is 0.025, skewness is significant if ≤ -0.05 and ≥ 0.05							
*Std. Error of Kurtosis is .051, kurtosis is significant if ≤ -0.102 and ≥ 0.102							

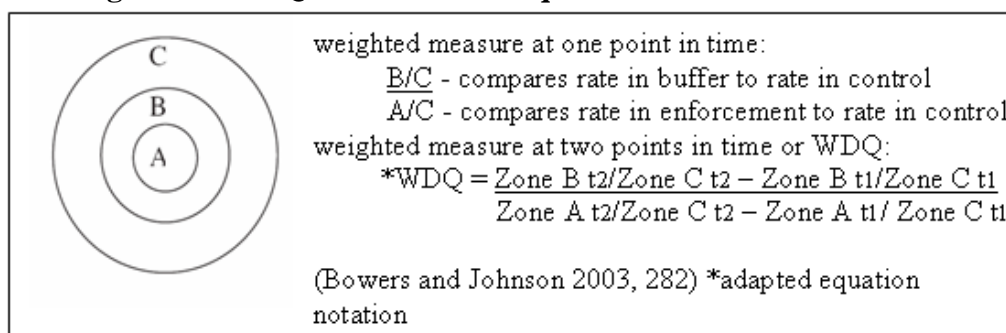
Weighted Displacement Quotient

The weighted displacement quotient (WDQ), developed in 2003, was used to measure crime rates and, when applicable, displacement and diffusion of benefits. The basic method involves a three ring “nested” buffer. The smallest ring, Zone A, is the crime interdiction target area. The middle ring, Zone B, is the displacement/diffusion of benefits zone. The outer ring, Zone C, is the control zone (Bowers and Johnson 2003).

Figure 1 details the WDQ equation and the “nested” buffer. The WDQ numerator is the Buffer Displacement Measure and the denominator is the Success Measure. A positive Success Measure indicates an unsuccessful scheme because the crime rates in Zone A increased relative to Zone C. In this scenario, the WDQ is non-applicable. A negative Success Measure indicates a successful scheme because the crime rates in Zone A decreased relative to Zone C. Positive Buffer Displacement Measures imply possible displacement because after ordinance enforcement, the crime rates in Zone B increased relative to Zone C. Negative Buffer Displacement Measures imply possible diffusion of benefits because after ordinance enforcement, the crime rates in Zone B decreased relative to Zone C (Bowers and Johnson 2003).

For schemes successful in lowering crime, two scenarios exist. A WDQ less than 0 indicate varying degrees of displacement. A WDQ greater than 0 indicate varying degrees of diffusion of benefits (Bowers and Johnson 2003).

Figure 1 – WDQ Mathematical Equations and “Nested” Buffer



Spatial autocorrelation “refers to the pattern in which observations from nearby locations are more likely to have similar magnitude than by chance alone” (Fortin, Dale, and VerHoef 2002, 2051). This idea maintains that geographically close areas will have similar demographic characteristics and similar land use. The “nested” buffer approach was used based on principles of spatial autocorrelation.

Buffer morphology in terms of shape and size are of particular concern when measuring displacement. The “nested” buffer approach was used for zone construction. Zones were designed based on radial measurements from the original street intersections designated as heavily used panhandling intersections. Zone morphology was preserved using this method.

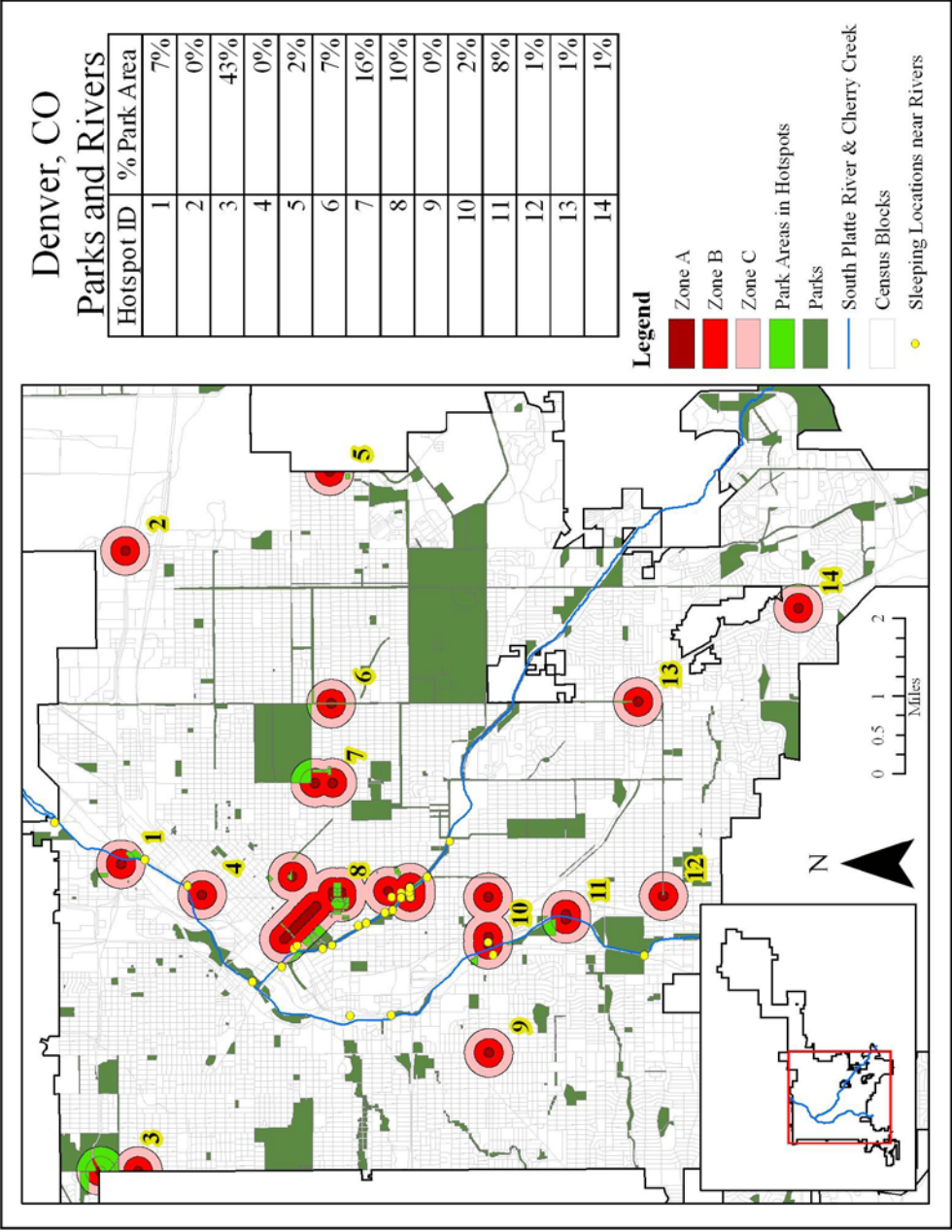
Area delineations for measuring displacement are vital as crime rates in buffers that are too small “are likely to fluctuate in an erratic and statistically unreliable way” (Bowers and Johnson 2003, 280) and if displacement buffer is too large, a “washout effect” may negate the detection of displacement (Weisburd

and Green as cited in Bowers and Johnson 2003, 280). Citing the above considerations, Eck and Weisburd (1995) used a two block radius to measure displacement.

As discussed previously, Denver streets were generally designed on a 330 x 660 ft rectangular grid system with a north/south orientation. There are exceptions, notably in the downtown area where block measurements vary and have a northeast/southwest orientation. Zone buffer measurements were constructed as 330 ft (Zone A) and 660 ft (Zones B and C) radial measurements based on the grid system. From the original street intersection, Zone A had a radius of 330 ft representing approximately one city block. Zone B had a radius of 990 ft from the original intersection representing three city blocks and created a displacement buffer of approximately one city block (660 ft). Zone C had a radius of 1,650 ft from the original intersection representing five city blocks and created a control buffer of one city block (660 ft). Additionally, it was assumed that panhandlers have limited mobility and would concentrate daily activities within a limited geographic area.

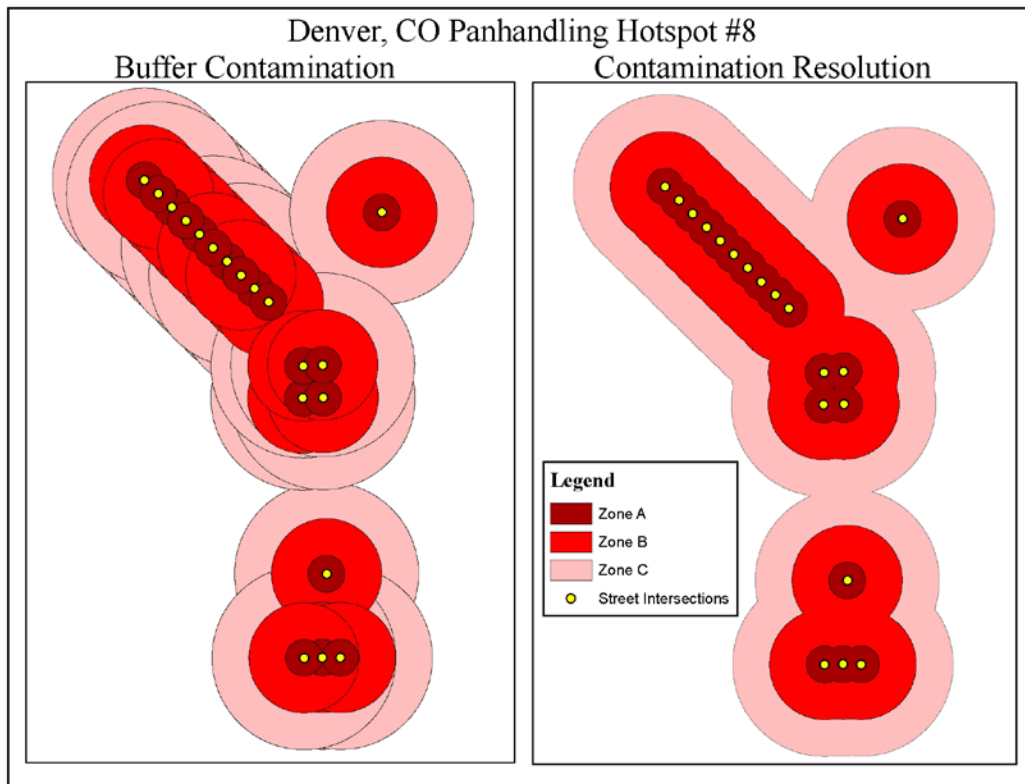
Displacement literature also encourages exploration of natural or man-made land boundaries that may influence crime (Bowers and Johnson 2003). Clarke and Felson (1998) term such influences “crime generators”, “crime attractors” and “crime detractors”. The influence of river and park locations were considered in buffer creation and analysis. River banks are public space often

used by transients. This is evident in Denver by the records of police sweeps of shanty towns on Cherry Creek in 1995 (DHPG 2003, 14) and the body of a murdered homeless man found on Cherry Creek in October 2006 (Mitchell 2006). The DHS/CCH survey detailing the self reported sleeping locations of homeless people in Denver showed 89 of 630 respondents (14%) sleeping within 660 ft of South Platte River and Cherry Creek (Colorado Coalition for the Homeless 2006). Parks are areas of public land use and therefore hospitable to transient use. Additionally, parks are referred to in crime literature as areas susceptible to Part II crimes including drug use and public intoxication. Map 4 details Denver parks, creeks and rivers.



Map 4 – Denver, CO Parks, Creeks and Rivers

Weisburd and Green (1995) define “displacement contamination” as a main problem when measuring displacement. Displacement contamination is a concern when treatment and control areas are within close proximity and overlap. The overlap of buffers, or buffer contamination, is a generalization of displacement contamination. The close proximity of many of the panhandling street intersections resulted in buffer contamination. Overlapping buffers were merged to resolve the contamination. In this way, area morphology was preserved. Buffered areas and zones represented individual and cohesive areas and maintained the idea of “nested” zones. See Map 5.



Map 5 – Denver, CO Panhandling Hotspot #8

In addition to spatial concerns, data concerns were specified for the WDQ. Bowers and Johnson (2003, 297) recommend a pre-enforcement period of at least one year and a “substantial” and scheme appropriate post-enforcement period. The panhandling ordinances went into effect on January 4, 2006. Therefore, DPD crime data from January 1, 2005 to December 31, 2005 was the pre-ordinance enforcement period. January 4, 2006 to December 31, 2006 was the post-ordinance enforcement period. A one year post-enforcement period was assumed adequate for measurements as crime patterns would not be subject to fluctuations in shorter time periods.

The DPD changed crime coding practices between 2005 and 2006. Crime data for 2005 were coded using UCR standards and crime data for 2006 were coded using Versaterm standards. Since Versaterm coding provides more detailed descriptions of crime, the data was manually reclassified using UCR standards allowing equivalent comparisons.

Ratcliffe (2005) estimated that appropriate data quality for statistical investigations in a spatial study requires data to be geocoded to >95%. The 2005 and 2006 crime data sets were successfully geocoded to >95%. The 2004 data set, used only to validate the use of the WDQ, was geocoded to >95%. Additionally, all records for the “lost/missing” were cleaned out of the data sets.

One major assumption for the applicability of the WDQ was that “a geographical area without treatment will account for a similar proportion of the

total volume of crime within a wider area” at two time periods (t0 and t1) prior to enforcement (Bowers and Johnson 2003, 285). Ratios should not differ significantly over time thereby validating the assumption that crime rates are stable over time (Bowers and Johnson 2003).

Mimicking the validation of the WDQ assumption conducted by Bowers and Johnson (2003), Zone B to Zone C zonal crime rate ratios (B:C), Zone A to Zones B and C zonal crime rate ratios (A:BC) and DPD precincts crime rate ratios were examined for the two year period prior to ordinance enforcement. Crime data from January 1, 2004 to December 31, 2004 represented t0 and crime data from January 1, 2005 to December 31, 2005 represented t1. Classic t-tests were used to compare t0 and t1. The null hypothesis, accepted for each case, stated that there is no difference in the means of the ratios of crime rates ($H_0: \text{mean}^1 = \text{mean}^2 = \text{mean}^3 = \text{mean}^4$). The alternative hypothesis stated that there was a significant difference in the means of the ratios of crime rates ($H_1: \text{mean}^1 \neq \text{mean}^2 \neq \text{mean}^3 \neq \text{mean}^4$). Crime rates were stable over the two years prior to ordinance enforcement thereby meeting the requirements of the assumption. Table 3 details t Test results.

Table 3 – WDQ Validation t Tests

Matched Pairs*	DF	t-Ratio	Critical Values	p Value	Decision
B:C 2004 - B:C 2005	13	-0.087	-2.16 and 2.16	0.93	Accept
A:BC 2004 - A:BC 2005	13	0.991	-2.16 and 2.16	0.34	Accept
Precinct 2004 - Precinct 2005	86	-0.316	-2.0 and 2.0	0.75	Accept
*2 tailed tests at a significance of .05					

Methods Conclusion

Qualitative and quantitative methods are used to answer the research questions. Qualitative methods drive the development of panhandling hotspots. The quantitative methods include traditional and spatial statistical methods. Rationales for methods are provided as well as limitations in the research, both theoretically and technically. Results are detailed in the next chapter.

Chapter 4 - Results

Results Introduction

Kruskal-Wallis results were calculated to investigate the possible correlation between panhandling hotspots and crime. Calculations are based on 2005 (t1) crime data. Results are reported in Table 4 and Graph 1.

The weighted displacement quotient (WDQ) results were calculated to measure relative movement of crime and possible displacement or diffusion of benefits. Calculations are based on 2005 (t1) crime data and 2006 (t2) crime data. Results are reported in Table 5, Graph 2, Map 6, Table 6, Map 7 and Map 8.

Kruskal-Wallis Test

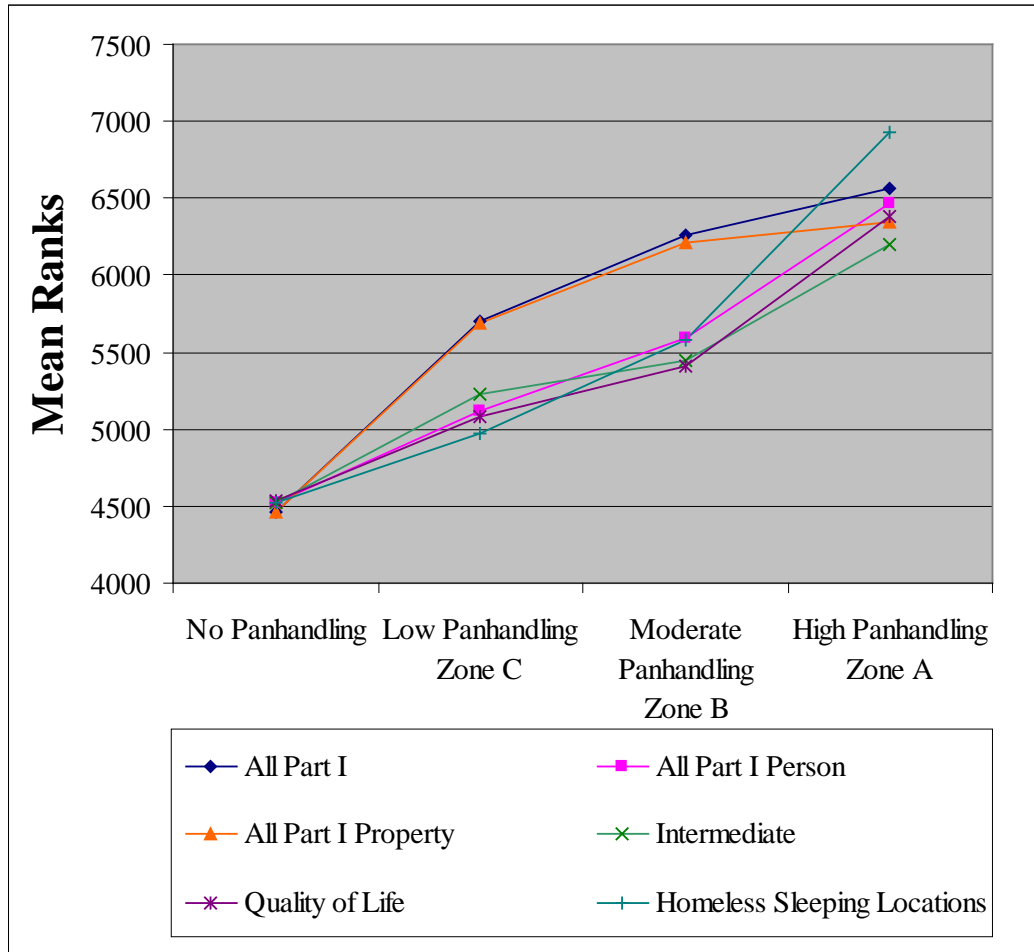
Table 3 details the results of the Kruskal-Wallis test. The null hypothesis stated that medians of crime per classification, bus stops and homeless sleeping locations do not vary significantly across census block panhandling classification ($H_0: \text{median}^1 = \text{median}^2 = \text{median}^3 = \text{median}^4$). The alternate hypothesis stated that medians of crime per classification, bus stops and homeless sleeping locations do vary significantly across census block panhandling classification ($H_1: \text{median}^1 \neq \text{median}^2 \neq \text{median}^3 \neq \text{median}^4$). Significance in median differences were measured at the .05 level. The null hypothesis was rejected in every category indicating that medians of crime per classification, bus stops and homeless sleeping locations do vary significantly across census blocks based on panhandling classifications.

Table 4 – Kruskal-Wallis and Median Test Results

Crime Classification	Kruskal-Wallis Chi Square	Significance	Median Test Chi Square	Significance
All Part I	318	0.000*	248	0.000*
All Part I Person	248	0.000*	209	0.000*
All Part I Property	292	0.000*	241	0.000*
Intermediate	142	0.000*	93	0.000*
Quality of Life	244	0.000*	215	0.000*
Homeless Sleeping Locations	1398	0.000*	1357	0.000*
Bus Stops	92	0.000*	80	0.000*
* Critical Value of 7.813 at a significance of .05				

Graph 1 displays the mean ranks of census blocks by panhandling classification. All variables show a positive linear pattern; mean ranks are lowest where there panhandling is absent and highest in panhandling hotspots.

Graph 1 – Mean Ranks of Census Blocks by Panhandling Classification



Weighted Displacement Quotient

Table 4 details results of the WDQ. Interpretations are based on Bowers and Johnson (2003). Ten panhandling hotspots had a positive Success Measure which defines an unsuccessful scheme and WDQ is non-applicable (n/a). Of the 10 unsuccessful schemes, six panhandling hotspots were deemed unsuccessful because of an increase in crime rates after ordinance enforcement. Three panhandling hotspots showed a decrease in crime rates after ordinance

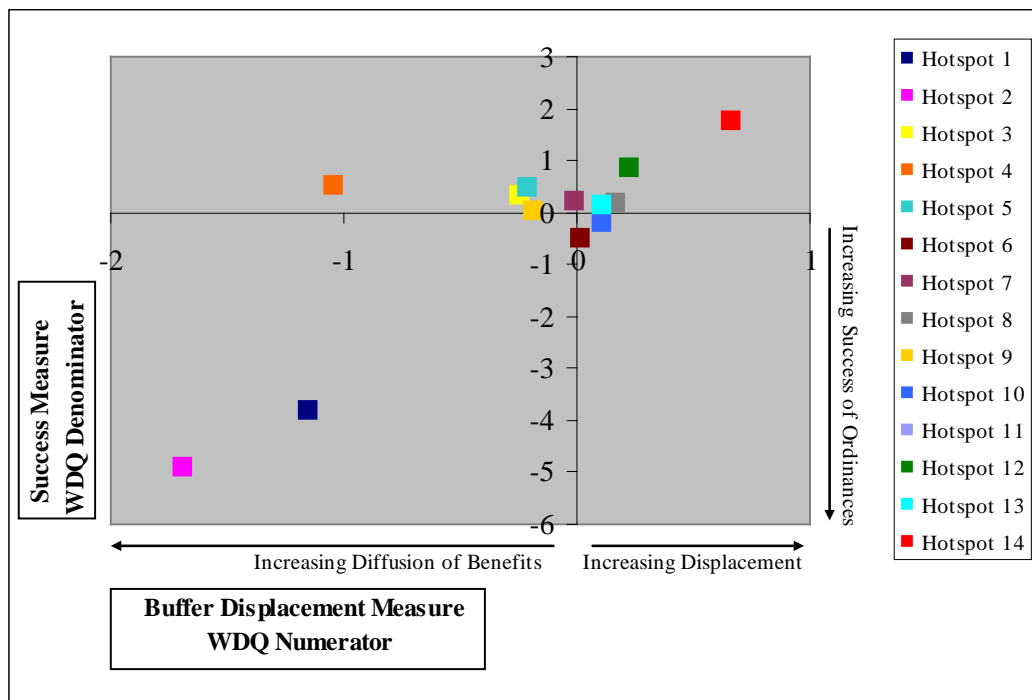
enforcement but the Success Measure proved unsuccessful because the crime rates in Zone A increased relative to Zone C. One hotspot maintained a steady crime rate in Zone A with a positive Success Measure. One hotspot had a positive Success Measure with a steady crime rate in Zone A because of the simultaneous drop in crime rates for Zone C.

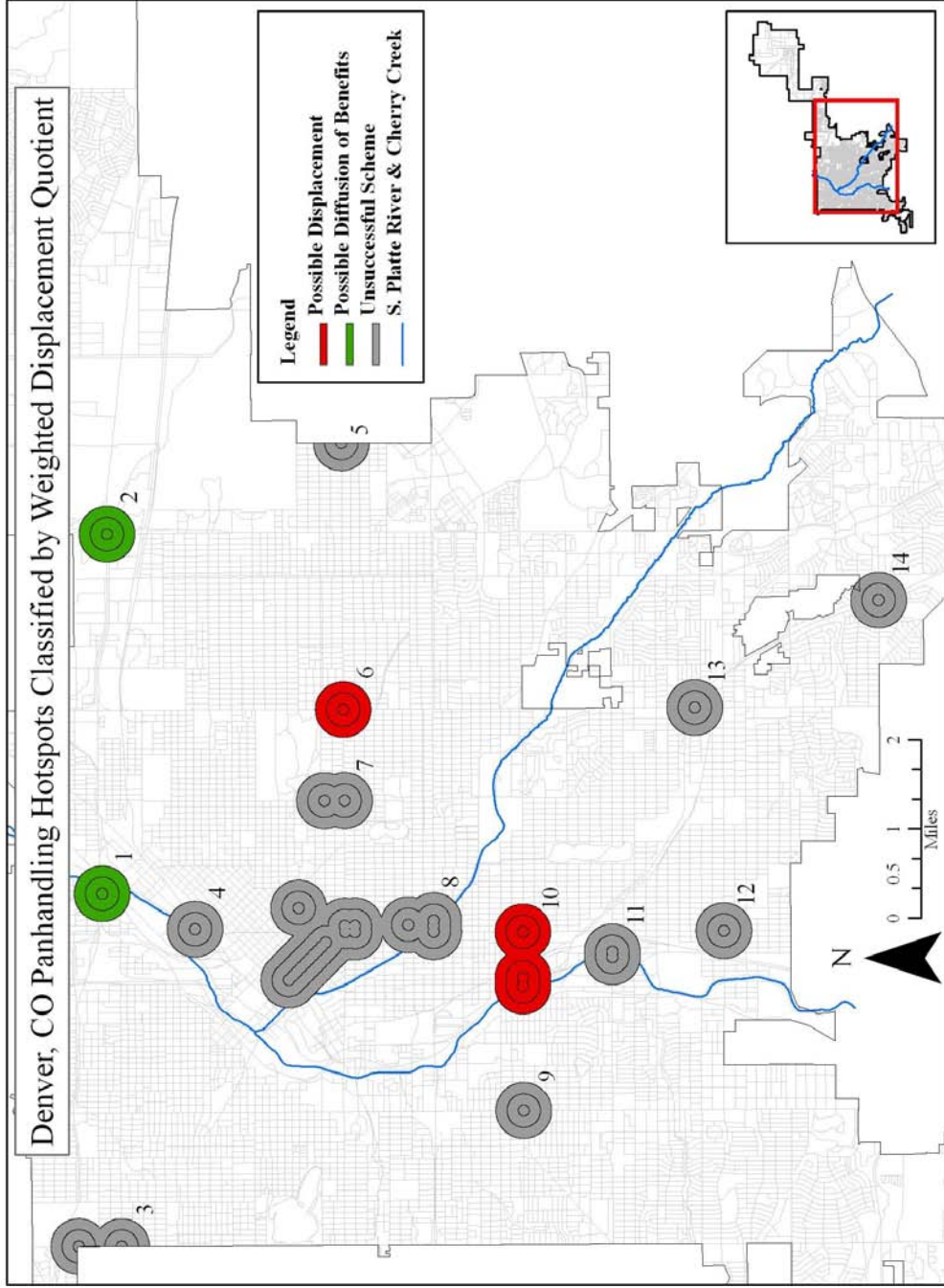
Table 5 – WDQ Results and Interpretation

Hotspot ID	Buffer Displacement Measure	Success Measure	WDQ	Interpretation
1	-1.15	-3.83	0.30	diffusion of benefits less than direct effects
2	-1.69	-4.92	0.34	diffusion of benefits less than direct effects
3	-0.25	0.31	n/a	positive Success Measure with crime increase in Zone A
4	-1.04	0.51	n/a	positive Success Measure with crime increase in Zone A
5	-0.21	0.47	n/a	positive Success Measure with crime increase in Zone A
6	0.02	-0.50	-0.04	minimal displacement less than direct effects
7	-0.01	0.20	n/a	positive Success Measure with crime increase in Zone A
8	0.17	0.16	n/a	positive Success Measure with crime increase in Zone A
9	-0.19	0.02	n/a	positive Success Measure with crime decrease in Zone A
10	0.11	-0.22	-0.50	moderate displacement less than direct effects
11	-0.03	0.70	n/a	positive Success Measure with crime increase in Zone A
12	0.23	0.84	n/a	positive Success Measure with crime decrease in Zone A
13	0.11	0.16	n/a	positive Success Measure with crime steady in Zone A
14	0.67	1.76	n/a	positive Success Measure with crime decrease in Zone A

Graph 2 is derived from a similar chart created by Bowers and Johnson (2003) for a visual display of the WDQ. Each panhandling hotspot was plotted based on the Success Measure and Buffer Displacement Measure. Positive Success Measures plotted above the x axis. The four successful schemes had negative Success Measures and plotted below the x axis. The two successful schemes with possible diffusion of benefits (panhandling Hotspots 1 and 2) suggest a strong probability of diffusion of benefits. Also, the two successful schemes with possible displacement (panhandling Hotspots 6 and 10) suggest a weak probability of displacement. Map 6 displays the panhandling hotspots according to WDQ values.

Graph 2 – WDQ Success Measure/Buffer Displacement Measure Plot





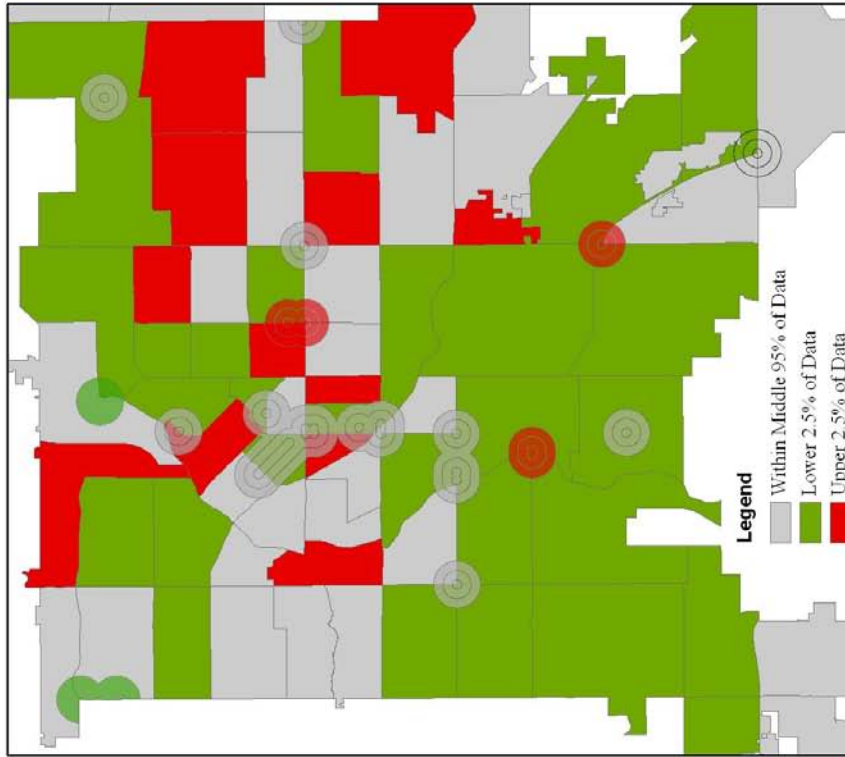
Due to the nominal success in lowering crime and consequent non-applicability of the WDQ, classic t-tests were used to compare t1 and t2 to determine if crime rates were stable from 2005 to 2006. This test was completed as the previous t-tests for 2004 – 2005 WDQ validation were. Table 6 details the results. The null hypothesis stated that there was no difference in the means of the zonal and precinct crime rate ($H_0: \text{mean}^1 = \text{mean}^2 = \text{mean}^3 = \text{mean}^4$). The alternative hypothesis stated that there was a significant difference in the means of the zonal and precinct crime rate ($H_1: \text{mean}^1 \neq \text{mean}^2 \neq \text{mean}^3 \neq \text{mean}^4$). The null hypothesis was accepted for the zonal crime rate ratios; Zone B to Zone C and Zone A to Zones B and C. The null hypothesis was rejected on the precinct level indicating a significant difference in the means of precinct crime rates. Map 7 highlights statistical outliers at the second standard deviation. Map 8 details locations of homeless shelters, social services and homeless sleeping locations.

Table 6 – Matched Pairs t Test for 2005 and 2006

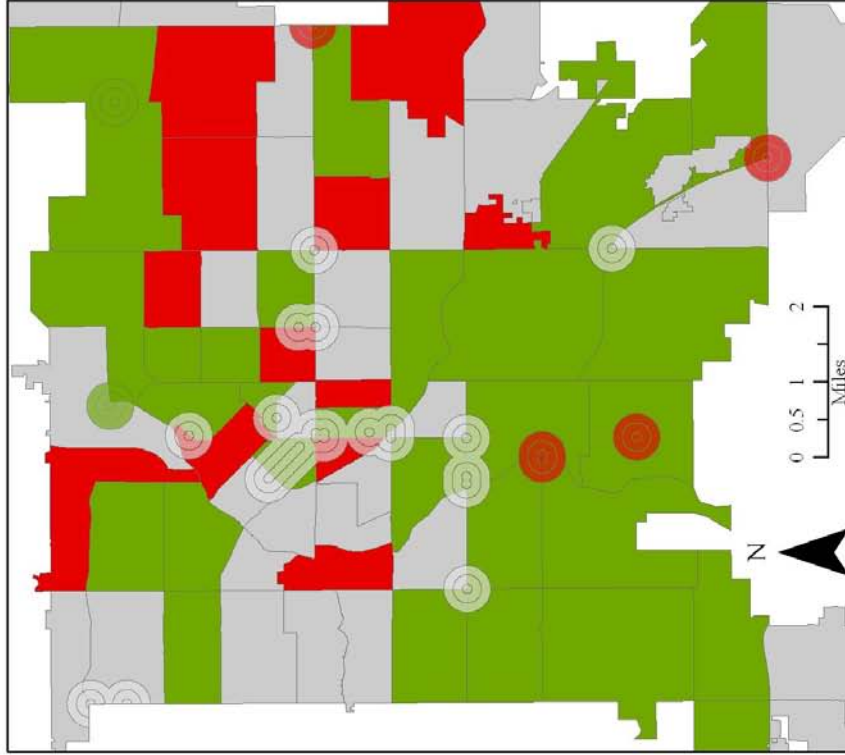
Matched Pairs*	DF	t-Ratio	Critical Values	p Value	Decision
B:C 2005 - B:C 2006	13	1.455	-2.16 and 2.16	0.17	Accept
A:BC 2005 - A:BC 2006	13	0.181	-2.16 and 2.16	0.86	Accept
Precinct 2005 - Precinct 2006	86	5.719	-2.0 and 2.0	<.0001	Reject
*2 tailed tests at a significance of .05					

t Test Stastical Outliers for Panhandling Hotspots and DPD Precincts

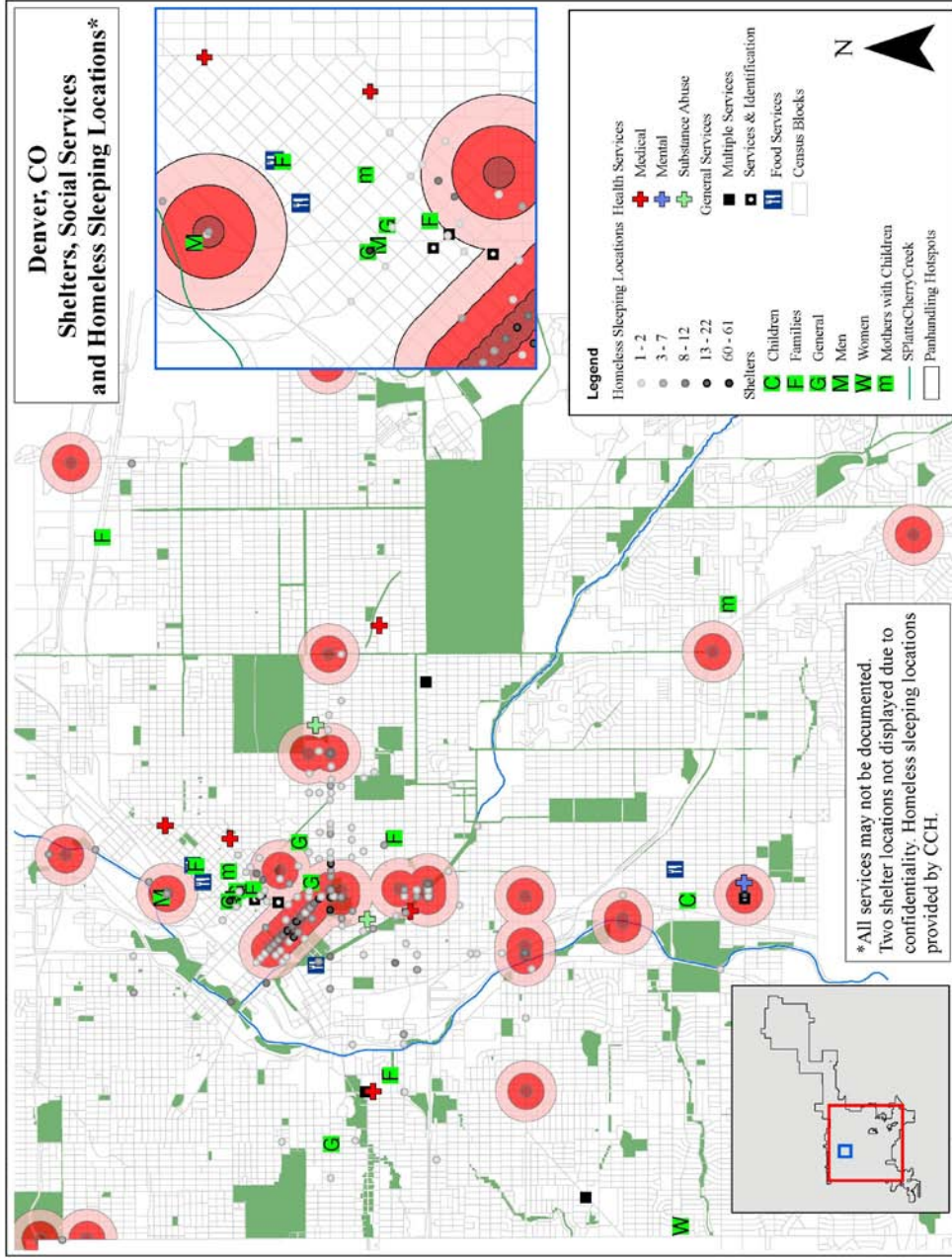
Zone A: Zone B and Zone C t Test Outliers



Zone B: Zone C t Test Outliers



Map 7 – t Test Statistical Outliers for Panhandling Hotspots and DPD Precincts



Map 8 – Denver, CO Shelters, Social Services and Homeless Sleeping Locations

Results Conclusion

Results of the Kruskal-Wallis and median tests demonstrate a statistically significant relationship between panhandling hotspots and crime. The WDQ showed that crime rates did not decrease in the majority of panhandling hotspots. Of the four panhandling hotspots with decreases in crime rates, two showed possible diffusion of benefits and two showed possible displacement. Conclusions are discussed in the next chapter.

Chapter 5 – Analysis, Conclusions and Future Research

Introduction

Criminological theory and associated crime prevention strategies have led to nationwide trends addressing social problems with transient communities. Denver's City Government implemented crime prevention strategies in the form of transient-focused ordinances based on current criminological theory. This research investigated the legitimacy of broken windows theory and the effectiveness of the ordinances in lowering crime rates.

Analysis

The first research goal was to investigate the possible relationship between panhandling hotspots and crime. A highly significant correlation was found between panhandling hotspots and each of the five classifications of crime. Using panhandling as the indicator of disorder, there is a crime-disorder nexus in Denver.

Every category tested had a positive linear pattern in the mean ranks and two broad data patterns existed within that. The first, evident with All Part I and All Part I Property crime, had the most pronounced increase of mean ranks between areas with no panhandling and areas with low panhandling. The difference in mean ranks for All Part I Property crime from areas with no panhandling to areas with low panhandling was 1,227.09. Again, the All Part I category included both Part I Property crime, with 30,012 total records, and Part I

Person crimes, with 3,915 total records. The discrepancy in number of offenses caused the data pattern of All Part I crime to mimic that of All Part I Property crime. The second broad pattern, evident with All Part I Person, Intermediate and Quality of Life crime, had the most pronounced increase of mean ranks between areas with moderate panhandling and areas with high panhandling.

Homeless sleeping locations also followed the second broad pattern of mean ranks. However, the increase in mean ranks from areas with moderate panhandling to areas with high panhandling is the most pronounced with a difference in mean ranks of 1,347.53. Generally, conventional wisdom holds that panhandling and homeless communities have minimal overlap. The significant increase in mean ranks may indicate a more than expected overlap of transient communities in Denver. The increase may also validate the geographic location of the qualitatively determined panhandling hotspots as the hotspots correlate significantly with self-reported sleeping locations of homeless people.

The second research goal was to examine crime rates before and after ordinance enforcement. Further, if crime rates decreased, was displacement or diffusion of benefits evident? While crime rates were steady from 2004 to 2005, a statistically significant decrease in crime rates was found from 2005 to 2006 at the precinct level. In 2006, 28 precincts showed a significant decrease in crime, 16 showed a significant increase in crime and 43 had steady crime rates. Crime dropped by approximately 11% citywide.

A reduction in crime did not occur in 71%, or 10 of the 14 (3, 4, 5, 7, 8, 9, 11, 12, 13, 14) panhandling hotspots. Crime increased in Zone A in six of the 10 (3, 4, 5, 7, 8, 11) unsuccessful hotspots. Crime decreased in Zone A in three of the 10 (9, 12, 14) unsuccessful hotspots but did not decrease relative to Zone C. One of the 10 (13) unsuccessful hotspots had steady crime in Zone A but decreased crime in Zone C.

Crime decreased in Zone A relative to Zone C in four of the 14 (1, 2, 6, 10) panhandling hotspots. Possible diffusion of benefits was identified in two of the four (1, 2) successful hotspots and possible displacement was identified in two of the four (6, 10) successful hotspots.

Four hotspots (1, 2, 13, 14) are geographically focused around interstate on/off ramps. The land use in these areas differ from the land use in other hotspots areas. The interstate interchanges are marked by high traffic flow, low numbers of business or residential buildings and low pedestrian traffic. This situation reduces social disorganization because fewer groups are invested in the land use. These areas are also likely to have different policing patterns and are subject to fewer restrictions defined by the ordinances.

A possible diffusion of benefits was observed in Panhandling Hotspots 1 and 2 which are geographically centered on the I-70 on/off ramps, a major interstate highway through Denver. The expectation is that crime would decrease in Hotspot 2 because it is entirely within a DPD precinct that reported a

statistically significant decrease in crime. Indeed, it is the most successful hotspot in terms of crime reduction and possible diffusion of benefits.

Hotspot 1 was within multiple precincts that had both decreasing and steady crime rates. While the possibility of diffusion of benefits is less than in Hotspot 2, this is still a successful hotspot. The zonal crime rate ratios showed significant decrease in crime in Zone A for Hotspot 1 and Zone B for Hotspots 1 and 2 thus confirming the WDQ.

Hotspots 13 and 14 are geographically focused on the I-25 on/off ramps and are entirely within precincts that showed decreased or steady crime rates. However, Hotspots 13 and 14 were not subject to the WDQ because of increased crime. Additionally, the zonal crime rate ratios showed a statistically significant increase in crime rates in Zone A for Hotspot 13 and in Zone B for Hotspot 14. Hotspots 1 and 2 are in different DPD districts than Hotspots 13 and 14 and diverse enforcement priorities may account for the inconsistency. Differing environmental factors may also influence the inconsistency.

Four panhandling hotspots (4, 6, 7, 8) are geographically centered around downtown Denver. At the precinct level, crime rates fluctuated with nearly no geographic continuity. Crime increased in Hotspots 4, 7 and 8 in Zone A from 2005 to 2006 making the WDQ non-applicable. Hotspot 6 is a successful scheme and showed possible displacement but with a WDQ value of -0.04, displacement is not likely. Considering only the downtown group of panhandling hotspots, 6 is

removed from the clusters of homeless sleeping locations and social services. Additionally, the hotspot is geographically removed from the BID district and on the edge of the CCH Outreach quadrants.

Multiple groups are invested in the land use of the area including the DPD, city and state governments, residents (both those with homes and those without), business owners and social service organizations. Social services are clustered in the area as well as the self-reported sleeping locations of the homeless. The confluence of the South Platte River and Cherry Creek is nearby and Cherry Creek runs through Hotspots 4 and 8. Parks make up 33% of the land cover in Hotspots 6, 7 and 8. This group of hotspots has several indicators of social disorganization.

South Denver, particularly southwest Denver, is the largest contiguous area exhibiting decreased crime rates at the precinct level from 2005 to 2006. Hotspots 9, 10, 11 and 12 are in this area. However, crime did not decrease in Hotspots 9, 11 and 12 so the WDQ was not applicable. Hotspot 10 had a WDQ of -0.50 which suggests a level of displacement less than the direct effects of the police strategy and may yield a positive net benefit. The zonal crime rate ratios for Hotspots 9 and 10 were steady, perhaps strengthening the argument that possible displacement is minimal in Hotspot 10. However, zonal crime rate ratios significantly increased for Zone A and Zone B in Hotspot 11. Zonal crime rate ratios increased significantly in Hotspot 12.

The number of transients sleeping in the area is relatively small. Multiple social services are available in the area but the shelters are designated for women and children only. Consequently, the demographics of transients using this area may differ from that of transients in other areas around Denver. The area was surrounded by precincts with reduced crime. Seemingly, this area has less social disorganization than the group of hotspots downtown. Theoretically, these factors should have positively influenced the hotspots yet a reduction in crime is not evident. Other environmental or social factors may be at work in the area.

Crime increased in Hotspot 3, on the western side of Denver, and Hotspot 5, on the eastern side and were non-applicable for the WDQ. Complicating the analysis, the buffer boundaries were outside of Denver County where crime data was not available.

Conclusions and Future Study

Transient-Focused Ordinances

The majority of geographic areas under consideration for this study were unsuccessful in terms of lowering crime. Assuming that a positive correlation between panhandling and crime supports broken windows theory being valid in Denver, it was expected that ordinance enforcement designed around the theory would effectively lower crime. Indeed, considering the 11% decrease in crime city wide, a synergistic effect was expected.

Because crime did not decrease under the ordinances, other explanations must be explored. The ordinances may not have been uniformly enforced and DPD controls for enforcement and assessment are lacking. This may be indicative of a slowed or failed integration of COP/POP into DPD practices.

If the ordinances were uniformly enforced, the SCP tactics adopted by DPD and community organizations may need scrutiny. The SCP tactics have been extensive and included deterrence by establishing ordinances, posting notices about the ordinances, disseminating information in the transient communities about rules, facilitating compliance of rules, increased formal surveillance by the DPD and attempts to reduce personal strain through social services. Additional tactics included public awareness campaigns which theoretically reduced potential targets or victims and reduced the monetary benefits of panhandling. Evaluation of the strategies and adoption of new or revised police schemes might increase effectiveness.

Panhandling rates were not measured in this study. If panhandling had decreased, the COP/POP and SCP tactics would appear successful. However, crime did not decrease significantly indicating a flaw in the broken windows logic. If panhandling increased or remained steady, the policies based on broken windows theory would appear to be a flawed social policy for dealing with transient communities. In any event, re-evaluation of Denver's overall policy is

necessary. Also, further research is needed to either validate or negate the broken windows theory and associated crime prevention techniques.

The study's findings suggest other areas for future examination. Psychologically, the physical and emotional health of transients effected by ordinance enforcement was not investigated. Sociologically, the routine activities and social dynamics of transient communities and the effects on the overall health of the community are not well understood. Development of public policy with this knowledge may provide more holistic, comprehensive and sensitive strategies and may therefore be more successful.

Also, the needs of Denver's transients outpace available social services. The ordinance specific to the BID district is touted as a compassionate law because of the four step process it defines. However, without adequate social systems in place, transients are left to mitigate the personal strain potentially caused by ordinance enforcement. As a community, the ethical issues of transient-focused ordinances must be addressed and appropriate resources allocated. The ongoing process of evaluation must be included.

Displacement

Displacement issues should be an essential concern when planning for, instituting and evaluating the consequences of these types of laws. Panhandling, arguably, provides a means of survival for transients. Transient-focused laws regulate and prohibit behavior that may be biologically essential to survival.

Current displacement literature focuses on deterring crime that does not have such potentially critical payoffs for the offender. The lack of consideration of these issues in displacement literature, with designers of local and national policies, and in local police departments may explain some of the short comes of public policy.

Spatial displacement was the only displacement measured in this study. Investigation into other types of displacement is critical for a fuller understanding of the consequences of these policies. Panhandlers who were deterred by the Denver ordinances had two possible paths; non-criminal or criminal means of attainment. A deterred panhandler on a non-criminal path may be considered positive movement towards a healthier community. However, a deterred panhandler on a criminal path may have negative impacts on the community. Examples of this are easily imaginable and require further investigation. The deterred panhandler may turn to petty theft because he cannot buy his food. The deterred panhandler may turn to drug sales for money or escalated drug abuse for psychological escape. Deterred panhandlers, especially women and juveniles, may turn to prostitution to compensate for lost panhandling revenues.

GIS

The WDQ is a relatively new technique and was a useful evaluation tool in this study. However, more applications are necessary to expand its uses and establish its limits. This should include an evaluation of WDQ results using differing zone locations (i.e. nested control buffers versus geographically

separated control buffers) and various methods of buffer creation in terms of mitigating buffer contamination and buffer morphology.

GIS is only as good as the data used. For this study, police data integrity was questionable. Solid data collection and management is essential to the integration of COP/POP policing. Also, establishing GIS parameters prior to policy change will enhance COP/POP procedures and lay a base line for continual assessment.

Implications

This research has local and national implications. Locally, the government has spent an indefinable amount of money developing and implementing strategies to reduce crime by reducing panhandling. Findings suggest that this monetary investment did not pay off. On a broader scale, an article in the *Denver Post* cites broken windows policing strategy, but not specifically the new transient-oriented policies, as clogging city courts. One DPD administrator quoted in the article maintains that addressing quality-of-life arrests, like loitering, will lower the number of felony offenses. However, “critics argue that the city has embraced law enforcement as a way of solving deep-rooted social problems that would be better addressed through a different approach” (Osher 2007). Continued monetary investment that neglects to evaluate the success of the overall strategy cannot lead to better solutions.

There are other political implications aside from the use of governmental money and police effectiveness. Broken window policies are used as election candidate platforms. Shelley Watters, a candidate for City Council in 2007, plans to “Expand our city’s ‘Broken Window’ policies into all neighborhoods and have a more visible police presence in the neighborhoods” (Watters n.d.). Chris Nevitt, Watter’s opponent, “will support increased community policing” (Nevitt n.d.). Doug Linkhart, running for City Council At-Large in the same election, promises to stop “the cycle of homelessness and poverty” and to “fund alternative services for people who would otherwise go to jail for minor, non-violent offenses” (Linkhart n.d.). While the statements sound reasonable, this study suggests that policy based on theories that have yet to establish theoretical support is at best unproductive and a poor use of resources.

In February 2007, the *Rocky Mountain News* (Steers 2007) offers opinions of local business owners and citizens who believe panhandling has declined as proof of a successful police strategy. The article was reprinted in other U.S. newspapers as proof of the effectiveness of policies based on broken windows theory and as proof of the effectiveness of ‘compassionate’ transient-oriented ordinances. Without regard to effectiveness, local and national trends are propelled by such media reports. While favorable public opinion may be considered a positive benefit of the police strategies, the lack of empirical evidence of the positive impacts of the theories driving the ordinances remains.

Closing

Effectiveness of the ordinances must be questioned since the ordinances focused on reducing panhandling and therefore reducing crime did not have favorable outcomes in this study. The study suggests that panhandling is a social problem rather than a criminal problem. Perhaps the problem may be better addressed with community resources rather than law enforcement.

Bibliography

- Agnew, R. 1992. Foundation For A General Strain Theory of Crime and Delinquency. *Criminology* 30 (1): 47-87.
- Bailey, T. C., and A. C. Gatrell. 1995. *Interactive Spatial Data Analysis*. Essex, England: Longman Group Limited.
- Barr, R., and K. Pease. 1990. Crime Placement, Displacement, and Deflection. *Crime and Justice* 12: 277-318.
- Berry, J. K. n.d. *Analyzing Geo-Spatial Resource Data: A Hands-On Study in Spatial Analysis and Data Mining*. Independent Publishing.
- Bowers, K. J., and S. D. Johnson. 2003. Measuring the Geographical Displacement and Diffusion Benefit Effects of Crime Prevention Activity. *Journal of Quantitative Criminology* 19 (3): 275-301.
- Bowers, K. J., S. Johnson, and A. Hirschfield. 2003. London Home Office Policing and Reducing Crime Unit. *Pushing back the boundaries: new techniques for assessing the Impact of burglary schemes*. Research Development Statistics Online Report RDS OLR 24/03.
- Brantingham, P. L., and P. J. Brantingham. 1993. Environment, Routine, and Situation: Toward a Pattern Theory of Crime. In *Routine Activity and Rational Choice: Advances in Criminological Theory*, ed. R. V. Clarke and M. Felson, 259-294. New Brunswick, NJ: Transaction Publishers.
- Brantingham, P. L., P. J. Brantingham, and W. Taylor. 2005. Situational Crime Prevention as a Key Component in Embedded Crime Prevention. *Canadian Journal of Criminology and Criminal Justice* 47 (2): 271-292.
- Chainey, S., 2005. Methods and Techniques for Understanding Crime Hotspots. In *Mapping Crime: Understanding Hotspots*, 15-34. Washington, D. C.: U. S. Department of Justice Office of Justice Programs.
- Chainey, S. and J. Ratcliffe. 2005. *GIS and Crime Mapping*. West Sussex, England: John Wiley & Sons Ltd.
- Clarke, R. V. 1983. Situational Crime Prevention: Its Theoretical Basis and Practical Scope. *Crime and Justice* 4: 225-256.
- . 1995. Situational Crime Prevention. *Crime and Justice* 19: 91-150.

- Colorado Coalition for the Homeless. 2006. Survey Results of Homeless Individuals' Self Reported Sleeping Locations. Unpublished data.
- Denver's Road Home. n.d. *Panhandling. It's a lose/lose for all*. Pamphlet. Giveabetterway.org.
- Denver, CO City and County. Office of Mayor John W. Hickenlooper. 2005. *Mayor Hickenlooper Unveils Multi-Pronged Approach to Improve Public Safety*. <http://www.denvergov.org/Mayor/PressReleases/PressReleases3/tabid/390396/Default.aspx>. (accessed on April 16, 2006)
- Denver, CO City and County. 2006. Municipal Code. <http://www.municode.com/resources/gateway.asp?pid=10257&sid=6>. (accessed on May 10, 2006)
- Denver Commission to End Homelessness: DCEH. n.d. *Ten Year Plan to End Homelessness: A Report to the Citizens of Denver*. <http://www.denvergov.org/Homelessness/template320225.asp>. (accessed on May 15, 2006)
- Denver Homeless Planning Group: DHPG. September 2003. *A Blueprint for Addressing Homelessness in Denver*.
- Denver Police Department Officers. 2006. Interview by Megan Gall and Noah Fritz. January 20. University of Denver, Denver.
- Eck, J. E. n.d. U.S. Office of Community Oriented Policing Services. *Assessing Responses to Problems: An Introductory Guide for Police Problem-Solvers*. <http://www.popcenter.org/Library/RecommendedReadings/Assessingpercent20Responses.pdf>. (accessed on May 20, 2006)
- , 1993. The Threat of Displacement. *Criminal Justice Abstracts* 24: 527-546.
- , 2005. Crime Hotspots: What They Are, Why We Have Them, and How to Map Them. In *Mapping Crime: Understanding Hotspots*, 1-14. Washington, D. C.: U. S. Department of Justice Office of Justice Programs.
- Eck, J. E., and D. Weisburd. 1995. *Crime and Place: Crime Prevention Studies*. Vol. 4, 1-33. Monsey, NY and Washington, DC: Criminal Justice Press and The Police Executive Research Forum.
- Ellisckson, R. 1996. Controlling Chronic Misconduct in City Spaces: Of Panhandlers, Skid Rows and Public-Space Zoning. *Yale Law Journal* 105 (5): 1165-1248.

- Felson, M., and R. V. Clarke. 1998. London Home Office Policing and Reducing Crime Unit. *Opportunity Makes a Thief: Practical Theory for Crime Prevention*. Police Research Series Paper 98.
- Fortin, M., M. R. T. Dale, and J. Ver Hoef. 2002. Spatial Analysis in Ecology. In *Encyclopedia of Environmetrics*. Vol. 4. ed. A. H. El-Shaarawi and W. W. Piegorsch, 2051-2058. Chichester: John Wiley & Sons, Ltd.
- Goldstein, B. J. 1993. Panhandlers at Yale: A Case Study in the Limits of Law. *Indiana Law Review* 27 (2): 295-359.
- Goldstein, H. 1990. *Problem-Oriented Policing*. New York: McGraw-Hill.
- Harcourt, B. E. 2001. *Illusion of Order: The False Promise of Broken Windows Policing*. Cambridge, MA: Harvard University Press.
- Huxhold, W. E., and A. G. Levinsohn. 1995. *Managing Geographic Information System Projects*. New York, NY: Oxford University Press. Inc.
- Kelling, G. L., and C. M. Coles. 1996. *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*. New York, NY: The Free Press.
- Lankenau, S. E. 1999. Stronger Than Dirt: Public Humiliation and Status Enhancement Among Panhandlers. *Journal of Contemporary Ethnography* 28 (3): 288-318.
- Linkhart, D. n.d. "It's not what you know...". Pamphlet. People for Linkhart.
- McEwen, J. T., and F. S. Taxman. 1995. Applications of Computerized Mapping to Police Operations. In *Crime and Place: Crime Prevention Studies*. Vol. 4., ed. J. E. Eck and D. Weisburd, 259-284. Monsey, NJ: Willow Tree Press, Inc.
- Merton, R. K. 1938. Social Structure and Anomie. *American Sociological Review* 3: 672-682.
- Metropolitan Denver Homeless Initiative: MDHI. 2005. *Homelessness in Metropolitan Denver: Sixth Annual Point-In-Time Study, 2005*.
-----, 2006. *Homelessness in Metropolitan Denver: Seventh Annual Point-In-Time Study, 2006*.
- Mitchell, K. 2006. Man's body found in Cherry Creek. *Denver Post*, October 14.

http://www.denverpost.com/search/ci_4493844 (accessed on February 16, 2007).

National Alliance to End Homelessness: NAEH. 2000. *A Plan: Not a Dream How to End Homelessness in Ten Years*. <http://www.endhomelessness.org/content/article/detail/585>. (accessed on January 4, 2007)

-----, 2006. *A New Vision: What is in Community Plans to End Homelessness?* <http://www.endhomelessness.org/content/article/detail/1397>. (accessed on February 2, 2007)

National Coalition for the Homeless and The National Law Center on Homelessness & Poverty: NCH/NLCHP. 2006. *A Dream Denied: The Criminalization of Homelessness in U.S. Cities*. <http://www.nationalhomeless.org/publications/crimreport/report.pdf>. (accessed on January 2, 2007)

Nevitt, C. n.d. *A Lifetime of Service A Record of Results*. Pamphlet. Neighbors for Nevitt.

Ratcliffe, J. H. 2005. Detecting Spatial Movement of Intra-Region Crime Patterns Over Time. *Journal of Quantitative Criminology* 21 (1): 103-123.

Osher, C. 2007. Cops' push clogs courts. *The Denver Post*. April 2. http://www.denverpost.com/search/ci_5573011 (accessed on April 2, 2007).

Sampson, R. J., and S. W. Raudenbush. 1999. Systematic Social Observation of Public Spaces: A New Look at Disorder in Urban Neighborhoods. *The American Journal of Sociology* 105 (3): 603-651.

Sampson, R. J., and W. B. Groves. 1989. Community Structure and Crime: Testing Social-Disorganization Theory. *The American Journal of Sociology* 94 (4): 774-802.

Scott, M. S. n.d. U.S. Office of Community Oriented Policing Services. *Panhandling: Problem-Oriented Guides for Police, Problem-Specific Guides Series No. 13*. <http://www.popcenter.org/Problems/PDFs/Panhandling.pdf>.

Shoemaker, D. J. 1996. *Theories of Delinquency: An Examination of Explanations of Delinquent Behavior*. 3rd ed. New York, NY: Oxford University Press.

Siegel, L. J. 2002. *Criminology: The Core*. United States: Wadsworth Group.

- Siegel, L. J., B. C. Welsh, and J. J. Senna. 2006. *Juvenile Delinquency: Theory, Practice, and Law*. 9th ed., Instructor's ed. Belmont, CA: Thomson Wadsworth.
- Snow, D. A., S. G. Baker, and L. Anderson. 1989. Criminality and Homeless Men: An Empirical Assessment. *Social Problems* 36 (5): 532-549.
- Steers, S. 2007. Signs point to decline in Denver panhandling. *Rocky Mountain News*, January 29. http://www.rockymountainnews.com/drmn/local/article/0,1299,DRMN_15_5313002,00.html (accessed on February 2, 2007).
- U.S. Department of Housing and Urban Development. n.d. *HUD's Definition of Homeless*. http://www.thn.org/continuum_care_docs/HUD_Definition_of_Homelessness.doc. (accessed on November 4, 2006)
- U.S. Department of Justice Federal Bureau of Investigations: FBI. 2004. *Uniform Crime Reporting Handbook*. <http://www.fbi.gov/ucr/handbook/ucrhandbook04.pdf>. (accessed on September 7, 2006)
- Warr, M. 2001. Crime and Opportunity: A Theoretical Essay. In *The Process and Structure of Crime: Criminal Events and Crime Analysis, Advances in Criminological Theory*. Vol. 9., ed. R. F. Meier, L. W. Kennedy and V. F. Sacco, 65-94. New Brunswick, NJ: Transaction Publishers.
- Watters, S. n.d. *Where would you rather have Denver's kids hang out?* Pamphlet. Shelly Watters for City Council.
- Weisburd, D., and L. Green. 1995. Measuring Immediate Spatial Displacement: Methodological Issues and Problems. In *Crime and Place: Crime Prevention Studies*. Vol. 4, ed. J. E. Eck and D. Weisburd, 349-359. Monsey, NY and Washington, DC: Criminal Justice Press and The Police Executive Research Forum.
- Wilson, J. Q., and G. L. Kelling. 1982. Broken Windows. *The Atlantic Monthly* (March): 29-38.
- Xu, Y., and M. L. Fiedler, and K. H. Flaming. 2005. Discovering the Impact of Community Policing: The Broken Windows Thesis, Collective Efficacy, and Citizens' Judgment. *Journal of Research in Crime and Delinquency* 2 (2): 147-186.

THE SCOPE AND NATURE OF PANHANDLING
AND THE RELATED CRIME IN DENVER, COLORADO

An Abstract of a Thesis

Presented to

The Faculty of Natural Sciences & Mathematics School

University of Denver

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science

by

Megan A. Gall

May 2007

Advised by Steven R. Hick

The "Broken Windows" idea has been at the forefront of criminological thought and policing strategies since it was articulated by James Wilson and George Kelling in 1982 in *The Atlantic Monthly*. Broken windows is a metaphor for community disorder that states minor disorder left unattended will escalate cyclically. As disorder increases citizens withdraw due to fear which invites a further increase in disorder and more serious crime. The Broken Windows idea translates into a police strategy known as community policing and utilizes the order maintenance approach which is applied as a no tolerance policy for community disorder. These policies have been adopted by a number of major cities, most notably in New York City's Quality of Life Initiative. The city and county of Denver, Colorado is incorporating these practices and ideas in the police department. In January 2006, new ordinances were passed detailing regulations for panhandling, a sign of disorder specifically mentioned in Broken Windows. Research was conducted to investigate the relationship between high panhandling areas and crime, the effectiveness of the strategy in lowering crime, and the potential geographic displacement of crime. Analysis was accomplished using geographic information science (GIS) crime mapping and analysis techniques, criminological theory, the weighted displacement quotient (WDQ), and traditional statistical techniques. The study suggests that the tactics were unsuccessful in lowering crime and that a re-evaluation of public policy is necessary.